



FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
ACADEMIC POLICY AND STUDENT AFFAIRS COMMITTEE

Wednesday, December 5, 2018
9:45 a.m. *approximate start time
Florida International University
Modesto A. Maidique Campus
Graham Center Ballrooms

Committee Membership:

Cesar L. Alvarez, *Chair*; Natasha Lowell, *Vice Chair*; Jose J. Armas; Dean C. Colson; Michael G. Joseph; Joerg Reinhold; Sabrina L. Rosell; Marc D. Sarnoff

AGENDA

- | | |
|---------------------------------------------------------------------------------|-----------------------|
| 1. Call to Order and Chair's Remarks | Cesar L. Alvarez |
| 2. Approval of Minutes | Cesar L. Alvarez |
| 3. Action Items | |
| AP1. Honorary Degree Nomination | Kenneth G. Furton |
| AP2. Tenure as a Condition of Employment Nominations | Kenneth G. Furton |
| AP3. New Program Proposal: Bachelor of Science in Interdisciplinary Engineering | Elizabeth M. Bejar |
| AP4. New Regulation: Children's Creative Learning Center | Carlos B. Castillo |
| 4. Information/Discussion Items <i>(No Action Required)</i> | |
| 4.1 FIU/Torrey Pines Institute for Molecular Studies Update | Kenneth G. Furton |
| 4.2 Strategic Plan Update | Kenneth G. Furton |
| 4.3 Title IX Presentation | Shirlyon J. McWhorter |
| 4.4 Academic Affairs Regular Reports | |
| ▪ FIU <i>Beyond Possible 2020</i> | Pablo G. Ortiz |
| ▪ Academic and Career Success | Valerie Johnsen |
| ▪ Engagement | Saif Y. Ishoof |

4.4 Academic Affairs Regular Reports *(Continued...)*

- Enrollment Management and Services
- Information Technology
- Research and Economic Development/ University Graduate School
- Student Affairs

Kevin B. Coughlin

Robert Grillo

Andres G. Gil

Elizabeth M. Bejar

5. New Business *(If Any)*

Cesar L. Alvarez

6. Concluding Remarks and Adjournment

Cesar L. Alvarez

THE FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
Academic Policy and Student Affairs Committee
December 5, 2018

Subject: Approval of Minutes of Meeting held: September 5, 2018 and November 2, 2018

Proposed Committee Action:

Approval of Minutes of the Academic Policy and Student Affairs Committee meeting held on Wednesday, September 5, 2018 at the FIU, Modesto A. Maidique Campus, Graham Center Ballrooms and the Academic Policy and Student Affairs Committee meeting held on Friday, November 2, 2018, at the Modesto A. Maidique Campus, Graham Center room 355.

Background Information:

Committee members will review and approve the minutes of the Academic Policy and Student Affairs Committee meeting held on Wednesday, September 5, 2018 at the FIU, Modesto A. Maidique Campus, Graham Center Ballrooms and the Academic Policy and Student Affairs Committee meeting held on Friday, November 2, 2018 at the Modesto A. Maidique Campus, Graham Center room 355.

Supporting Documentation:

Minutes: Academic Policy and Student Affairs
Committee Meetings, September 5, 2018 and November
2, 2018

Facilitator/Presenter:

Cesar L. Alvarez, *Academic Policy and Student Affairs
Committee Chair*

This page intentionally left blank



**FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
ACADEMIC POLICY AND STUDENT AFFAIRS COMMITTEE
MINUTES
SEPTEMBER 5, 2018**

1. Call to Order and Chair's Remarks

The Florida International University Board of Trustees' Academic Policy and Student Affairs Committee meeting was called to order by Committee Chair Cesar L. Alvarez at 10:23 a.m. on Wednesday, September 5, 2018, at the Modesto A. Maidique Campus, Graham Center Ballrooms.

Committee Chair Alvarez welcomed all Trustees and University faculty and staff to the meeting.

General Counsel Carlos B. Castillo conducted roll call of the Academic Policy and Student Affairs Committee members and verified a quorum. Present were Cesar L. Alvarez, *Chair*; Natasha Lowell, *Vice Chair*; Dean C. Colson, Joerg Reinhold, Marc D. Sarnoff, and Jose L. Sirven, III.

Trustees Jose J. Armas and Michael G. Joseph were excused.

Board Chair Claudia Puig, Trustees Leonard Boord, Justo L. Pozo, and Rogelio Tovar, and University President Mark B. Rosenberg were also in attendance.

Provost and Executive Vice President Kenneth G. Furton reported that Vice President of Student Affairs Larry Lunsford will be retiring at the end of the year and that a transition plan was in place for the future of Student Affairs. He explained that as of July 15, 2018, Dr. Elizabeth M. Bejar had agreed to serve as Senior Vice President for Academic and Student Affairs. Provost Furton provided an update on the Honors College and Enrollment Management and Services. He reported that Juan Carlos Espinosa and Kevin Coughlin Jr. have been appointed as the Dean of the Honors College and Vice President of Enrollment Management Services, respectively. He explained that during Dr. Espinosa's time as interim dean, he expanded online courses by over 15% and elevated student success to a 96% retention rate. He noted that during Dr. Coughlin's time as the Interim Vice President of Enrollment Management and Services (ERM), he strategically executed unique admission pathways, Personalized Success Pathways, which have allowed the University to attain the highest admission profile in its history.

2. Approval of Minutes

Committee Chair Alvarez asked if there were any additions or corrections to the minutes of the June 6, 2018 Academic Policy and Student Affairs Committee meeting. A motion was made and unanimously passed to approve the Minutes of the Academic Policy and Student Affairs Committee Meeting held on Wednesday, June 6, 2018.

3. Action Items

AP1. Tenure as a Condition of Employment Nomination

Committee Chair Alvarez noted that there was one candidate submitted for Tenure as a Condition of Employment based on the caliber of their scholarly work.

A motion was made and unanimously passed that the FIU Board of Trustees Academic Policy and Student Affairs Committee recommend that the FIU Board of Trustees approve the one candidate for Tenure as a Condition of Employment.

AP2. Legislative Budget Requests

Provost Furton presented the 2019-2020 Legislative Budget Requests (LBR) for Committee review. He explained that the Targeted STEM Initiatives mission is to transform and reengineer the university's STEM programs and optimize retention and graduation marketability in the areas of science, math, engineering, and computer science. He noted that the second LBR, FIU Decision Laboratory is a platform for informed decision making around a variety of areas including policy, decision makers, and business leaders who will be able to test solutions and alternatives in a laboratory setting.

A motion was made and unanimously passed that the FIU Board of Trustees Academic Policy and Student Affairs Committee recommend that the FIU Board of Trustees approve the 2019-2020 Legislative Budget Requests:

Unique University Issues:

- | | |
|-----------------------------|-----------------------|
| ▪ Targeted STEM Initiatives | Request: \$ 4,998,664 |
| ▪ FIU Decision Laboratory | Request: \$ 3,500,000 |

AP3. Textbook and Instructional Materials Affordability Annual Report

Senior Vice President for Academic and Student Affairs Elizabeth M. Bejar presented the Textbook and Instructional Materials Affordability Annual Report for Committee review, delineating the requirements that are embedded in the Education Access and Affordability bill, HB 7019, which became effective July 1, 2016. She reported that under this bill, all State University System institutions are required to submit a Textbook and Instructional Materials Affordability Annual Report that determines the wide cost variance for required and recommended course materials for General Education and High Enrollment courses. In addition, she noted that the report includes an overview of institutional initiatives and policies designed to reduce the costs of course materials and promote college affordability.

Sr. VP Bejar reported that during Fall 2017 and Spring 2018, the University reached the State mandated adoption deadline for full compliance. She added that the minimum threshold was 95%

for full compliance, which means that textbooks are associated with a class 45 days ahead of the first day of class.

In response to Trustee Leonard Boord's inquiry regarding publishers charging a yearly fee for unlimited online access to textbooks, Sr. VP Bejar explained that unlimited access is one of the initiatives of the first day pilot program. She added that FIU faculty are currently collaborating across multiple sections on common textbooks which will provide greater leveraging power with publishers.

For the next regularly scheduled committee meeting, Trustee Marc D. Sarnoff requested to know how FIU students use online textbooks compared to the market.

A motion was made and unanimously passed that the FIU Board of Trustees Academic Policy and Student Affairs Committee recommend that the Florida International University Board of Trustees approve the Textbook and Instructional Materials Affordability Annual Report.

AP4. Revisions to Regulation FIU- 2501 Student Code of Conduct

Sr. VP Bejar presented the Revisions to Regulation FIU-2501 Student Code of Conduct (the Code) for Committee review. She noted that most of the revisions were grammatical errors followed by an update to the Vice President's new title. She stated that the revisions of note related to clarifying language and behaviors with respect to hazing. She added that the Student Code of Conduct protects the accusers and the accused.

For the next regularly scheduled committee meeting where revisions to the Code are addressed, Committee Chair Alvarez requested the removal of the personal abuse reference in section P1 of the Code. He added that it should be deleted because it applies to the entire Code, not just that section.

In response to Trustee Jose L. Sirven's inquiry regarding the Code's applicability to students who live in off campus housing, Sr. VP Bejar explained that the Code applies to all students irrespective of where they are.

A motion was made and unanimously passed that the FIU Board of Trustees Academic Policy and Student Affairs Committee recommend that the Florida International University Board of Trustees approve the revisions to the FIU- 2501 Student Code of Conduct.

4. Information/Discussion Items *(No Action Required)*

4.1 Academic Affairs Regular Reports

There were no questions from the Committee members in regards to the reports included as part of the agenda materials: FIU *Beyond Possible 2020*; Academic and Career Services; Engagement; Enrollment Management and Services; Information Technology; Research and Economic Development/ University Graduate School; and Student Affairs.

5. New Business

No new business was raised.

6. Concluding Remarks and Adjournment

With no other business, Committee Chair Cesar L. Alvarez adjourned the meeting of the Florida International University Board of Trustees Academic Policy and Student Affairs Committee meeting on Wednesday, September 5, 2018 at 10:49 a.m.

<i>Trustee Requests</i>	<i>Follow-up</i>	<i>Completion Date</i>
1. <i>Trustee Marc D. Sarnoff requested to know how FIU students use online textbooks compared to the market.</i>	<i>Senior Vice President for Academic and Student Affairs, Elizabeth M. Bejar</i>	<i>December Meeting</i>
2. <i>Committee Chair Alvarez requested the removal of the personal abuse reference in section P1 of the Student Code of Conduct.</i>	<i>Senior Vice President for Academic and Student Affairs, Elizabeth M. Bejar</i>	<i>Spring 2019</i>

KS September 12, 2018



**FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
ACADEMIC POLICY AND STUDENT AFFAIRS COMMITTEE
MINUTES
NOVEMBER 2, 2018**

1. Call to Order and Chair's Remarks

The Florida International University Board of Trustees' Academic Policy and Student Affairs Committee meeting was called to order by Committee Chair Cesar L. Alvarez at 2:36 p.m. on Friday, November 2, 2018, at the Modesto A. Maidique Campus, Graham Center room 355.

Committee Chair Alvarez welcomed all Trustees and University faculty and staff to the meeting.

General Counsel Carlos B. Castillo conducted roll call of the Academic Policy and Student Affairs Committee members and verified a quorum. Present were Cesar L. Alvarez, *Chair*; Dean C. Colson; Michael G. Joseph (*participated telephonically*); Joerg Reinhold; Sabrina L. Rosell; and Marc D. Sarnoff. Trustee Natasha Lowell, *Vice Chair*, arrived after roll call.

Board Vice Chair Jose J. Armas was excused.

Trustees Leonard Boord, Gerald C. Grant, Jr., and Rogelio Tovar, and University President Mark B. Rosenberg were also in attendance. Board Chair Puig participated telephonically.

2. Discussion Item

AP1. FIU Strategic Plan 2025

University President Mark B. Rosenberg explained that meeting together with monthly update meetings serve as a means to engage the Board of Trustees in the strategic planning process.

Provost and Executive Vice President Kenneth G. Furton provided an update on actual and projected enrollment by category. Trustee Dean C. Colson expressed the concern of the Chair of the Board of Governors' regarding enrollment growth and requested information on the adjunct faculty costs needed in order to support the projected growth. In response to Trustee Colson's inquiry regarding space needs, Provost Furton stated that the strategic planning committees are looking at enrollment projections and final data, adding that an additional 4,200 square feet of space would be needed in order to accommodate 4,000 incoming students. Provost Furton noted that the adjunct faculty costs would be finalized based on the final projections.

Trustee Michael G. Joseph inquired on the revenues and expenditures by academic unit, requesting an analysis that detailed which units are supporting or subsidizing.

Trustee Leonard Boord made several inquiries with respect to financial information in terms of enrollment projections, return on investment for dual enrollment, and administrative overhead.

Committee Chair Alvarez requested a comparative analysis in terms of enrollment growth and population growth.

President Rosenberg explained that from a strategic perspective, direction for growth is critical, adding that the Board's strategic understanding of the University's responsibility to the community in terms of graduate education and just-in-time education, which will be the standard for the workforce, has gained significant importance. He indicated that the number of traditional students graduating will plateau by 2027, stating that the growth in adult learners returning to complete their degree or advance their skills is predicted to grow exponentially.

Senior Vice President and Chief Financial Officer Kenneth A. Jessell presented a detailed overview of the expenditures for the 2018-19 academic year, and the University's operating budget history from FY 2005-06 through FY 2018-19. Sr. VP and CFO Jessell delineated the five-year capital improvement plan and legislative budget requests from FY 2019-20 through FY 2023-24 and stated that currently students are opting for less debt in terms of student loans than they did in 2012-13.

In response to Trustee Gerald C. Grant, Jr.'s comment regarding the growth of online education in terms of impacting space needs, Sr. VP and CFO Jessell stated that buildings and additional space are still needed to support the function of online programs.

Trustee Rogelio Tovar expressed his concern regarding deferred facilities maintenance and inquired as to the University's current efficiency levels.

Provost Furton presented the *FIUNextHorizon2025* proposed goals. President Rosenberg added that given their importance to the University's funding, performance funding metrics must be embedded within the new strategic plan. Provost Furton added that the four pillars are centered around student success, preeminence, highest research, and expanded financial base. He then described each pillar and provided a detailed overview of the implementation workgroups, and noted that the workgroups meet on a weekly or bi-weekly basis with about half of the workgroup members being represented by faculty members.

Trustee Tovar stated that details on the strategies to achieve the proposed goals would be beneficial in terms of providing guidance. Senior Vice President for Academic and Student Affairs Elizabeth M. Bejar stated that the proposed strategic plan will be comprehensive, inclusive of strategies, budget implications, and return-on-investment.

Trustee Tovar requested year over year historical data for four-year graduation rates and made several inquiries relating to average cost per student and how that is measured, as well as the funding source that is being utilized to lower the average cost to the student.

In response to Trustee Tovar's inquiries, Provost Furton explained that the workgroups are collaborating on those questions.

Trustee Tovar requested comprehensive information relating to the data and strategies to achieve the proposed goals, in addition to the calculations and definitions used.

Trustee Boord mentioned that in order to maintain the same level of services to the demographic, a 1.9% ratio to the general population is needed. Trustee Boord then inquired as to the rationale driving the projected increase to 61,000 instead of an approximate 10% increase, which is represented by approximately 57,000. In response to Trustee Boord's inquiry, Provost Furton stated that the majority of the 4,000 online students are expected to be completer students, who are defined as adult learners who returned to complete their degrees after a break in their higher education pursuit. He added that completer students are one subset of the population that is projected to grow.

Trustee Boord made several data requests pertaining to online students in order to contrast traditional students with those who are considered completers, in addition to current and future projections in terms of completer enrollment.

President Rosenberg presented a historical perspective on state university funding prior to the recession, noting that the University reduced its operating budget by \$460 million in a period of three to four years. He added that the University's current finances are a function of a carefully developed strategy critically necessary to sustain programs and graduate students. In response to Trustee Tovar's request for definitions, President Rosenberg explained that definitions are included as part of the Accountability Plans that the Board approves annually.

Trustee Colson suggested that dual enrollment students be removed from enrollment projections, adding that with regards to preeminence, the University should review key programs and present data on how critical investments in said programs could result in positive impacts. He would like to see accountability built into the strategic plan.

Trustee Boord requested that the goals and related strategies be presented once the workgroups have concluded their work. Committee Chair Alvarez noted that Trustee Boord's request is the intention of the process.

Provost Furton stated that the strategic planning committees have delineated numerous student success strategies, adding that the workgroups are now collaborating on their prioritization and that feedback from the Board would be welcome by the committees and workgroups.

Committee Chair Alvarez expressed his concern over a perception relating to recent graduates lacking soft skills and stated the importance of effective collaboration and possessing interpersonal skills.

Provost Furton added that the workgroup being led by Sr. VP Bejar is focused on the competencies that employers are looking for in terms of hiring candidates. Sr. VP Bejar shared that the

workgroups are currently in an exploratory phase and explained that new areas are being reviewed in terms of incorporating badging or upscaling and exploring ways to potentially convert the non-credit experience as to stackable credentials within the curriculum. She added that four competencies have been identified as the most critical: critical thinking; teamwork and collaboration; cultural agility; and oral/written communication. Sr. VP Bejar stated that the workgroups are delving into creative problem solving, entrepreneurship and innovation, leadership, resilience, empathy, systems thinking design, ethical decision making, and civic engagement. She provided further detail on stackable badges and micro-masters, as well as credit versus non-credit mechanisms and indicated that it is the University's responsibility to alumni and the community to reskill them with those competing paradigms.

Trustee Colson suggested that a discussion with the Board of Governors on badging could be beneficial.

Trustee Grant mentioned that soft skills are critical for professionals in today's workforce and related his personal experience, attributing his success in graduate school due to involvement in group dynamics and group presentations. He indicated that the quality of the student will improve once soft skills are incorporated within all educational levels.

President Rosenberg reported that the University is currently evaluating an approach that would ensure that soft skills and technical skills are embedded in the staff evaluation program, adding that professional staff is expected to take continuing education courses to demonstrate proficiency in said skills sets.

President Rosenberg asked for input from all the Trustees.

Trustee Joerg Reinhold provided positive feedback on the current progress in terms of the strategic plan, adding that there is value not only for the Board members, but also for the faculty to receive a higher level of data

Trustee Sabrina L. Rosell explained that the workgroups are developing strategies that are justified by research and best evidence, and noted that she is serving as one of the co-chairs for the committee focused on highest research.

Trustee Marc D. Sarnoff made several comments regarding the significance placed on performance funding and also inquired as to the University's current and future vision and aspirations. In response, Trustee Grant stated that as a state institution, performance based funding is critical and that in order to minimize the reliance on BOG funding, an expanded fundraising base is necessary.

Trustee Natasha Lowell made several requests in terms of definitions and a proforma for each metric, action plan items, strategies, and return-on-investment. She also requested that the chair of each workgroup present at a future Board meeting. Trustee Boord requested that the Board review the top 10 recommendations from each workgroup in order to subsequently identify the top four priorities. He also made requests regarding definitions, context, costs associated with strategies, return on investment projections, and potential revenue.

3. New Business *(If Any)*

No new business was raised.

4. Concluding Remarks and Adjournment

With no other business, Committee Chair Cesar L. Alvarez adjourned the meeting of the Florida International University Board of Trustees Academic Policy and Student Affairs Committee meeting on Friday, November 2, 2018 at 5:06 pm.

KS November 13, 2018

This page intentionally left blank

THE FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
Academic Policy and Student Affairs Committee
December 5, 2018

Subject: Honorary Degree Nomination

Proposed Committee Action:

Recommend that the Florida International University Board of Trustees endorse Mr. Joseph “Pepe” Badia as a recipient of a doctoral degree *honoris causa* from Florida International University.

Background Information:

The nomination was recommended by the Faculty Senate on Tuesday, March 27, 2018.

The nominee was approved by the University President and Provost to receive an honorary degree at Commencement.

Florida Board of Governors Regulation 3.004, Honorary Degrees, provides that each university board of trustees shall establish policies and procedures for recommending candidates for honorary degrees.

Supporting Documentation: Bio for Mr. Joseph “Pepe” Badia

Nomination letters for Mr. Joseph “Pepe” Badia

Facilitator/Presenter: Kenneth G. Furton

This page intentionally left blank

Joseph “Pepe” Badía

President – Badía Spices, Inc.

Joseph “Pepe” Badía is the President of [Badía Spices](#), one of today’s leading family-owned Hispanic food companies. He was born in Cuba and came to the United States in 1960 at the young age of 14. He served in U.S. Army in the mid 60s, and when his family settled in Miami, Florida, he attended Miami-Dade Community College.

In 1967, his father José Badía, started a new business in Miami, in a small store at the corner of Southwest First Street and 22nd Avenue where he established Badía Spices. By 1970, when José needed an employee to help manage and grow the day-to-day operations of Badía Spices, he offered the job to his 23-years-old son Pepe, as he affectionately called him. Pepe and his father worked closely, in the late 1960s and ’70s, Pepe concentrated on growing their customer base among bodegas in Miami and surrounding areas. Badía Spices penetrated the Miami market at just the right time to meet a growing demand. Badía then expanded into South Florida supermarket chains within and outside the Hispanic community; selling quality products at affordable pricing; broadening their product line; taking calculated risks by entering new national and global markets; making steady investments, and hiring a top-notch team of dedicated employees.

Throughout the company’s journey over the last five decades, Badía's products have been sold and savored in 78 countries, including all corners of the United States. Pepe has done it all, from mopping floors, filling bottles, running machines, to driving trucks to sell his products. He is honored that Badía Spices has become an important supplier of products to national and global markets; he is modest about his achievements and never fails to give credit to his team of exceptional employees.

Badía Spices follows the example set forth by President, Joseph “Pepe” Badía, and continued by the Badía Family’s endeavor to enhance and strengthen the communities where our families live, work and play. As such, the company supports organizations such as [The Dan Marino Foundation](#), [National Breast Cancer Foundation](#), [Here’s Help](#), [Miami-Dade Community College](#), [Florida International University](#), and [La Liga Contra el Cancer](#) to name a few.

Notable Recent Events:

- [Mr. Badía and his company Badía Spices, Inc. recently honored Dr. Padrón, President of Miami-Dade College with a \\$1 million donation to create the Dr. Eduardo J. Padrón Scholarship. Dr. Padrón is a recipient of the nation's highest civilian honor, the Presidential Medal of Freedom which he received for his work in higher education and for making it accessible and inclusive.](#)
- [The advanced food production laboratory at FIU’s Chaplin School of Hospitality & Tourism Management has a new name, thanks to a gift from Badía Spices. In recognition of Badía’s endowed gift, the lab – which complements The Wine Spectator Restaurant Management Laboratory – has been recently named the Badía Spices Food Production Laboratory.](#)
- [The Patricia and Phillip Frost Museum of Science, currently under construction in downtown Miami’s Museum Park, recently received a \\$1 million gift from Badía Spices supporting the museum’s capital campaign.](#)
- [Miami Dade College Foundation chose to honor Mr. Badía as their honoree of the prestigious Donor Next Door Award because of his continued commitment to corporate social responsibility.](#)
- [In 2015, Badia Spices received the very prestigious MBE Supplier of the Year Award from the Florida State Minority Supplier Development Council.](#)



July 24, 2017

TO: Florida International University Honorary Degree and Awards Committee

FROM: Michael Cheng, Ph.D. CHE
Associate Professor / Director, Food and Beverage

SUBJECT: Recommendation of Honorary Degree for Mr. Pepe Badía

Joseph "Pepe" Badía is the President of Badia Spices, Inc., and a long-time supporter of the Chaplin School of Hospitality & Tourism Management. Arriving as an immigrant from Cuba at age 14 with no English speaking skills, Pepe Badía is a classic example of Hispanic entrepreneurship in the United States. Badia Spices was founded in 1967 by his father, Jose Badía. In 1971, Pepe Badía took over daily operations of the business, and has since grown the company exponentially. Today, Badia Spices products are distributed internationally in over 60 countries and across the United States.

Mr. Badía's affiliation with the Chaplin School spans more than a decade, with the establishment of two scholarship funds at FIU in 2004 and 2006. Since then, Mr. Badía has supported the South Beach Wine and Food Festival annually, with all proceeds from the Festival supporting Hospitality Management students at the School.

In 2013, Mr. Badía sponsored the first of two spice competitions at FIU, and students from the Chaplin School created two new spices that are currently being sold in over 60 countries worldwide. The finalists of both competitions received scholarships, and the Chaplin School benefits from a percentage of global sales of the winning blends in perpetuity.

Mr. Badía exemplifies truth in the pursuit, generation, dissemination and application of knowledge. He is a firm believer in supporting student scholarship and enhancing experiential learning. In 2015, Mr. Badía solidified his support for FIU by donating \$500,000 towards renaming the advanced food production laboratory space into the Badia Spices Food Production Laboratory - a 2,200 square feet of space with state-of-the-art instructional technology where students can develop, test, and taste new product ideas and solutions for the food industry. In addition, Badia Spices provides in-kind donation for all of Chaplin School's instructional needs.

As a Vietnam war veteran, Mr. Badía understands the value of freedom of thought and freedom of speech. His philanthropy includes creating the Dr. Educado J. Padron Presidential Medal of Freedom Scholarship at Miami Dade College. He also supports a variety of local and national charities, such as The Dan Marino Foundation, National Breast Cancer Foundation and Here's Help.

Because of his support, I believe that Mr. Badía is a true friend of the University. Pepe Badía is an accomplished businessman who is recognized for his leadership, service and philanthropy to the community, and is deserving of a Honorary Degree from Florida International University. I have had the distinct pleasure of working with him since 2015, and his intelligence, personality, and humbleness never ceases to amaze me.



24 April 2017

FIU Honorary Degree Committee

Re: Mr. Pepe Badia

I am an Assistant Professor in the Chaplin School of Hospitality and Tourism Management at FIU. I am also Chair of the Faculty Assembly. Prior to teaching at FIU, I was a practicing attorney in Miami for over thirty years.

This letter is to recommend that Pepe Badia be selected for an honorary degree at FIU in light of his substantial contributions to the university.

Mr. Badia has been very supportive both personally and through his business. The students at the Chaplin School are motivated by Mr. Badia's achievements in the business world which provide inspiration to be successful in their academic careers and in their future business careers.

In particular, Badia Spices has provided a contest which challenges students to be innovative in creating a spice blend which will be a product in the real world. This contest has been a productive challenge for students and an introduction to the competitive world of food products.

It would be a fitting recognition for Pepe Badia to be awarded an honorary degree in recognition of his support to the Chaplin School at FIU.

Very truly yours,

/s/ John H. Thomas

John H. Thomas,
Assistant Professor, Hospitality Law
Chair, Faculty Assembly



March 30, 2017

TO: Florida International University, Honorary Degree Committee

FROM: Barry H. Gump, Ph.D.
Harvey R. Chaplin Eminent Scholar in Beverage Management

SUBJECT: **Letter of Support for an Honorary Degree: Mr. Joseph "Pepe" Badia**

Mr. Badia has been a significant supporter of the food and beverage science programs at the Chaplin School of Hospitality & Tourism Management. An innovator himself, Mr. Badia and Badia Spices have been challenging our students through a yearly contest to design a new spice blend formula and apply it in a cooking taste-off. The winning student receives a \$5,000 scholarship, while the Chaplin School receives a 5% royalty from global sales of the winning spice blend in perpetuity.

This contest requires our students to create a new spice blend with a specific focus. It encourages the students to use their ability to envision how compatible a new spice blend will be with a particular prepared dish. Among others, the inventor must factor in the cooking process involving heat, time, and possibly various liquid and solid foods. As a consequence, the student must be well versed in culinary science, product development and creative thinking.

I have taught food science and currently teach food and wine pairing. In the latter instance, there are skills that one acquires based on basic principles and experience. Mr. Badia is allowing our students to stretch their abilities and create something new. He is also allowing the winner to take pride in their ability to be creative and in their ability to support our school.

I believe that Mr. Badia is a true friend of the University. As such, I also believe that the University would be well served by recognizing him and his support with an honorary degree.

Sincerely yours,

Barry H. Gump, Ph.D.
Harvey R. Chaplin Eminent Scholar in Beverage Management
bgump@fiu.edu



April 15, 2017

To the Honorary Degrees and Awards Committee:

Mr. Pepe Badia is a kind- hearted man with a noble spirit. I first met him when he launched a scholarship competition for the Chaplin students to create a spice for the Badia Spices product line. At the culmination of the first competition, Mr. Badia presented the scholarship to the student with the winning recipe. To the audience's surprise, he very generously stated that there were "no losers in this effort" and awarded scholarships to all five finalists. The winning recipe from the first completion, "Holy Smokes", is one of Badia's most popular and best-selling spices. Mr. Badia gives the Chaplin School a percentage of the gross sales in perpetuity. These funds provide student enrichment monies for students to attend conferences and undertake research projects; study abroad; and create opportunities for them to network globally.

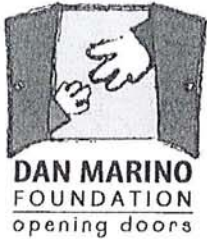
It was shared with me that when Mr. Badia was asked to support of the School's Food Production Lab, his humble response was that he was honored to be asked again to help our students. Initially he was not interested in receiving the naming of the facility, and felt it should be anonymous- which speaks volumes of his humbleness and genuine generosity.

He is a very special man who has dedicated his life to lead by example and make a difference in his community. We are beyond fortunate to have his light shine on our school.

I strongly support his nomination for an honorary degree from FIU.

Sincerely,

Diann Newman, Ed.D.
Associate Dean
Florida International University
Chaplin School of Hospitality & Tourism Management
(305) 919-4523
(305) 919 4555 (fax)



April 20, 2017

President Mark Rosenberg
Florida International University
11200 SW 8th ST
PC-528
Miami, FL 33199

Dear President Rosenberg,

On behalf of Dan and Claire Marino and The Dan Marino Foundation (Foundation), it is my pleasure to offer this letter in support of Joseph "Pepe" Badia as recipient of an honorary degree from Florida International University.

Known as the Spice King, Pepe Badia's vision and hard work transformed a modest family business into a premiere, international award winning company. Pepe Badia has been pivotal in the lives of countless minority and underserved individuals and families, creating jobs and opportunities that opened doors for all to achieve.

Mr. Badia's accomplishment in building Badia Spices would singularly merit his being awarded this honor. But it is his philanthropic efforts that truly distinguish him. Pepe cares about people and community, publically committing his time and resources to schools and charities, while anonymously giving to individuals and families in their times of greatest need.

Pepe Badia has made a real difference in the Foundation's ability to serve others. Badia Spices support of the DMF Walkabout Autism and other events provides awareness and acceptance of individuals with special needs, as well as funding for life changing services.

Mr. Badia continues to build a legacy that includes excellence in business while insuring opportunities for all. Pepe is an extraordinary man, with the highest character and loyalty to his company, family and community. This recognition would be well deserved!

Sincerely,



Mary Partin, CEO

Empowering individuals with autism and other developmental disabilities.



Board of Directors

Julie Watson, President
Clear Results Marketing
President

Ignacio Mendez, Secretary
Dynasty Apparel
President

Richard Booth, Treasurer

John "Footy" Kross, Board Member
Here's Help, Inc.
CEO

Joseph "Pepe" Badia, Board Member
Badia Spices
President

Armando Gutierrez, Jr., Board Member
Gutierrez Group, LLC
President

Maggie Rivera, Board Member
Sandals Resorts
Brand Specialist

Emeriti

Stephen Cypen
Member
Attorney at Law

Dr. Stanford Kane
Secretary
Private Practice, DDS

Herbert Abramson
President

April 19, 2017

To Whom It May Concern:

Ten years ago, I was fortunate enough to meet Pepe Badia. After hearing about Here's Help from a board member, he agreed to come and see the campus. Here's Help, founded in 1969, provides substance abuse treatment for adults and adolescents ages 13 and up. Licensed by Florida Department of Children and Families and accredited by the Commission on Accreditation and Rehabilitation Facilities (CARF) for 17 years, HH operates two facilities serving an average of 150 residential and 350 outpatient clients annually.

When Pepe walked through the doors of Here's Help he had one thing on his mind...."how can I make a difference"? By the time we finished the tour of our campus, Pepe just said "how much do you need"? I told Pepe "don't write me a check, build me a kitchen where the kids can learn a skill". Two weeks later I got the call....."Hello my name is Luis, Pepe hired me to build you a kitchen." It was then and there that the Badia Spices Culinary School was born. To date, it is the MOST successful program Here's Help has ever produced, thanks to Pepe. The Culinary Arts Program is 10-weeks of hands-on training, combining classroom with cooking experience in HH's industrial kitchen. Curriculum includes preparation of healthy gourmet meals for clients in residential treatment. Our young men not only graduate our program with the skills they need to fight their addiction, they have a trade to survive in the real world and opportunities in the culinary field.

Ten years down the road, Pepe is still an integral part of Here's Help. He is a member of our Board of Directors and has supported Here's Help in so many ways, from donating vehicles to our organization, to sponsoring our two major fundraisers every year, to helping us build a sports field for our students. Just last month he bought all new equipment for the Badia Spices Culinary kitchen. We could not do it without him and are grateful for his friendship every day.

Thanks,

John "Footy" Kross
Here's Help CEO
FIU Alumni

15100 NW 27th Ave. • Opa Locka, FL 33054 • (305) 685-8201 ext. 231 (office) • Fax (305) 685-0158
9016 SW 152 Street • Miami, FL 33157 • Phone (305) 238-8500 • Fax (305) 251-4118

www.hereshelping.com

This page intentionally left blank

THE FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES
Academic Policy and Student Affairs Committee
December 5, 2018

Subject: Tenure as a Condition of Employment Nominations

Proposed Committee Action:

Recommend to the Florida International University Board of Trustees the approval of two (2) candidates for Tenure as a Condition of Employment (TACOE).

Background Information:

Pursuant to the Florida Board of Governors Regulation 1.001(5)(a), each board of trustees shall provide for the establishment of the personnel program for all the employees of the university, including but not limited to tenure.

The TACOE nominees held tenure at their previous institutions and have been selected to receive TACOE based on the caliber of their work.

Supporting Documentation:

Attachment 1 – Tenure as a Condition of Employment
Nominee Overview

Attachment 2- Tenure as a Condition of Employment
Nominees' Biographies

Attachment 3- Tenure as a Condition of Employment
Nominees' Curriculum Vitae

Facilitator/Presenter:

Kenneth G. Furton

This page intentionally left blank

Florida International University
Tenure (as a Condition of Employment) Nominations

Name	College	Department	Proposed Rank
Robert Sackstein	Medicine	Translational Medicine	Professor
Arijit Sengupta	Business	Information Systems and Business Analytics	Professor

This page intentionally left blank

Robert Sackstein, MD, Ph.D.
Department of Translational Medicine
College of Medicine

Robert Sackstein, MD, Ph.D. joins FIU as the newly appointed dean of the Herbert Wertheim College of Medicine (HWCUM) and senior vice president of health affairs. Prior to his appointment he was at Harvard Medical School (HMS), where he served as professor in two departments, dermatology and medicine, and co-director of the Glycoscience Center at HMS.

Dr. Sackstein received his undergraduate degree from Harvard College, Summa cum Laude in Biology, and his M.D. and Ph.D. degrees from Harvard Medical School, where he also received the James Tolbert Shipley Prize for outstanding research. He then completed internal medicine training and fellowships in immunology and hematology at the University of Miami, and received the Young Investigator Award for Excellence in the Field of Hematology from the International Society for Experimental Hematology. While at Harvard, Dr. Sackstein was recognized as an accomplished clinician, researcher, and educator. As both a basic and clinical scientist, he has focused on developing glycoscience, a branch of science concerned with the role of sugars in biological systems, and his work has yielded strategies to optimize cell-based therapeutics to regenerate damaged tissue and combat cancer. His work at Brigham & Women's Hospital, a Harvard teaching hospital, garnered funding for the creation of the largest research infrastructure of any department of dermatology in the world. He also was an active educator, teaching medical and graduate students, interns/residents, and post-doctoral fellows, as well as running a Harvard undergraduate course on the scientific method

Dr. Sackstein's work has been recognized internationally. He serves on the Scientific Advisory Committee to the Board of Trustees of the Jose Carreras Leukemia Research Institute in Barcelona, he is the Chairperson of the International Advisory Committee to the Spanish National Cell Therapy Network, and is also on the International Advisory Board to the Swedish Government at the Wallenberg Center for Molecular Medicine Initiative in Stem Cell Therapeutics at Lund University in Sweden.

This page intentionally left blank

Arijit Sengupta, Ph.D.
Department of Information Systems and Business Analytics
College of Business

Dr. Sengupta joins FIU as the Professor and Associate Dean for Accreditation and Technology Systems in the College of Business. He received his MS and Ph.D. in Computer Science from Indiana University, Bloomington, and his bachelor of technology degree in Computer Science and Engineering from the Indian Institute of Technology, Kharagpur. Prior to coming to FIU, he was a member of the faculty member at Raj Soin College of Business, Wright State University since 2005 where he most recently served as Associate Dean and Professor of Information Systems and Supply Chain Management. He has also served on the faculty at Indiana University's Kelley School of Business and the Robinson College of Business at Georgia State University.

Dr. Sengupta's research interests include technology adoption in organizations (particularly RFID and mobile technologies), improving student assessment and engagement, data analytics, databases and XML, data modeling, query languages, data mining, and human-computer interaction. He has published over 20 refereed scholarly articles in leading journals, presented his work in many conferences and workshops, as well as authored several book chapters. While at Wright State University, Dr. Sengupta created and launched funded research centers and labs for RFID (Radio Frequency Identification) and Data Analytics. He also founded SmartRF Solutions, a startup commercializing SmartParkRF, an application of Automatic Vehicle Identification (AVI) technology. To support accreditation from the Association to Advance Collegiate Schools of Business (AACSB) of the college, Professor Sengupta developed AMP (Assess My Program) - the system that the College of Business now uses for its Assurance of Learning process. He also developed Passport to Success - a mobile application and environment for promoting student engagement and retention in the college of business.

This page intentionally left blank

Harvard Medical School Curriculum Vitae

Date Prepared: May 29, 2018

Name: Robert Sackstein, M.D., Ph.D.

Academic Title: Professor (two departments: Dermatology and Medicine), Harvard Medical School

Office Address: Harvard Institutes of Medicine
77 Avenue Louis Pasteur, Room 671
Boston, MA 02115

Home Address: 26 Fox Run Road
Sudbury, MA 01776

Work Phone: 617-525-5601

Work E-Mail: rsackstein@rics.bwh.harvard.edu
rsackstein@partners.org

Work FAX: 617-525-5571

Place of Birth: Havana, Cuba

Education

1977	A.B. <i>Summa Cum Laude</i>	Biology	Harvard College, Cambridge, MA
1985	M.D., Ph.D.	Ph.D. in Immunology	Harvard Medical School, Boston MA

Postdoctoral Training

Internships and Residencies

1985-1986	Internship	Internal Medicine	University of Miami/Jackson Memorial Hospital, Miami, FL
1986-1988	Residency	Internal Medicine	University of Miami/Jackson Memorial Hospital, Miami, FL

Clinical and Research Fellowships

1987-1989	Postdoctoral Fellowship	Immunology	University of Miami/Jackson Memorial Hospital, Miami, FL
1989-1991	Clinical Fellowship	Hematology	University of Miami/Jackson Memorial Hospital, Miami, FL

Faculty Academic Appointments

1988-1989	Instructor	Medicine	University of Miami School of Medicine, Miami, FL
1989-1993	Assistant Professor	Medicine, Microbiology and Immunology	University of Miami School of Medicine, Miami, FL
1993-1996	Assistant Professor	Internal Medicine, Pathology and Laboratory Medicine	University of South Florida College of Medicine, Tampa, FL
1997-1999	Assistant Professor	Surgery	Harvard Medical School, Boston, MA
1997-2003	Assistant Professor	Medicine	Harvard Medical School, Boston, MA
2002-2003	Assistant Professor	Dermatology	Harvard Medical School, Boston, MA
2003-2011	Associate Professor	Medicine and Dermatology	Harvard Medical School, Boston, MA
2012	Professor	Dermatology and Medicine	Harvard Medical School, Boston, MA

Appointments at Hospitals/Affiliated Institutions

1988-1989	Chief Resident	Medicine	Jackson Memorial Hospital, Miami, FL
1988-1993	Attending Physician	Emergency Room and Medical Services	Jackson Memorial Hospital, Miami, FL
1989-1993	Attending Physician	Medical Service	Miami Veterans Affairs Medical Center, Miami, FL
1991-1993	Attending Hematologist	Hematology	Jackson Memorial Hospital, Miami FL and Miami Veterans Affairs Medical Center, Miami, FL
1993-1996	Attending Physician	Bone Marrow Transplant Service	Moffitt Cancer Center and Research Institute, University of South Florida College of Medicine, Tampa, FL
1997-2004	Physician	Bone Marrow Transplant Unit	Massachusetts General Hospital, Boston, MA
1997-1998	Senior Investigator	Transplantation Biology Research Center	Massachusetts General Hospital, Boston, MA
1999-2002	Associate Physician	Medicine	Brigham and Women's Hospital, Boston, MA
2002-present	Physician	Dermatology and Medicine	Brigham and Women's Hospital/Dana-Farber Cancer Institute, Boston, MA

Other Professional Positions

1988-1989	Staff Physician	Metro-Dade County, Florida Human Resources Health Center
1997	Visiting Scientist	Genetics Institute, Cambridge, MA

Major Administrative Leadership Positions

1988-1990	Volunteer Medical Co-Director	Brothers of the Good Shepherd/Camillus House Health Concern
1990-1992	Founding member and Associate Scientific Director for the Bone Marrow Transplant Program	University of Miami School of Medicine
1990-1993	Faculty Director and Chairperson	Eastern Student Research Forum (an international program to promote research by medical students)
1991-1993	Medical Director	Lymphoma Cutis Program, University of Miami, NCI Comprehensive Cancer Center
1993-1996	Director, Jenkins Foundation Transplant Immunology Research Laboratory	Moffitt Cancer Center and Research Institute, University of South Florida College of Medicine, Tampa, FL
1997-2008	Director, Translational Research Program, Bone Marrow Transplantation Unit Hematology-Oncology, Department of Medicine	Massachusetts General Hospital, Boston, MA
2007-2011	Co-Director of MIT-HST Graduate Medical Education in Medical Sciences (GEMS) Training Program	Massachusetts Institute of Technology
2008-2011	President	Harvard Club in Concord (MA)
2008-2011	Board of Directors; Regional Director, Northeastern Massachusetts	Harvard Alumni Association
2009-2015	International Taskforce Member, “Harvard Serves” (global call for public service by Harvard Alumni)	Harvard Alumni Association
2011-present	Director, Program of Excellence in Glycosciences	Brigham & Women’s Hospital Harvard Medical School
2014-2015	Committee Member, BWH Dermatology Promotions Committee	Brigham & Women’s Hospital
2016-present	Committee Chair, BWH Dermatology Promotions Committee	Brigham & Women’s Hospital
2016- present	Co-Director, Harvard University Glycoscience Center	Harvard Medical School

Committee Service

Local

1985-1993	Harvard Club of Miami, Schools and Scholarships Committee	Harvard College
1987-1988	Executive Housestaff Committee	Jackson Memorial Hospital, Miami, FL
1987-1993	Admissions Committee for the School of Medicine Latin American Training Program	University of Miami
1989-1993	Subcommittees for the Research and Development Committee: Equipment Subcommittee; Human Subjects Studies Subcommittee	Miami VA Medical Center, University of Miami
1989-1993	Chair person, Animal Experimentation Subcommittee	Miami VA Medical Center, University of Miami
1995-1996	Invasive Procedure and Blood Utilization Review Committee	H. Lee Moffitt Cancer Center and Research Institute
1996	Medical Staff By-Laws, Rules and Regulations Committee	H. Lee Moffitt Cancer Center and Research Institute
1997-present	Bone Marrow Transplant Protocol Review Committee	Massachusetts General Hospital, Brigham and Women's Hospital, Dana-Farber Cancer Institute
1998-2008	Project Success Advisory Committee	Harvard Medical School
2000-present	Memorial Minutes Committee	Harvard Medical School
2001-present	Schools and Scholarships Committee, Harvard Club in Concord	Harvard College
2002	Commencement Aid, Harvard College 25 th Reunion Symposium Organizing Committee	Harvard University
2002-2005	Public Services Committee at The Countway Library of Medicine	Harvard Medical School
2003-2005	Library Operations Subcommittee, The Countway Library of Medicine	Harvard Medical School
2004-2009	Steering Committee, Clinical Unit for Research Trials in Skin	Massachusetts General Hospital, Brigham and Women's Hospital, Department of Dermatology
2004-present	Steering Committee for Stem Cell Therapy/Tissue Engineering	Biomedical Research Institute, Brigham and Women's Hospital
2006	Chairperson, 25 th Reunion Committee, Class of 1981	Harvard Medical School
2006-present	Chairperson, HMS Department of Dermatology Collaborative and Translational Research Initiatives Committee	Harvard Medical School
2006-present	Director, Harvard Club in Concord	Harvard University
2007	Organizing Committee, Class of 1977 Reunion and Marshall, Harvard University Commencement	Harvard University

2010-present	Clinical Investigation Committee	Brigham and Women's Hospital
2011	Reunion Committee, 30 th Reunion, Harvard Medical School Class of 1981	Harvard Medical School
2011-2013	Reunion Committee, 35 th Reunion, Harvard College Class of 1977	Harvard College
2011-present	Admissions Committee	Harvard Medical School

Regional

1985-1993	Board of Directors	Miami Civic Music Association
1987-1993	Advisory Board to County Homeless Health Care Project	Metro-Dade County, FL
1988-1989	Governor's Council, Florida Chapter	American College of Physicians
1991-1993	Chairperson, Planning Committee for Medicine and Allied Health Magnet School	Dade County School Board, FL
1991-1993	Chairperson, Subcommittees for Middle School Science Curriculum Review and for Community Outreach.	Dade County School Board, FL
1994-1997	Board of Directors	Museum of Science and Industry, Tampa, FL
1997-present	Education Advisory Board	Discovery Museum, Acton, MA
2005-present	Board of Overseers	Boston Museum of Science
2007-2010	Board of Directors	Whizkids Foundation

National

1977-1985	National Schools and Scholarship Committee and National Recent Graduate's Committee	Harvard Alumni Association
1990-1993	University of Miami Representative	National Council of American Federation for Clinical Research
1993-1997	University of South Florida Representative	National Council of American Federation for Medical Research
1996-2000	Question Author, Certification Examination, Subspecialty of Hematology	American Board of Internal Medicine
1997-present	National Board of Directors	Museum of Science and Industry, Tampa, FL
2000-2002	Coordinating Reviewer, Review Committee Category "Hematopoiesis: Stem and Progenitor Cell Biology."	American Society of Hematology (Annual Meeting)
2001	Working Group on Glycobiology	National Institutes of Health/NHLBI

2007	Coordinating Reviewer, Review Committee Category “Hematopoieses: Microenvironment, Cell Adhesion and Mesenchymal Stem Cells.”	American Society of Hematology Annual Meeting
2008-present	Board of Directors; Regional Director, Northeastern Massachusetts; Member, National Schools and Scholarship Committee	Harvard Alumni Association
2009-present	External Advisory Board, NIH/NCRR, Integrated Technology Resource for Biomedical Glycomics	NCRR/University of Georgia
2013	Advisory Committee, NIH Glycomics Working Group	National Institute of Health, Bethesda, MD
2013-2014	National Chairperson, the NHLBI Program of Excellence in Glycosciences	National Institutes of Health/NHLBI
<i>International</i>		
1993-present	Scientific Advisory Committee to the Board of Trustees	Jose Carreras International Leukemia Foundation
2005-present	Society of Glycobiology	Scientific Program Committee
2006-2010	Membership Committee	International Society of Experimental Hematology
2006-2010	Society of Experimental Hematology	Editorial Board for <i>Experimental Hematology</i> , the official journal of the International Society of Experimental Hematology
2006-present	Society of Glycobiology	Editorial Board for <i>Glycobiology</i> , the official journal for the Society of Glycobiology
2007-2009	American Society of Hematology	Annual Meeting Coordinating Reviewer (Category: “Hematopoiesis: Microenvironment, Cell Adhesion and Mesenchymal Stem Cells.”)
2009-present	Member, International Scientific Advisory Committee of the Carreras Research Institute	Jose Carreras Leukemia Research Institute, Barcelona, Spain
2009-present	Course Director, “Cell Therapy from the Bench to the Bedside and Return”	Universidad Internacional del Mar and Universidad de Murcia, Murcia, Spain
		2014-Present Editorial Board Member

2015-present	International Advisory Board to Swedish Government/Lund University Wallenberg Center for Molecular Medicine initiative in Stem Cell Therapeutics	Journal Of Biological Chemistry Lund University, Sweden
2016-present	Scientific Advisory Committee Instituto de Investigacion Biomedica de Bellvitge (IDIBELL)	Barcelona, Spain

Professional Societies

1985-1995	American Association for the Advancement of Science	Member
1985-1997	American Federation for Clinical/Medical Research	Member
1992-present	American Society of Hematology	Member
1993-1997	International Society for Analytical Cytology	Member
1993-2011	International Society for Experimental Hematology	Member
1993-1997	New York Academy of Sciences	Member
2000-2010	American Society of Clinical Oncology	Member
2009-present	American Association of Physicians	Member

Grant Review Activities

1992-1997	Scientific Review Committees Fellowship Review Committee Career Development Award Committee Established Investigator Award Committee	American Heart Association
1994-2014	Scientific Review Committee for Jose Carreras Research Fellowship	Jose Carreras International Leukemia Foundation
1999-2003	Ad Hoc Reviewer, Immunobiology Study Section, Immunological Sciences Initial Review Group	National Institutes of Health
2000-2002	Review Committee Category "Hematopoiesis: Stem and Progenitor Cell Biology."	American Society of Hematology Annual Meeting
2003	Ad Hoc Reviewer, Career Enhancement Award Study Section	National Institutes of Health/NHLBI
2004-2008	Standing Member, Hematopoiesis (HP) Study Section	National Institutes of Health/NHLBI
2006	Ad Hoc Reviewer, Heart, Lung and Blood Program, (HLBP) Project Review Committee	National Institutes of Health/NHLBI
2006	Scientific Review Committee, Research Fellowship Review Committee	The Medical Foundation
2008-2012	Ad Hoc Reviewer, NHLBI Special Emphasis Panel, Hematopoietic Stem Cell Regulation	National Institutes of Health/NHLBI
2009-2015	Ad Hoc Reviewer, Heart, Lung and Blood Program, (HLBP) Project Review Committee	National Institutes of Health/NHLBI

2016-present	Reviewer, NHLBI Conference Grant Application (R13) Review Committee	National Institutes of Health/NHLBI
--------------	---------------------------------------------------------------------	-------------------------------------

Editorial Activities

Other Editorial Roles

2006-2010	Editorial Board	Experimental Hematology
2006-present	Editorial Board	Glycobiology
2010-present	Editorial Board Member	Peer-eMed
2014-	Editorial Board Member	The Journal of Biological Chemistry

Ad hoc Reviewer (most frequent)

American Journal of Pathology
 Blood
 Cancer Research
 Cell Stem Cell
 Experimental Hematology
 Glycobiology
 Journal of Biological Chemistry
 Journal of Clinical Investigation
 Journal of Immunology
 Journal of Experimental Medicine
 Nature

Honors and Prizes

1973-1977	John Harvard Scholarship	Harvard College	Distinction awarded yearly for academic excellence
1974	Whittaker-Edwards Prize	Harvard College	Distinction for academic excellence as a freshman
1976	<i>Phi Beta Kappa</i>	Harvard College	Academic Honor
1977	Dr. Donald McKee Memorial Scholarship		Academic Honor
1985	James Tolbert Shipley Prize	Harvard Medical School	Award for best research by a graduating student
1988-1989	Chief Medical Resident	Jackson Memorial Hospital	
1989-1993	Veterans Affairs Research Career Development Award	US Department of Veterans Affairs	Competitive award for career development
1990	Kelly's Heroes Award	WTVJ-TV (CBS), Miami, FL	Recipient for medical community service
1993	George Paff Award	University of Miami School of Medicine	Given for excellence in teaching
1993	Stanley J. Glaser Foundation Award	University of Miami School of Medicine	Given for outstanding research productivity and achievement

1993	Peace and Unity Award	Archdiocese of Miami, FL	Recipient for medical community service
1996	Inaugural Speaker	Mayo Clinic, Rochester, MN	Mayo-Luther Forum on Stem Cells
1996	New Investigator Award	International Society for Experimental Hematology	Excellence in the field of hematology
2006	Inaugural Keynote Speaker	University of New Hampshire	Charles Warren Memorial Symposium on Structural Glycomics
2007	Inaugural Plenary Session Speaker	Beijing, China	First Pan-Asian Pacific Summit on Emerging Healthcare Strategies
2009	Elected member	Association of American Physicians	Recognition for advancement of medical knowledge
2009-2010	Leadership Training	Brigham & Women's Hospital Leadership Program	Harvard Business School, Cambridge, MA

Report of Funded and Unfunded Projects

Funding Information (listing **DIRECT** COSTS FUNDING ONLY)

PAST FUNDING (only reporting "PAST FUNDING" AS PI WITHIN THE LAST 15 YEARS):

1997-2002	Co-Principal Investigator		\$240,000/yr
Title: "Compatibility of Swine Cells and Human Stroma"			
Goal: Molecular analysis of adhesion molecules on swine and human hematopoietic cells, with goal to "humanize" relevant pig cell molecules			
1997-2002	Principal Investigator		\$175,000/yr
Title: "Molecular Analysis of Hematopoietic Cell L-selectin Ligand"			
Goal: To identify a novel selectin ligand expressed on human hematopoietic stem cells (which is now known as "HCELL")			
2000-2005	Principal Investigator		\$250,000/yr
Title: "Adhesion Molecules Mediating Skin Tropism in Acute GVHD"			
Goal: To elucidate the adhesion molecules that regulate skin tropism of alloreactive lymphocytes in acute GVHD			
2003-2007	Principal Investigator	NIH/NHLBI, R01 HL60528	\$250,000/yr
Title: (renewal R01) "Structure and Biology of Hematopoietic Cell E-/L- selectin Ligand"			
Goal: To determine the structure of Hematopoietic E-/L-Selectin Ligand (HCELL) on human hematopoietic stem cells and characterize its function in hematopoiesis.			
2003-2007	Principal Investigator	NIH/NHLBI, R01 HL073714-01	\$350,000/yr
Title: "Analysis of Homing Receptors on Human Adult Stem Cells" (Competitively renewed in 2007)			
Goal: To define the expression of adhesion molecules on adult stem cells that mediate migration of these cells into sites of inflammation			

2003-2008 Co-Investigator NIH/NIADDK, R01 AI56084

Title: "Structure-Functions Analysis of T Cell E-Selectin Ligands"

Goal: To characterize the individual E-selectin ligands expressed on T cells

2003-2009 Co-Investigator NIH/NHLBI P01 HL070149

Title: "Mechanisms of Graft Versus Host Disease"

Goal: To elucidate the molecular basis of GVHD and design novel therapies and prophylactic regimens to prevent this complication

2004-2009 Co-Principal Investigator NIH/NHLBI, P01 HL075847

\$200,000/yr

Title: "Minority K-12 Initiative for Teachers and Students"

Goal: To increase science literacy, aptitude and interest in science careers among Boston middle and high school students, particularly underrepresented minority and disadvantaged students.

2007-2009 Principal Investigator NIH/NIDDK, R21 DK075012

\$175,000/yr

Title: "Characterization of a Novel 65kDa E-selectin Ligand on G-CSF Mobilized Leukocytes"

Goal: To identify an E-selectin ligand induced on human myeloid cells by G-CSF administration

2008 - 2010 Co-Investigator NIH/NCCR, COBRE RR018757

Title: "Innovative Approaches to Tissue Repair"

Goal: COBRE Program Project, dedicated to creating center for regenerative medicine at Roger Williams Hospital, Providence, Rhode Island

2007 - 2011 Principal Investigator NIH/NHLBI, R01 (renewal R01) R01 HL073714

\$250,000/yr

Title: "Optimizing Osteotropism of Human Mesenchymal Stem Cells"

Goal: The objective of this project is to manipulate the expression of membrane molecules on mesenchymal stem cells that mediate migration of these cells into bone.

2007 - 2012 Principal Investigator NIH/NCI, R01 CA121335

\$195,000/yr

Title: "Molecular Analysis of CD44 in Colon Cancer Cells"

Goal: To characterize the structural biology of CD44 on colon cancer cells and to define how expression of CD44 glycoforms mediates growth and metastasis of colon cancer.

CURRENT FUNDING (Direct Cost Funding):

2011-2019 Principal Investigator NIH/NHLBI, 1P01HL107146-02

1,800,000/yr

Title: "Program of Excellence in Glycosciences: Biosynthesis and Function of Lactosaminyl Glycans in Hematopoiesis"

Goal: To characterize the structure and function of lactosaminyl glycans in hematopoiesis; to promote growth and education in the discipline of glycobiology both regionally and nationally, and to create the field of "translational glycobiology."

2018-2023 Principal Investigator NIH/NHLBI, K12HL141953

\$1,000,000/yr

Title: "Forging Translational Glycobiologists: Intermeshing Glycoscience Training and Clinical Education"

Goal: Career development/training for the next generation of "Translational Glycobiologists"

Report of Local Teaching and Training

Teaching of Students in Courses:

Harvard College

1975-1977 Undergraduates	Science, Harvard University Bureau of Study Council Tutor, 6 hours/week
1976-1977 20 Biology Majors	Natural Sciences 5 Teaching Assistant, 6 hours/week for 2 terms (Fall & Spring)
1997 Undergraduates	Senior Common Room Winthrop House and Currier House Member, 1 hour/month
1997-present Undergraduates	Biology and Biochemistry, Winthrop House Non-resident Tutor, 1 hour/week
2004-2007 2 students	91r (Independent Research/Study) for Harvard College Students Preceptor, 8 hours/week
2011-present 1 student	91r (Independent Research/Study) for Harvard College Students Preceptor, 8 hours/week
2012-2013 2 students	91r (Independent Research/Study) for Carlos Rodriguez-Russo (Harvard College) Senior Honors Thesis Supervisor/Preceptor, 8 hours/week
2013-2014 2 students	91r (Independent Research/Study) for Ritika Walia (Brandeis University) Senior Honors Thesis Supervisor/Preceptor, 8 hours/week
2010-present 12 students	Harvard Freshmen Seminar 23E: The Scientific Method: Roadmap to Knowledge Professor, 18 hours/week, one Semester

Harvard Medical School

1979 110 students	Physiology and Biophysics 700.0 Teaching Assistant, 5 hours/week for 4 weeks
1999-2008 25 students	HST Hematology (HST – 080) Course Lecturer, 2 hour lecture - 20 hours/year
2001-2006 2 students	Introduction to Clinical Medicine, HST Program (at BWH) Full time Preceptor, 100 hours/year (spring term, 2 nd year)
2005-2007 10 Students	GSAS Transplantation Biology – 300 level course Course Lecturer, 2 hour lecture – 20 hours/year
2005-2007 15 high school students	Mentoring for Science Program (a Harvard Medical School program to provide science education to high school students in the Boston Public School System)

	Course Lecturer and Case Author, 10 hours lecture, 390 hours of case authorship – 400 hours/year
2007-2010 20 MIT Graduate Students	HST 240 - Translational Medicine Preceptorship Course Director, 12 hours/month (144 hours/year)
2008-2012 20 MIT Graduate Students	HST 594 - Translational Medicine Seminar Course Director, 5 hours/month, fall-spring terms (40 hours/year)
2014-2015 2 students	Patient-Doctor II (HMS Physical Diagnosis Course) Full time Preceptor, 50 hours/year (spring term, 2 nd year)
2015-present 3 students	HST200 (HMS/MIT Physical Diagnosis Course) Full time Preceptor, 50 hours/year (spring term, 2 nd year)

University of South Florida College of Medicine

1993-1995 2 students	Physical Diagnosis Instructor, 5 hours/week, one term/year
1993-1996 130 medical students	Medical Microbiology and Immunology Course (1993 – 1996) and Hematology Course (1996) Course lecturer, 2 lectures in each course, 20 hours/year

University of Miami School of Medicine

1985-1992 150 students	Core Immunology Course, Laboratory/Conference Instructor, 4 hours/week for 3 weeks
1988-1992 3 second year students	Physical Diagnosis Course Instructor, 5 hours/week, one term/year
1990 M.D., Ph.D. students in tutorial	“Life Cycle” Module, Physician-Scientist Program Tutor, 10 hours/week for 8 weeks
1992 5 graduate students	“Autoimmune Disease” Course Director, 15 hours/week for 5 weeks

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

1988-1989 Audience	Chief Medical Resident Jackson Memorial Hospital, Miami, FL	Full Time-60 hrs/week
-----------------------	----------------------------------------------------------------	-----------------------

Clinical Supervisory and Training Responsibilities

Year(s)	Responsibility	Institution	Level of Effort
---------	----------------	-------------	-----------------

1988-1993	Medical Attending	Miami VA Medical Center, Jackson Memorial Hospital	Full time-4 mos/year
1993-1996	Attending, BMT Service	H. Lee Moffitt Cancer Center and Research Institute	Full time-4 mos/year
1997-2002	Attending, BMT Service	Massachusetts General Hospital	Full time-3mos/year
2002-present	Attending, BMT Service	BWH/DFCI	Full time-1mo/year

Laboratory and Other Research Supervisory and Training Responsibilities

1989-1993	Lab supervisor/advisor to high school students in the Secondary School Laboratory Research Program in Dade County, FL, and mentor to three college students and one post doc.	Daily mentorship for four years
1990-present	Supervision of post-doctoral fellows (University of Miami, University of South Florida, Harvard Medical School)	Daily mentorship (see below)
1993-1996	Lab supervisor /advisor to two college students, three graduate students and three post docs, University of South Florida	Daily mentorship for four years
1997-present	Laboratory research mentor to college students (>30 students since 1997)	Daily mentorship - 3mos/year (during summer)

Formally Supervised Trainees:

1990-1993	Lou Meng, M.D. Accomplishments: Now CEO of biotech company; previously served as Assistant Professor of Pathology at the University of Miami School of Medicine	Post-doctoral fellow
1993-1995	Jane Messina, M.D. Accomplishments: Professor of Pathology and Cell Biology, Dermatology and Cutaneous Surgery, and Oncologic Services, University of South Florida College of Medicine	Post-doctoral fellow
1993-1996	Katrina Allen, Ph.D. Accomplishments: Current position is unknown	Post-doctoral fellow
1994-1996	Xhizuang Shu, M.D., Ph.D. Accomplishments: Senior scientist working in biotech industry in China	Post-doctoral fellow
1997-1999	Han Chong Toh, M.D.; Ph.D. Accomplishments: Deputy Director, National Cancer Center Singapore	Post-doctoral fellow
1997-1999	Pierre Theodore, M.D. Accomplishments: Associate Professor of Surgery, University of California San Francisco	Post-doctoral fellow
2001-2002	Onir Leshem, DDS	Post-doctoral fellow

Accomplishments: After fellowship, completed Ph.D. at Forsythe Dental Center, Boston, MA; now on faculty at Forsythe Dental Center

1999-2003 Charles J. Dimitroff, Ph.D. Post-doctoral fellow

Accomplishments: Associate Professor of Dermatology, Harvard Medical School

2001-2003 Mirjana Milinkovic, M.D. Post-doctoral fellow

Accomplishments: Associate Professor of Dermatology, University of Belgrade, Serbia

2002-2004 Min Xu, M.D. Post-doctoral fellow

Accomplishments: Academic Urologist, Tufts Medical Center

2003-2007 Monica Burdick, Ph.D. Post-doctoral fellow

Accomplishments: Associate Professor of Chemical and Biomolecular Engineering, Ohio University

2004-2007 Nilesh Dagia, Ph.D. Post-doctoral fellow

Accomplishments: Head of Biology and Pharmacology, Opal Oncology

2004-2006 Vicente Resto, M.D., Ph.D. Post-doctoral fellow

Accomplishments: Professor of Surgery and Biochemistry, and Chair of Department of Otolaryngology, University of Texas, Galveston

2004-2010 Zeineb Gadhoom, Ph.D. Post-doctoral fellow

Accomplishments: Senior Research Scientist, King Abdullah University of Science and Technology, Jeddah, Saudi Arabia

2005-2009 Jasmeen Merzaban, Ph.D. Post-doctoral fellow

Accomplishments: Assistant Professor of Bioscience, King Abdullah University of Science and Technology, Jeddah, Saudi Arabia

2007-2010 Sai Thankamony, Ph.D. Post-doctoral fellow

Accomplishments: Senior Scientist, Biogen

2007-2009 Tomas Navarro, M.D. Post-doctoral fellow

Accomplishments: Assistant Professor, Hospital Universitari German Trias i Pujol (Barcelona, Spain)

2008 Yakov Peter, Ph.D. Post-doctoral fellow

Accomplishments: Assistant Professor of Biology, Albert Einstein School of Medicine, NY

2008-2011 Shwan Tawfiq, M.D. Post-doctoral fellow

Accomplishments: Chief of Bone Marrow Transplant at the University of Kurdistan, Iraq

2008-2012 Pieter Jacobs, Ph.D. Post-doctoral fellow

Accomplishments: Managing Scientist: Head of Cell Culture, Manufacturing Sciences and Technology Department, Genzyme Corporation (Geel, Belgium)

2009-2011 Shinobu Sakai, Ph.D. Visiting Scientist, Japan Society for the Promotion of Science

Accomplishments: Senior Research Scientist, National Institute of Health Sciences, Japan

2006-2014	Cristina Silvescu, Ph.D.	Post-doctoral fellow
Accomplishments: Current position is unknown		
2012-2014	Catalina Ruiz-Cañada, Ph.D.	Post-doctoral fellow
Accomplishments: Instructor, University of Massachusetts Medical School, Worcester, MA		
2014-2015	Victor C. Wang, M.D.	Post-doctoral fellow
Accomplishments: Academic hospital private practice, Children's Hospital Orange County		
2012-2016	Brad Dykstra, Ph.D.	Post-doctoral fellow
Accomplishments: Research Specialist, Harvard Medical School, Boston, MA		
2012-present	Olga Gisela Pachón-Peña, Ph.D.	Post-doctoral fellow
2014-present	Nandini Mondal, Ph.D.	Post-doctoral fellow
2016-present	Mariana Silva, Ph.D.	Post-doctoral fellow
2017-present	Brittany Pequegnat	Post-doctoral fellow

Formal Teaching of Peers (CME and other continuing education courses):

2009, 2011	Immunology and Skin Disease: Frontiers in Cutaneous Immunology; presentation entitled "Mesenchymal Stem Cells" Harvard Medical School	Speaker
------------	------------------------------------------------------------------------------------------------------------------------------------------	---------

Local Invited Presentations:

1984	"Effector Functions of the Macrophage" Harvard Medical Society Symposium (Boston, MA) Harvard Medical School	Lecture
1985	"The Complement Genes of the Major Histocompatibility Complex" Harvard Medical School (Boston, MA) Department of Pathology	Lecture
1986	"The Class III Genes of the MHC" University of Miami School of Medicine, FL Department of Immunology and Microbiology	Seminar
1990	"Lymphocyte Migration" University of Miami School of Medicine (Miami, FL) Department of Immunology and Microbiology	Seminar

1991	“Chronic Lymphocytic Leukemia” University of Miami School of Medicine (Miami, FL)	Grand Rounds
1992	“The Effects of Steroids on Lymphocyte Migration” University of Miami School of Medicine (Miami, FL) Department of Immunology and Microbiology	Seminar
1994	“Lymphocyte Migration in Health and Disease” University of South Florida, Department of Medicine	Grand Rounds
1994	“Regulation of L-Selectin Gene Expression” University of South Florida Department of Biochemistry and Molecular Biology	Seminar
1998	“Pathobiology of Cutaneous GVHD” Harvard Skin Disease Research Center Seminar Series (Boston, MA) Sponsor/Source Compensation	Seminar
1998	“The Selectins” Massachusetts General Hospital (Boston, MA) Pathology Research Seminar Series	Lecture
1999	“The Structural Biology of the L-selectin Ligands” Harvard Institutes of Medicine (Boston, MA) Immunology Seminar Series	Lecture
1999	“GI Complications of Bone Marrow Transplantation” Massachusetts General Hospital (Boston, MA) Gastroenterology	Grand Rounds
1999	“Site-specific Migration of Lymphocytes in Graft-versus-Host Disease” Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	Lecture
2001	“The Science and Politics of Embryonic and Adult Stem Cell Research” Brigham and Women’s Hospital (Boston, MA) Chief Medical Resident’s Teaching Conference	Lecture
2001	“Hermes, HCELL and Hematopoiesis: Homing in on CD44” Harvard Medical School (Boston, MA) Vascular Biology Seminar Series	Lecture
2002	“The ‘Roll’ of Selectins: How Stem Cells Migrate” Massachusetts General Hospital (Boston, MA) Cancer Seminar Series	Seminar
2002	“The Pathobiology of Acute GVHD: A Double-edged Sword”	Lecture

	Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	
2003	“Human Hematopoiesis: New ‘Roll’ for CD44” Harvard Medical School (Boston, MA) Center for Blood Research Seminar Series	Seminar
2003	“Optimizing Homing of Hematopoietic Stem Cells for Regenerative Therapies” Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	Lecture
2003	“The Peripatetic Adult Stem Cell” Harvard Medical School (Boston, MA) New England Regional Primate Center	Lecture
2005	“Strategies to Enhance Lymphocyte Migration to Sites of Relapse Following Hematopoietic Stem Cell Transplantation” Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	Lecture
2005	“The Lymphocyte Homing Receptors” Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	Lecture
2006	“Molecular Basis of Hematopoietic Stem Cell Trafficking In Utero” Children’s Hospital Medical Center (Boston, MA) Fetal Medicine/Fetal Care Center Grand Rounds	Lecture
2007	“Regulation of Stem Cell Trafficking by Glycan Engineering” Brigham and Women’s Hospital (Boston, MA) Division of Hematology	Seminar
2007	“Applications of Mesenchymal Stem Cell-based Regenerative Therapeutics” Dana-Farber Cancer Institute (Boston, MA) Bone Marrow Transplant Conference	Lecture
2008	“Chemical Engineering of Cell Migration” Massachusetts General Hospital (Boston, MA) Steele Laboratory Seminar Series	Seminar
2009	“Home Sweet Home: Steering Cell Migration in the Vasculature via Glycoengineering” Children’s Hospital (Boston, MA) Harvard-wide Vascular Biology Seminar Series	Seminar
2011	“Enabling Stem Cell Therapeutics through GPS” Shriners’ Hospital (Boston, MA)	Invited Speaker

Report of Regional, National and International Invited Teaching and Presentations

Regional

No presentations below were sponsored by outside entities:

1986	“Acquired Immunodeficiency Disease” Greater Miami Interdenominational Faith Conference, FL	Lecture
1986	“The Current Truth About AIDS” Temple Israel Miami Health Symposium, FL	Lecture
1987	“AIDS: The Facts” Dade County Family Services Center, FL	Lecture
1988	“Health Care and the Homeless” Florida Division of American College of Physicians, Annual Meeting (Jacksonville, FL)	Lecture
1992	“Immunobiology of Chronic Lymphocytic Leukemia” Leukemia Society of South Florida	Lecture
1993	“Pathophysiology of Lymphocyte Migration” University of South Florida Department of Pathology and Laboratory Medicine	Grand Rounds
1999	“The Glycobiology of the Selectin Ligands” Boston Glycobiology Discussion Group (Boston, MA)	Lecture
2001	“How is a Scientist ‘Made’?” Southern New England Junior Science and Humanities Symposium	Lecture
2002	“Stem Cell Therapies: Do We Need Embryonic Stem Cells to Treat Disease?” Harvard University (Boston, MA) Harvard College Class of 1977 (25 th Reunion) Reunion Symposia, Symposium on Biotechnology	Moderator and Lecture
2005	“The Role of Glycans in Stem Cell Migration” Boston Glycobiology Discussion Group Sponsor/Source Compensation	Lecture
2008	“Stem Cells” Harvard Club in Concord (Concord, MA)	Seminar
2008	“GPS for Stem Cells” Boston Museum of Science (Boston, MA) Current Science and Technology Seminar Series	Lecture
2008	“Glycosyltransferase-Programmed Stereosubstitution (GPS) of	Lecture

	CD44: Steering Stem Cells to Treat Osteoporosis” CIMIT Forum (Boston, MA)	
2008	“Stem Cells” Harvard Club in Concord (Concord, MA)	Seminar
2009	“The Bioethics of Stem Cells” Temple Shir Tikva (Wayland, MA)	Lecture
2010	“The Biology and Bioethics of Stem cell-based Therapeutics” Leonard Morse Hospital (Natick, MA)	Grand Rounds
2010	“Optimizing Cellular Therapeutics by Glycan Engineering of the Cell Surface” The Medical Exchange Club (Boston, MA)	Speaker
2011	“The Promise of Stem Cell-based Therapies” Harvard Club of Cape Cod (Yarmouth Port, MA)	Speaker
2012	“Desperately Seeking Cures: The Politics of Stem cell Therapeutics” Harvard Club of the North Shore (Salem, MA)	Speaker
2012	“Latino Leadership in Medicine” Latino Leadership Initiative, Harvard Kennedy School of Government, Harvard University (Cambridge, MA)	Speaker
2013	“The Dark Side of G-CSF” Hematology Grand Rounds, Brigham and Women’s Hospital/Dana-Farber Cancer Institute (Boston, MA)	Speaker
2013	“Latino Leadership in Medicine” Latino Leadership Initiative, Harvard Kennedy School of Government, Harvard University (Cambridge, MA)	Speaker
2013	“Stem Cell Therapeutics and the Future of Medicine” Brandeis Global Youth Summit on the Future of Medicine	Speaker
2013	“Trousseau: The Man, The Syndrome, and The Pathobiology” Hematology Grand Rounds Brigham and Women’s Hospital/Dana-Farber Institute (Boston, MA)	Speaker
2014	“The Scientific Method” The Medical Exchange Club (Boston, MA)	Speaker
2014	“G-CSF Toxicity: Innate Immunity Gone Wild” Immunology Seminar Series, Brigham and Women’s Hospital/Dana-Farber Cancer Institute (Boston, MA)	Speaker

2014	“Translational Research: The Making of a Clinician-Scientist” Brandeis Global Youth Summit on the Future of Medicine Brandeis University (Waltham, MA)	Speaker
2014	“Homing in on CD44: Steering Cell Migration” Hematology Grand Rounds (Boston, MA) Brigham and Women’s Hospital	Speaker
2014	“What Can be Bad About G-CSF Administration?” Harvard Medical School Transfusion Medicine Grand Rounds (Boston, MA)	Speaker
2015	“The Pathobiology of G-CSF-induced Angiotoxicity” Vascular Biology Seminar Series Harvard Medical School/Boston Children’s Hospital (Boston, MA)	Speaker
2016	“The Scientific Method: An Unbiased Assessment” Hematology Grand Rounds Brigham and Women’s Hospital (Boston, MA)	Speaker
2016	“Exploiting E-selectin Expression to Cure Skin Disease” CBRC Seminar Series Massachusetts General Hospital/Harvard Cutaneous Biology Research Center (Boston, MA)	Seminar
2016	“Celebrating the Latino Spirit” Latino Heritage Celebration Day Boston Children’s Hospital (Boston, MA)	Keynote Speaker
2016	“Applying Lessons from Transfusion Medicine to Cure Osteoporosis” Harvard Medical School Transfusion Medicine Grand Rounds (Boston, MA)	Speaker
2016	“GPS for Curing Osteoporosis” Endocrine Unit Seminar Series Massachusetts General Hospital (Boston, MA)	Seminar
2016	“Enabling Translational Glycobiology” Human Glycome Project Radcliffe Institute for Advanced Study Harvard University (Boston, MA)	Seminar
2017	“Reversing Osteoporosis via Hematology” Department of Hematology Brigham and Women’s Hospital (Boston, MA)	Grand Rounds

National***No presentations below were sponsored by outside entities:***

1992	“Lymphocyte Homing Receptors” H. Lee Moffitt Cancer Center, University of South Florida (Tampa, FL)	Grand Rounds
------	--------------------------------------------------------------------------------------------------------	--------------

1994	“Lymphocyte Migration: The Biology of L-Selectin” NIH/NHLBI Hematology Branch	Seminar
1994	“The Physiology of Lymphocyte Migration Following Bone Marrow Transplantation” University of Washington (Seattle, WA) Fred Hutchinson Cancer Center	Seminar
1995	“Lymphocyte Migration Following Bone Marrow Transplantation” New York Academy of Sciences Conference (Orlando, FL)	Lecture
1995	“Expression of an L-Selectin Ligand on Hematopoietic Progenitor Cells” Gibco-BRL/Life Technologies (Bethesda, MD)	Lecture
1995	“The Biology of L-Selectin Ligands” Monsanto/Searle Visiting Scientist Seminar Series (St. Louis, MO)	Seminar
1995	“Pathophysiology of Lymphocyte Migration following Bone Marrow Transplantation” University of South Carolina School of Medicine (Columbia, SC) Hematology/Oncology Grand Rounds	Grand Rounds
1995	“The Biology of Selectins: Mediators of the Inflammatory Response” University of South Florida Department of Pathology and Laboratory Medicine Grand Rounds	Grand Rounds
1995	“Structural Biology of L-selecting Ligands” Genetics Institute (Cambridge, MA) Visiting Scientist Lecture Series	Lecture
1995	“Adhesion Molecules and Hematopoiesis: Is CD34 and L-Selectin Ligand?” Harvard Medical School (Boston, MA) Hematology/Oncology Grand Rounds, Brigham and Women's Hospital/Beth Israel Hospital	Grand Rounds
1995	“Tissue-Specific Lymphocyte Migration Following Bone Marrow Transplantation” Harvard Medical School/Beth Israel Hospital (Boston, MA) Department of Pathology	Lecture
1996	“The Biology of L-Selectin and its Ligands in Hematopoiesis”, and “The Pathophysiology of Lymphocyte Migration in GVHD” City of Hope National Cancer Center (Duarte, CA)	Lecture
1996	“L-Selectin Ligand as a Target for Gene Therapy” University of Southern California (Los Angeles, CA) Gene Therapy Laboratories Seminar Series	Lecture

1996	“The Biology of L-Selectin in Hematolymphopoiesis” Mayo Clinic (Rochester, MN) Mayo-Luther Forum on Stem Cells	Lecture
1996	“Adhesion Molecules and Hematopoiesis” University of Virginia School of Medicine (Charlottesville, VA) Hematology/Oncology	Grand Rounds
1996	“The Selectins and Their Ligands” Duke University (Durham, NC) Hematology/Bone Marrow Transplant Service	Grand Rounds
1997	“Selectins and the Hematopoietic Microenvironment” University of Pittsburgh Hematology/Bone Marrow Transplant Service	Grand Rounds
1997	“Graft-versus-Host Disease” Case Western Reserve University Cancer Center (Cleveland, OH) Hematology/Oncology Division Seminar Series	Lecture
1998	“Characterization of a Novel L-selectin Ligand Expressed on Hematopoietic Progenitor Cells” NIH/NHLBI (Bethesda, MD) Hematopoietic Stem Cell Biology Meeting	Lecture
1999	“The Making of a Translationalist” University of Miami (Miami, FL) Eastern Student Research Forum	Keynote Address
2000	“Characterization and Structural Biology of HCELL, A Novel L-selectin Ligand” Roswell Park Cancer Institute (Buffalo, NY) Department of Pharmacology and Developmental Therapeutics Seminar Series	Lecture
2000	“Biology and Pathobiology of Lymphocyte Migration” Roswell Park Cancer Institute (Buffalo, NY)	Medical Grand Rounds
2000	“Leukocytes and the Mississippi: Rollin’ Along” Tulane University Cancer Center (New Orleans, LA)	Lecture
2000	“The Molecular Basis of Tissue-specific Lymphocyte Migration” Hennepin County Medical Center/University of Minnesota (Minneapolis, MN) Nephrology/Renal Transplant Program Seminar Series	Lecture
2000	“Pathobiology of Lymphocyte Migration in Acute GVHD” University of Minnesota Cancer Center (Minneapolis, MN) Bone Marrow Transplant Service	Grand Rounds
2001	“The Intern Asked the Question: So, How is it that Blood Cells Migrate into the Bone Marrow?”	Keynote Address

	University of Miami (Miami, FL) Eastern Student Research Forum	
2001	“Shear Madness: How Hematopoietic Cells Home to Bone Marrow” University of Washington School of Medicine (Seattle, WA) Hematology/Oncology Division	Grand Rounds
2001	“Development and Use of the ‘Blot Rolling Assay’ to Identify a Novel Selectin Ligand Expressed on Hematopoietic Progenitor Cells” NIH/NHLBI Hematopoietic Stem Cell Biology Meeting (Bethesda, MD)	Lecture
2001	“Novel Methods to Improve the Clinical Diagnosis and Management of Acute Graft-versus-Host Disease” Oregon Health Science University Cancer Center (Portland, OR) Hematology/Oncology Division	Grand Rounds
2001	“Adult Stem Cells: Politics, Plasticity and Promise for the Future” University of Miami School of Medicine (Miami, FL) Dr. Larry M. Fishman Symposium	Lecture
2002	“How Stem Cells Learn to ‘Crawl’” Roger Williams Hospital Cancer Center (Providence, RI) Seminar Series	Lecture
2003	“The Trafficking of Adult Stem Cells” 52 nd Annual Montagna Symposium on the Biology of Skin (Snowmass, CO)	Lecture
2003	“The Discovery of ‘HCELL’, the Bone Marrow ‘Homing Receptor’” Johns Hopkins School of Medicine (Baltimore, MD) Department of Pharmacology Seminar Series	Lecture
2003	“Recent Advances in Our Understanding of Acute Cutaneous GVHD” Connecticut Society of Dermatology and Dermatologic Surgery Annual Meeting (Hartford, CT)	Lecture
2003	“The Molecular Basis of Acute GVHD” All-Children’s Hospital (St. Petersburg, FL), Univ. of South Florida College of Medicine Immunology Seminar Series	Lecture
2003	“New ‘Avenues’ in Medicine: Hematopoietic Stem Cells and Regenerative Therapies” All-Children’s Hospital (St. Petersburg, FL), Univ. of South Florida College of Medicine	Grand Rounds
2004	“Regenerative Medicine: Implications for Future Clinical Management” University of Miami School of Medicine (Miami, FL) Medical Grand Rounds	Grand Rounds
2004	“T Cell Depletion and Leukocyte-Endothelial Interactions in	Lecture

	Hematopoietic Stem Cell Transplantation” Satellite Symposium, Annual Meeting of the American Society of Blood Marrow Transplantation (Orlando, FL)	
2004	“Subverting the Inflammatory Response for Regenerative Medicine” Cleveland Clinic Foundation (Cleveland, OH) Cleveland Clinic Immunology Seminar Series	Lecture
2005	“Stem Cell Migration: Homing in on CD44” NIH/NHLBI (Bethesda, MD) Bone Marrow Transplant Unit, Hematology Branch, Invited Seminar Series	Lecture
2006	“Homing Receptors, Chemokines, and the Biology of Cellular Trafficking” American Society of Blood and Marrow Transplantation Annual Meeting (Honolulu, HI)	Lecture
2006	“Steering Stem Cells: Optimizing the Vascular Route for Regenerative Medicine” Tulane University Health Science Center (New Orleans, LA) Center for Gene Therapy	Grand Rounds
2006	“Convergence on Glycans: The Molecular Basis of Stem Cell Trafficking and Cancer Metastasis” University of New Hampshire (Durham, NH) Charles Warren Memorial Symposium on Structural Glycomics	Keynote Address
2006	“Engineering Stem Cell Trafficking and Regenerative Therapeutics” Fred Hutchinson Cancer Research Center (Seattle, WA) Clinical Research Division	Grand Rounds
2006	“Optimizing Homing of Mesenchymal Stem Cells for Regenerative Medicine” Annual NIH Gene Therapy Symposium (Sonoma, CA)	Lecture
2006	“The ‘Rolls’ of Homing Receptors and Chemokines in Stem Cell Trafficking to Bone Marrow” Weill Medical College-Cornell University/New York Presbyterian Hospital (New York, NY) Hematology/Oncology Division	Grand Rounds
2007	“‘Braking’ the Barrier Towards Use of Adult Stem Cells in Regenerative Medicine” City of Hope Cancer Center (Duarte, CA) Stem Cell Biology Seminar Series	Lecture
2007	“Enabling Mesenchymal Stem Cell-based Therapy for Osteogenesis Imperfecta” Baylor College of Medicine (Houston, TX)	Lecture

Feigen Center Pediatric Research

2007	“Ex Vivo Glycan Engineering of Cell Migration: Implications for Immunity and Stem Cell Therapeutics” University of California (Los Angeles, CA) ImmunoForum Lecture Series	Lecture
2007	“The Discovery of HCELL” NIH/NHLBI (Bethesda, MD) Hematology Seminar Series	Lecture
2008	“The Role of Cancer Cell Surface Glycans in Metastasis” NCI Conference on the Biology of Brain Metastasis (Bethesda, MD)	Speaker
2008	“GPS for Stem Cells: The Roadmap for Regenerative Therapeutics” Rhode Island Science and Technology Advisory Council Symposium (Providence, RI)	Keynote Address
2008	“Eradicating the Leukemia Stem Cell” 10 th International Conference on Chronic Myeloid Leukemia (Boston, MA)	Lecture
2008	“Stem Cell Therapeutics” Bentley College (Waltham, MA) Congressional Student Leadership Conference on Medicine and Healthcare	Lecture
2009	“Stem Cell-based Therapies: Balancing Medical Need and Bioethics” Baskin Memorial Lecture, Temple Judea (Coral Gables, FL)	Lecture
2010	“Glycosyltransferase-Programmed Stereosubstitution (GPS): Directing Cell Trafficking in vivo” Consortium for Functional Glycomics, National Workshop Meeting (Bethesda, MD)	Speaker
2010	“Fulfilling the Promise of Stem Cell Therapeutics” Indiana Life Sciences Summit (Indianapolis, IN)	Keynote Address
2011	“The Past, Present, and Future of Stem Cells: At the Interface of Medical Necessity and Bioethics” Harvard Club of Maryland: The Johns Hopkins Club (Baltimore, MD)	Speaker
2011	“Unveiling the Devils in the Details: Optimizing Ex Vivo Glycan Engineering of Live Cell Surfaces” Complex Carbohydrate Research Center, University of Georgia (Athens, GA) Georgia Glycoscience Symposium/ Consortium for Functional Glycomics Workshop	Keynote Address
2011	“Stem Cells: What is Happening... Today?” Harvard Club of Princeton (Princeton, NJ)	Speaker
2011	“Desperately Seeking Cures: Stem Cell Therapeutics, Translational Glycobiology, and the USPTO”	Lecture

Sanford-Burnham Medical Research Institute (La Jolla, CA)
Translational Research Seminar Series

2011	“Optimizing Stem Cell Therapeutics for Cardiovascular Diseases” South Miami Heart Center Comprehensive Cardiovascular Symposium	Speaker
2011	“Enabling Stem Cell Therapeutics for Neurologic Diseases” University of Maryland, Center for Neurologic Diseases (Baltimore, MD)	Invited Speaker
2011	“Practical and Bioethical Aspects of Stem Cell Therapeutics” Department of Biology, Yeshiva University (New York, New York)	Visiting Professor
2011	“GPS for Regenerative Medicine: Optimizing Stem Cells Therapeutics” Department of Medicine, University of Massachusetts (Worcester, MA)	Medical Grand Rounds Speaker
2012	“Fulfilling the Promise of Translational Biology” National Academy of Sciences, Workshop on the Future of Glycoscience (Washington, DC)	Plenary Speaker
2012	“Glycosyltransferase-Programmed Stereosubstitution (GPS): Sweetening The Applicability of Cellular Therapeutics” National Institutes of Health, Glycoscience Symposium: Interfacing Glycoscience with Disease and Clinical Practice (Bethesda, MD)	Plenary Speaker
2012	“Stem Cell Therapeutics: Separating Hype from Facts” Harvard Club of Miami (Miami, FL)	Annual Keynote Speaker
2012	“Latino Leadership in Medicine: Desperately Seeking Cures” Miami Dade College, 305 Rise Conference (Miami, FL)	Annual Keynote Speaker
2012	“Stem Cell Therapeutics: Political Controversy and Clinical Applications” Doctor’s Hospital at Renaissance, Edinburg, TX	Grand Rounds
2012	“Desperately Seeking Cures” Texas A&M International University, Laredo, TX	Visiting Professor Lecture
2012	“Leading with Your Passion” Texas A&M International University, Laredo, TX (Leadership Students’ Meeting)	Annual Keynote Speaker
2012	“Finding Paradise” Texas A&M International University, Laredo, TX, Laredo High School District	Speaker
2012	“The Biology of Lymphocyte Migration: Implications for Neurologic Diseases”	Visiting Professor Lecture

	Neurosciences Grand Rounds, University of California San Francisco, Dept. of Neurology	
2013	“The Vascular Route to Stem Cell Therapeutics” Mount Sinai Medical Center, Miami, FL, Division of Cardiology	Visiting Professor Grand Rounds
2013	“The Future of Stem Cell Therapy” Harvard Club of Houston, Houston, TX	Annual Keynote Speaker
2013	“Optimizing Cellular Therapy via Cell Surface Glycan Engineering” Glycoimmunology Symposium, Harvard Medical School, Boston, MA	Speaker
2013	“Steering Stem Cells to Cure Osteoporosis” Department of Medicine University of Florida College of Medicine, Gainesville, FL	Visiting Professor, Medical Grand Rounds
2013	“The Scientific Process” NHLBI Lung Regeneration and Repair Consortium Meeting, University of Pennsylvania School of Medicine, Philadelphia, PA	Keynote Speaker
2014	“HCELL: The Bone Marrow Homing Receptor” Bone Marrow Transplant Program Grand Rounds MD Anderson Cancer Center, Houston	Grand Rounds Speaker
2015	“The E Selectin Ligands: The Good, the Bad and the (Extremely) Ugly” Department of Biological Chemistry Johns Hopkins University, Baltimore, MD	Visiting Professor Invited Lecture
2015	“Stem Cell Therapeutics” Harvard Club of West Coast of Florida Tampa, FL	Annual Keynote Speaker
2015	“Reversing Degenerative Discourse: The Promise of Stem Cell Therapeutics” Harvard Club of Central Florida Orlando, FL	Annual Keynote Speaker
2015	“Glycoscience Innovation Inspired by Medical Necessity: The Impact of Translational Glycobiology” NHLBI Biomedicine Lecture Series Bethesda, MD	Invited Speaker
2015	“Achieving the Promise of Regenerative Therapeutics” UF Health Cancer Center – Orlando Health Orlando, FL	Oncology Grand Rounds Speaker
2016	“Stem Cell Therapeutics: The Politics, the Hype, and the Curative Deliverables” The Harvard Club of Broward County	Annual Keynote Speaker

Boca Raton, FL

2016	“The Curative Power of Sugar-coated Stem Cells” Gates Stem Cell Center Seminar Series Denver, CO	Invited Speaker
2016	“GPS: Guiding a path to cure a disease by sugar coating stem cells” Biotechnne/R & D Systems Minneapolis, MN	Invited Speaker
2017	“GPS for CAR-T cells: Navigating Cell-based Therapeutics to Cure Cancer” Memorial Sloan Kettering Cancer Center New York, NY	Medical Grand Rounds

International***No presentations below were sponsored by outside entities:***

1983	"Phylogenetic Conservation of the MHC Protein Factor B" International Complement Workshop (Mainz, Germany)	Speaker
1992	“Immunobiology of Lymphoma and Leukemia” International Congress of Cuban Physicians (Miami, FL)	Speaker
1995	“The Hematopoietic Microenvironment: The Biology of L-Selectin” Keystone Symposium on the Hematopoietic Microenvironment (Taos, NM)	Speaker
1996	“L-Selectin Adhesive Interactions in Hematolymphopoiesis” Jose Carreras International Leukemia Foundation Scientific Symposium (Barcelona, Spain)	Speaker
1996	“A Novel L-selectin Ligand is Expressed on Normal Human Hematopoietic Cells” 25th Anniversary Meeting of the International Society for Experimental Hematology (NY, NY)	Speaker
1996	“Lymphocyte Migration to Target Tissues in GVHD” University of Murcia School of Medicine (Murcia, Spain) Hematology/Oncology Division	Speaker
2002	“Novel Methods of Diagnosing Graft-versus-Host Disease” 3 rd International Workshop on Non-myeloablative Stem Cell Transplantation (Captiva Island, FL)	Speaker
2003	“The ‘Roll’ of Hyaluronic Acid in Acute Cutaneous Graft-versus-Host Disease” Hyaluronan 2003 International Conference (Cleveland, OH)	Speaker
2003	“Strategies to Enhance Lymphocyte Migration to Sites of Relapse	Speaker

	Following Non-myeloablative Stem Cell Transplantation” 4 th International Workshop on Non-myeloablative Stem Cell Transplantation (Bermuda)	
2004	“From Graft Failure to Graft-versus-Host Disease: The Central Role of Glycans in Allogeneic Bone Marrow Transplantation” International Meeting of the Society of Glycobiology (combined with Japanese Society of Carbohydrate Research (Honolulu, HI)	Speaker
2005	“Physiology and Pathobiology of Lymphocyte and Stem Cell Migration” 5 th International Workshop on Non-myeloablative Stem Cell Transplantation (Cancun, Mexico)	Speaker
2006	“Cellular Trafficking: Homing in on Glycosyltransferases” Annual Meeting of the Society for Glycobiology (Los Angeles, CA)	Speaker
2006	“Chemical Engineering of Stem Cell and Lymphocyte Trafficking” University of Barcelona, Institute of Hematology and Oncology (Barcelona, Spain)	Lecture
2007	“Reversing Degenerative Diseases: The Promise of Regenerative Medicine” First Pan-Asian Pacific Summit on Emerging Healthcare Strategies (Beijing, China)	Plenary Session Speaker
2007	“The Biology of Stem Cell Migration” Peking Union Medical College (Beijing, China) National Chinese Center for Tissue Engineering	Lecture
2007	“Homing Receptors, Chemokines and Cellular Trafficking” and “Biology and Pathobiology of Lymphocyte Migration after Bone Marrow Transplant” 11 th Meeting of the Brazilian Society of Bone Marrow Transplantation (Gramado, Brazil)	Plenary Session Speaker (2 presentations)
2007	“The Naor Legacy: Defining the ‘Roll’ of CD44 in Cancer Metastasis” Hadassah Medical Center (Jerusalem, Israel) International Symposium Honoring Prof. David Naor	Plenary Session Speaker
2007	“‘Braking’ in on CD44: Optimizing Homing of Mesenchymal Stem for Regenerative Medicine” International Conference on Hyaluronan (Charleston, SC)	Plenary Session Cells Speaker
2008	“Programming Stem Cell Migration” Society for Glycobiology Annual Conference (Dallas, TX)	Plenary Speaker
2009	“Biology of Cell Migration” Universidad Internacional Del Mar/Universidad De Murcia (Mazarron, Spain)	Lecture
2009	“Pathobiology of GVHD”	Lecture

	Universidad Internacional Del mar/Universidad De Murcia (Mazarron, Spain)	
2009	“Mesenchymal Stem Cell Transplantation” Universidad Internacional Del Mar/Universidad De Murcia (Mazarron, Spain)	Lecture
2009	“Moving Stem Cells via GPS” Hospital Universitari German Trias i Pujol (Barcelona, Spain)	Lecture
2009	“Glycosyltransferase-programmed stereosubstitution (GPS) of CD44: Using GPS to Steer MSC Trafficking” MSC2009: Regenerative Medicine and Adult Stem Cell Therapy (Cleveland, OH)	Lecture
2009	“Mesenchymal Stem Cells” Harvard Medical School (Boston, MA) Immunology and Skin Disease: Frontiers in Cutaneous Immunology (International Conference)	Lecture
2010	“The Biology of Lymphocyte Trafficking” and “Creating a Roadmap for Stem Cell Therapeutics” Visiting Professor, Weizmann Institute of Science, (Rehovot, Israel)	Visiting Professor and “Highlights in Immunology” Institute Lecturer
2010	“Optimizing Stem Cell-based Therapeutics” Curso Internacional Red Tercel: Nuevas Tecnologías de implante y modulación celular (Madrid, Spain)	Speaker
2011	“Functional Pleiotropisms of E-selectin Ligands” Glycobiology Gordon Research Conference (Lucca, Italy)	Speaker
2011	“Glycan Engineering and Stem Cells” (Discussion Session) Glycobiology Gordon Research Conference (Lucca, Italy)	Chairperson
2011	“Mesenchymal Stem Cells (MSC): Hitting the Sweet Spot for Immunomodulation” Harvard Medical School (Boston, MA) Immunology and Skin Disease 2011 (International Conference)	Lecture
2011	“Role of the E-Selectin Ligand HCELL in Hematopoiesis and Leukemogenesis” American Society of Hematology (San Diego, CA), Myeloid Cell Workshop	Invited Presentation
2012	“Guiding Stem Cells to Cure Osteoporosis” Hospital Universitario, “Virgen de la Arrixaca” University of Murcia (Murcia, Spain)	Medical Grand Rounds
2012	“Immunotherapy of Hematopoietic Stem Cell Transplantation” Universidad Internacional del Mar (Aguilas, Spain)	Lecture
2012	“Glycosyltransferase – Programmed Stereosubstitution: A New Paradigm in Stem Cell Therapeutics” Universidad Internacional del Mar (Aguilas, Spain)	Lecture

2013	“Programming Stem cell Migration” Hospital Virgen de la Arrixaca Clinical University Hospital (Murcia, Spain)	Lecture
2013	“Stem Cell Trafficking; Biology and Manipulation via GPS” Universidad Internacional del Mar (Los Alcazares, Spain)	Lecture
2013	“The Future of Medicine: Regenerative Therapeutics” Centro Unico de Ablacion e Implante de la Provincia de Buenos Aires (La Plata, Argentina)	Lecture
2013	“GPS: Navigating the future of Medicine” Annual Glycoscience Ireland Meeting (County Mayo, Galway, Ireland)	Keynote Speaker
2014	“Stem Cell Trafficking: Biology and Manipulation via GPS” Universidad Internacional del Mar (Los Alcazares, Spain)	Lecture
2014	“The Scientific Method: Theory and Practice” Jose Carreras Research Institute (Barcelona, Spain)	Invited Lecture
2014	Glyconavigating Cell Migration 2014 Annual Meeting, American Association of Blood Banks (Philadelphia, PA)	Plenary Speaker
2015	“GPS: Creating GPS for Cell Migration” Universidad Internacional del Mar (Los Alcazares, Spain)	Lecture
2015	“Glycoengineering Cell Migration: Achieving the Promise of Cellular Therapeutics” 23 rd International Symposium on Glycoconjugates (Split, Croatia)	Plenary Lecture
2016	“Use of GPS to Optimize Tissue Delivery of Stem Cells” The Wallenberg Centre for Molecular Medicine (Lund, Sweden)	Lecture
2016	“Translational Glycobiology: Making Post-translational TRANSLATIONAL” University of Nova, Faculty of Sciences and Technology (Lisbon, Portugal)	Lecture
2016	“Glycosyltransferases: the cornerstones of cellular immunotherapy” 10 th International Symposium on Glycosyltransferases (Toronto, Canada)	Plenary Speaker
2016	“Terapia de células madre: la promesa de curación” University of Leon/University of Vigo (Villafranca del Bierzo, Spain)	Plenary Lecture
2016	“Stem cell trafficking: Optimizing MSC therapeutics” Universidad Internacional del Mar	Lecture

	(Los Alcazares, Spain)		
2016	“Sialyl Lewis X and E-Selectin: the drivers of cell therapeutics” Sialoglyco 2016 Conference (Toronto, Canada)	Speaker	
2017	“Using the Inflammatory Response to Cure Disease” Graduate School Invited Seminar Series Nova University (Lisbon, Portugal)	Speaker	
2017	“GPS for Stem Cells: Creating a Pathway to Cure” Inaugural Regenerative Medicine Symposium, University of Buffalo, Roswell Park Cancer Institute (Buffalo, NY)	Keynote Speaker	
2017	“Glycosyltransferases as Tools to Identify Cell Surface Lactosaminyl Glycans” <i>Gordon Research Conference: Chemical and Biochemical Approaches to Deciphering Glycan Function</i> (West Dover, VT)	Speaker	
2017	“Innovaciones Para Mejorar el Tráfico Celular: GPS” University of Murcia/Universidad Internacional del Mar (Los Alcazares, Spain)	Lecture	
2017	“Driving skin-specific stem cell migration via GPS” International Pigment Center Conference (IPCC) (Denver, CO)	Invited Speaker	
2017	“GPS: La Ruta Glicocientífica de la Terapia Celular” 4th Latin American Glycobiology Meeting (Mexico City, Mexico)	Keynote Lecture	
2017	“GPS: Navigating the pathway for regenerative therapy” Ernst Klenk Symposium 2017 (Cologne, Germany)	Lecture	

Report of Clinical Activities and Innovations

Current License and Certification:

1986 -	Florida Physician License
1989 -	Diplomate, American Board of Internal Medicine (certified indefinitely)
1994 -	Diplomate, Subspecialty of Hematology (certified until 2018)
1997 -	Massachusetts Physician License

Practice Activities:

Activity	Setting of Practice	Name and Location of Practice	Level of Activity
Bone Marrow transplantation	Teaching Hospital	Brigham & Women's Hospital/Dana-Farber Cancer Institute	Patient care 15%, teaching 20 %,

Hematology	Teaching Hospital	Brigham & Women's Hospital	Administration 5%, research 60%.
Internal Medicine	Teaching Hospital	Brigham & Women's Hospital	

Clinical Innovations:

- **Member of team that developed treatment plan - and was the bone marrow harvest physician and the assigned in-patient attending - for the first patient to undergo combined bone marrow-living related donor kidney transplant (patient with multiple myeloma and end-stage renal disease). Massachusetts General Hospital (September-October, 1998).**
- **Inventor of the glycoengineering technology known as "Glycosyltransferase-programmed Stereosubstitution" (GPS). The GPS technology enforces trafficking of intravenously administered cells to bone marrow, to skin, and to all sites of tissue injury. GPS technology is being applied in two clinical trials at present: (1) Use of Mesenchymal Stem Cells to Reverse Osteoporosis (at the Virgen de la Arrixaca Hospital/University of Murcia, Murcia, Spain); (2) Enhancing Engraftment of Cord Blood-derived Hematopoietic Stem Cells in Hematopoietic Stem Cell Transplantation (MD Anderson Cancer Center, Houston, Texas).**

Report of Technological and Other Scientific Innovations

Innovation/Patent: Fluorinated Glucosamine Analogs Useful for Modulating Post-translational Glycosylations on Cells

U.S. Patent 7,098,195, issued August, 2003

Description: Creation of chemical agent to inhibit cell membrane glycosylations that regulate cellular trafficking

Innovation/Patent: Hematopoietic Cell E-Selectin/L-Selectin Ligand Polypeptides and Methods of Use Thereof

Japanese Patent 4198990, issued October, 2008

Description: Composition of matter for the molecule HCELL, and methods of use of HCELL for treating hematopoietic disorders, inflammatory conditions, and cancer, and for providing stem cell therapy in a mammal

Innovation/Patent: Hematopoietic Cell E-Selectin/L-Selectin Ligand Polypeptides and Methods of Use Thereof

European Patent EP 1421174, issued December, 2009

Description: Composition of matter for the molecule HCELL, and methods of use of HCELL for treating hematopoietic disorders, inflammatory conditions, and cancer, and for providing stem cell therapy.

Innovation/Patent: Antibody SACK-1 that binds CD44 glycoforms

United States Patent 7,816,500, issued October, 2010

Description: Composition of matter for an HCELL-specific mAb and methods of use in treating hematopoietic disorders, inflammatory conditions, and cancer, and for providing stem cell therapy in a mammal

Innovation/Patent: Hematopoietic Cell E-Selectin/L-Selectin Ligand Polypeptides and Methods of Use Thereof

United States Patent 7,875,585, issued January, 2011

Description: Composition of matter for the molecule HCELL, and methods of use of HCELL for treating hematopoietic disorders, inflammatory conditions, and cancer, and for providing stem cell therapy in a mammal

Innovation/Patent: Cytokine Induction of Selectin Ligands on Cells

United States Patent 7,998,740, issued August, 2011

Description: Methods for inducing expression of HCELL and other E-selectin ligands on myeloid cells using the cytokine G-CSF

Innovation/Patent: Composition and Methods for Modifying Cell Surface Glycans

United States Patent 8,084,236, issued December 27, 2011

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles)

Innovation/Patent: Hematopoietic Cell E-Selectin/L-Selectin Ligand Polypeptides and Methods of Use Thereof

Canadian Patent CA 2429625, issued May 1, 2012

Description: Composition of matter for the molecule HCELL, and methods of use of HCELL for treating hematopoietic disorders, inflammatory conditions, and cancer, and for providing stem cell therapy in a mammal

Innovation/Patent: Composition and Methods for Modifying Cell Surface Glycans

Japanese Patent 5368976, issued August 20, 2013

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles).

Innovation/Patent: Composition and Methods for Modifying Cell Surface Glycans

Australian Patent 2007254777, issued February, 2014

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles).

Innovation/Patent: Cytokine Induction of Selectin Ligands on Cells

United States Patent 8,633,026, issued January 21, 2014

Description: Method of enhancing expression of E-selectin ligands on myeloid cells by use of G-CSF

Innovation/Patent: Methods for Modifying Cell Surface Glycans

United States Patent 8,728,810, issued May 20, 2014

Description: Enforced cell surface expression of E-selectin ligands using glycosyltransferases specialized to function in absence of input co-factors

Innovation/Patent: Methods of Treating Complications and Disorders Associated with G-CSF Administration

United States Patent 8,765,126, issued July 1, 2014

Description: Use of inhibitors of myeloperoxidase and E-selectin ligands to treat inflammatory conditions associated with G-CSF expression/administration

Innovation/Patent: Methods for Modifying Cell Surface Glycans

United States Patent 8,852,935, issued October 7, 2014

Description: The composition of matter of mesenchymal stem cells expressing E-selectin ligands created by exofucosylation

Innovation/Patent: Composition and Methods for Modifying Cell Surface Glycans

United States Patent 8,852,935, issued October 7, 2014

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles).

Innovation/Patent: Composition and Methods for Modifying Cell Surface Glycans

Australian Patent 2014202669 issued August 25, 2016

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles).

Innovation/Patent: Increased In Vivo Circulation Time of Platelets After Storage With A Sialidase Inhibitor

United States Patent 20120321601 issued May 17, 2012

Description: Use of sialidase inhibitors to prolong platelet storage in vitro, and to prolong platelet survival in vivo.

Innovation/Patent: Platelet Additive Solution Having a beta-Galactosidase Inhibitor

United States Patent 20140099629 issued October 7, 2013

Description: Use of beta-galactosidase inhibitors to prolong platelet storage in vitro, and to prolong platelet survival in vivo.

Innovation/Patent: Platelet Additive Solution Having a beta-Galactosidase Inhibitor

United States Patent 20160174543 issued October 7, 2013

Description: Composition of matter of platelet storage solutions containing beta-galactosidase inhibitors.

Innovation/Patent: Platelet Storage and Reduced Bacterial Proliferation in Platelet Products Using a Sialidase Inhibitor

United States Patent 20160000064 issued September 16, 2015

Description: Composition of storage solutions that inhibit bacterial growth in collected platelets for transfusion.

Innovation/Patent: METHODS TO IMPROVE CELL THERAPY

United States Patent 20160184367 issued December 29, 2015

Description: Methods and compositions for modifying cell surface glycans (e.g., glycans expressed on the surface of live cells or cell particles) using glycosyltransferases without need for input divalent cation cofactors.

Innovation/Patent: Platelet Protection Solution Having Beta-Galactosidase and Sialidase Inhibitors

United States Patent 20160143269 issued February 2, 2016

Description: Use of combination sialidase inhibitors and beta-galactosidase inhibitors to prolong platelet storage in vitro, and to prolong platelet survival in vivo.

Innovation/Patent: Platelet Additive Solution Having a beta-Galactosidase Inhibitor

United States Patent 20170156310 issued February 17, 2017

Description: Composition of matter of platelet storage solutions containing beta-galactosidase inhibitors.

Innovation/Patent: Platelet Protection Solution Having Beta-Galactosidase and Sialidase Inhibitors
United States Patent 20180000066 issued September 13, 2017

Description: Compositions of platelet storage solutions that contain beta-galactosidase and sialidase inhibitors inhibit bacterial growth in collected platelets for transfusion.

Report of Education of Patients and Service to the Community

Activities

1985-1993	Board of Directors	Miami Civic Music Association
1987-1993	Advisory Board to County Homeless Health Care Project	Metro-Dade County, FL
1987-1993	Volunteer Physician Brief Description – Ran free health care clinic 3 times a week during evening hours	Dade County Homeless Health Care Project
1988-1989	Governor’s Council, Florida Chapter	American College of Physicians
1988-1990	Volunteer Medical Director Medical Director for free homeless healthcare clinic which I helped to establish	Brothers of the Good Shepherd/Camillus House Health Concern
1990-1993	Mentor Mentor in program for high school student lab research at regional universities	Laboratory Research Program, Dade County, FL School System
1991-1993	Chairperson, Planning Committee for medicine and Allied Health Magnet School	Dade County School Board, FL
1991-1993	Chairperson, Subcommittees for Middle School Science Curriculum Review and for Community Outreach	Dade County School Board, FL
1992	Lead Judge Secondary School science fair, Lead judge	Dade County, FL
1992	Lead Judge Science category, Lead judge	Miami Herald Silver Knight Award
1994-1997	Board of Directors	Museum of Science and Industry, Tampa, FL

1997	Non-resident tutor Tutored in Biology, Biochemistry, and Pre-Medical studies	John Winthrop House, Harvard College
1997-present	Education Advisory Board	Discovery Museum, Acton, MA
2001	Volunteer Physician Van physician; manned the traveling volunteer van	Pine Street Inn, Boston, MA
2001-present	Schools and Scholarships Committee, Harvard Club in Concord	Harvard College
2002	Organizer for Class of 1977 25 th Reunion Symposium on Biotechnology	Harvard College
2002	Commencement Aid Served as honorary Marshall	Harvard University
2002	Judge and organizer, Science fair	Peter Noyes Elementary School, Sudbury, MA
2006-present	Director	Harvard Club in Concord, MA
2005-present	Board of Overseers	Museum of Science, Boston, MA
2007-2010	Board of Directors	Whizkids Foundation
2008-2011	President	Harvard Club in Concord, MA
2008-present	Board of Directors; Regional Director, Northeastern Massachusetts	Harvard Alumni Association
2009-present	International Taskforce Member, “Harvard Serves” (global call for public service by Harvard Alumni)	Harvard Alumni Association

Community Service Recognitions

<i>Year</i>	<i>Name of Award</i>	<i>Organization</i>	<i>Recognition</i>
1990	Kelly’s Heroes Award	WTVJ-TV (CBS), Miami, FL	Recipient for medical community service
1993	George Paff Award	University of Miami School of Medicine	Given for excellence in teaching
1993	Peace and Unity Award	Archdiocese of Miami, FL	Recipient for medical community service

Report of Scholarship

Publications

Journal Publications:

1. **Sackstein R**, Colten HR, Woods DE. Phylogenetic conservation of a class III major histocompatibility complex antigen, factor B: isolation and nucleotide sequencing of mouse factor B cDNA clones. *J. Biol. Chem.* 1983; 258:14693-14697.
2. **Sackstein R**, Colten HR. Molecular regulation of MHC class III (C4 and factor B) gene expression in mouse peritoneal macrophages. *J. Immunol.* 1984; 133:1618-1626.
3. Chaplin DD, **Sackstein R**, Perlmutter DH, Weis JH, Kruse TA, Coligan J, Colten HR, Seidman JG. Expression of hemolytically active murine fourth component of complement in transfected L cells. *Cell* 1984; 37:569-576.
4. **Sackstein R**, Roos MH, Demant P, Colten HR. Subdivision of the mouse major histocompatibility complex by identification of genomic polymorphisms of the class III genes. *Immunogenetics* 1984; 20:321-330.
5. Whitehead AS, **Sackstein R**. Molecular biology of the human and mouse MHC class III genes: Phylogenetic conservation, genetics and regulation of expression. *Immunological Reviews* 1985, 87:185-208.
6. **Sackstein R**, Falanga V, Streilein JW, Chin YH. Lymphocyte adhesion to psoriatic dermal endothelium is mediated by a tissue-specific receptor/ligand interaction. *J. Invest Dermatol.* 1988; 91:423-430.
7. **Sackstein R**, Chin YH. Mechanisms of lymphocyte migration to lymphoid tissues and inflammatory sites. *Clinical Immunology Newsletter* 1988, 9:181-184.
8. Chin YH, Falanga V, Streilein JW, **Sackstein R**. Specific lymphocyte-endothelial cell interactions regulate migration into lymph nodes, peyer's patches and skin. *Regional Immunology* 1988; 1:78-83.
9. Chin YH, Falanga V, Streilein JW, **Sackstein R**. Lymphocyte recognition of psoriatic endothelium: evidence for a tissue-specific receptor/ligand interaction. *J. Invest Dermatol.* 1989; 93:82-87.
10. Chin YH, **Sackstein R**, Cai JP. Lymphocyte homing receptors and preferential migration pathways. *Proc. Soc. Exp. Biol. and Med.* 1991; 196:374-380.
11. **Sackstein R**. Physiologic migration of lymphocytes to lymph nodes following bone marrow transplantation: Role in immune recovery. *Sem. in Oncology* 1993, 20(5, Supp. 6):34-39.
12. **Sackstein R**. Effects of methylprednisolone administration on lymphocyte LECAM-1, CD44 and LFA-1 expression: implications for steroid-induced lymphopenia. *Annals of NY Acad Sci.* 1993, 696:417-419.
13. **Sackstein R**. Adoptive immunotherapy: the magic bullet of cancer therapy? *Cancer Control* 1994, 1:64-68.

14. Oxley SM, **Sackstein R**. Detection of an L-selectin ligand on a hematopoietic progenitor cell line. *Blood* 1994; 84:3299-3306.
15. **Sackstein R**. Disruption of lymphocyte homing to lymph nodes following bone marrow transplantation: implications for immune reconstitution. *Clinical Immunology Newsletter* 1995, 15:144-149.
16. **Sackstein R**. The physiologic basis of steroid-induced immunosuppression: effects on lymphocyte migration to lymph nodes. *J. Fla. Med. Assoc.* 1995, 82:613-615.
17. **Sackstein R**. Lymphocyte migration following bone marrow transplantation. *Ann. of NY Acad Sci.* 1995, 770:177-188.
18. **Sackstein R**, Borenstein M. The effects of corticosteroids on lymphocyte recirculation in humans: analysis of the mechanism of impaired lymphocyte migration to lymph node following methylprednisolone administration. *J. Invest. Med.* 1995; 43:68-77.
19. **Sackstein R**, Meng, L, Xu XM, Chin YH. Evidence of post-transcriptional regulation of L-selectin gene expression in rat lymphoid cells. *Immunology* 1995; 85:198-204.
20. **Sackstein R**, Janssen WE, Elfenbein GJ. (editors). Bone marrow transplantation: foundations for the 21st century (Proceedings of the New York Academy of Sciences Conference, March, 1995). *Ann. of NY Acad. Sci.*, Volume 770, 1995.
21. Wasik MA, **Sackstein R**, Novick D, Butmarc JR, Vonderheld E, Kadin MD. Cutaneous CD56+ large (T-) cell lymphoma associated with a high concentration of circulating IL-2. *Human Pathology* 1996; 27:738-744.
22. **Sackstein R**, Fu L, Allen KL. A hematopoietic cell L-selectin ligand exhibits sulfate-independent binding activity. *Blood* 1997; 89:2773-2781.
23. **Sackstein R**. Expression of an L-selectin ligand on hematopoietic progenitor cells. *Acta Haematol.* 1997, 97:22-28.
24. Ballester OF, Tummala R, Janssen WE, Fields KK, Hiemenz JW, Goldstein SC, Perkins JB, Sullivan DM, Rosen R, **Sackstein R**, Zorsky P, Saez R, Elfenbein GJ. High-dose chemotherapy and autologous peripheral blood stem cell transplantation in patients with multiple myeloma and renal insufficiency. *Bone Marrow Transplantation* 1997, 20:653-656.
25. Sykes M, Preffer F, McAfee S, Saidman SL, Weymouth D, Andrews D, Colby C, **Sackstein R**, Sachs DH and Sykes M. Mixed lymphohematopoietic chimerism and graft-vs-lymphoma effects after non-myeloablative therapy and HLA-mismatched donor bone marrow transplantation. *Lancet* 1999; 353:1755-1759.
26. Spitzer TR, Delmonico F, Tolkoff-Rubin N, McAfee S, **Sackstein R**, Saidman S, Colby C, Sykes M, Sachs DH, Cosimi AB. Combined HLA-matched donor bone marrow and renal transplantation for multiple myeloma with end stage renal disease: The induction of allograft tolerance through mixed lymphohematopoietic chimerism. *Transplantation* 1999; 68: 480-484.

27. Toh HC, McAfee SL, **Sackstein R**, Cox BF, Colby C, Spitzer TR. Late-onset veno-occlusive disease following high dose chemotherapy and stem cell transplantation. *Bone Marrow Transplantation* 1999; 24:891-895.
28. Colby C, McAfee SL, **Sackstein R**, Finkelstein DM, Fishman JA, Spitzer TR. A prospective randomized trial comparing the toxicity and safety of atovaquone with trimethoprim/sulfamethoxazole as *Pneumocystis carinii* pneumonia prophylaxis following autologous peripheral blood stem cell transplantation. *Bone Marrow Transplantation* 1999; 24: 897-902.
29. Salgia R, Quackenbush E, Lin J, Souchkova N, Sattler M, Ewaniuk DS, Klucher KM, Daley GQ, Kraeft SK, **Sackstein R**, Alyea EP, von Adrian UH, Chen LB, Gutierrez-Ramos J-C, Pendergast A-M, Griffin JD. The BCR/ABL oncogene alters the chemotactic response to Stromal-Derived Factor-1 α . *Blood* 1999; 94:4233-4246.
30. Colby C, Chang Q, Fuchimoto Y, Ferrara V, **Sackstein R**, Spitzer TR, Scharf-White ME, Sachs DH. Cytokine-mobilized peripheral blood progenitor cells for allogeneic reconstitution of miniature swine. *Transplantation* 2000; 69:135-140.
31. Toh HC, McAfee SL, **Sackstein R**, Multani P, Cox BF, Garcia-Carbonero R, Colby C, Spitzer TR. High-dose cyclophosphamide + carboplatin and interleukin-2 (IL-2) activated autologous stem cell transplantation followed by maintenance IL-2 therapy in metastatic breast carcinoma – A phase II study. *Bone Marrow Transplantation* 2000; 25:19-24.
32. Buhler L, Awwad M, Basker M, Gojo S, Watts A, Treter S, Nash K, Oravec G, Chang Q, Thall A, Down J, Sykes M, Andrews D, **Sackstein R**, White-Scharf M, Sachs DH, Cooper DKC. High-dose porcine hematopoietic cell transplantation combined with CD40L blockade in baboons prevents an induced anti-pig humoral response. *Transplantation* 2000; 69:2296-304.
33. Spitzer TR, McAfee S, **Sackstein R**, Colby C, Toh HC, Multani P, Saidman S, Weymouth D, Preffer F, Poliquin C, Foley A, Cox B, Dombowski D, Andrews D, Sachs DH, Sykes M. The intentional induction of mixed chimerism and achievement of anti-tumor responses following non-myeloablative conditioning therapy and HLA-matched and mismatched donor bone marrow transplantation for refractory hematologic malignancies. *Biology of Blood and Marrow Transplantation* 2000; 6:309-320.
34. **Sackstein R**, Dimitroff CJ. An hematopoietic cell L-selectin ligand that is distinct from PSGL-1 and displays N-glycan-dependent binding activity. *Blood* 2000; 96:2765-2774.
35. Dimitroff CJ, Lee J, Fuhlbrigge RC, **Sackstein R**. A distinct glycoform of CD44 is an L- selectin ligand on human hematopoietic progenitor cells. *Proc. Natl. Acad. Sci. USA* 2000; 97:13841-13846.
36. Buhler L, Basker M, Alwayn IPJ, Goepfert C, Kitamura H, Kawai T, Gojo S, Kozlowski T, Ierino FL, Awwad M, Sachs DH, **Sackstein R**, Robson SC, Cooper DKC. Coagulation and thrombotic disorders associated with pig organ and hematopoietic cell transplantation in nonhuman primates. *Transplantation* 2000; 70:1323-1331.
37. Alwayn IP, Buhler L, Basker M, Goepfert C, Kawai T, Kozlowski T, Ierino F, Sachs DH, Sackstein R, Robson SC, Cooper DK. Coagulation/thrombotic disorders associated with organ and cell xenotransplantation. *Transplant Proc.* 2000, 32:1099. Goepfert C, Buhler L, Wise R, Basker M, Gojo S, Imai M, Alwayn I, Sachs DH, Sackstein R, Cooper DK, Robson SC. Von willebrand factor

- concentration, multimeric patterns, and cleaving protease activity in baboons undergoing xenogeneic peripheral blood stem cell transplantation. *Transplant Proc.* 2000, 32:990.
38. Alwayn IP, Buhler L, Basker M, Goepfert C, Kawai T, Kozlowski T, Ierino F, Sachs DH, **Sackstein R**, Robson SC, Cooper DK. Coagulation/thrombotic disorders associated with organ and cell xenotransplantation. *Transplant Proc.* 2000, 32:1099.
 39. Buhler L, Awwad M, Basker M, Gojo S, Thall A, Down JD, Sykes M, Andrews D, **Sackstein R**, White-Scharf ME, Sachs DH, Cooper DK. A nonmyeloablative regimen with CD40L blockade leads to humoral and cellular hyporesponsiveness to pig hematopoietic cells in baboons. *Transplant Proc.* 2000, 32:1100.
 40. Bühler L, Goepfert C, Kitamura H, Alwayn IPJ, Basker M, Gojo S, Chang Q, Down JD, Tsai HM, Sachs DH, Cooper DKC, Robson SC, **Sackstein R**. Porcine hematopoietic cell xenotransplantation in non-human primates is complicated by thrombotic microangiopathy. *Bone Marrow Transplantation* 2001; 27:1227-1236.
 41. Alwayn IPJ, Buhler L, Appel JZ, Goepfert C, Csizmadia E, Correa L, Harper D, Kitamura H, Down JD, Awwad M, **Sackstein R**, Cooper DKC, Robson SC. Mechanisms of Thrombotic Microangiopathy Following Xenogeneic Hematopoietic Progenitor Cell Transplantation. *Transplantation* 2001; 71:1601-1609.
 42. Dimitroff CJ, Lee JY, Rafii S, Fuhlbrigge RC, **Sackstein R**. CD44 is a Major E-selectin Ligand on Human Hematopoietic Progenitor Cells. *J. Cell Biology* 2001; 153: 1277-1286.
 43. Gonzalez S, **Sackstein R**, Anderson RR, Rajadhyaksha M. Real-time evidence of *in vivo* leukocyte trafficking in human skin by reflectance confocal microscopy. *Journal of Investigative Dermatology* 2001; 117:384-386.
 44. Dimitroff CJ, Lee JY, Schor KS, Sandmaier BM, **Sackstein R**. Differential L-selectin Binding Activities of the Human Hematopoietic Cell L-selectin Ligands, HCELL and PSGL-1. *J. Biol. Chem.* (Published On-Line in October, 2001) 2001; 276:47623-631.
 45. Exley M, Tahir SMA, Cheng O, Shaulov A, Wang R-J, Joyce R, Avigan D, **Sackstein R**, Balk SP. A Major Fraction of Human Bone Marrow Lymphocytes are Th2-Like CD1d-reactive T Cells that can Suppress Mixed Lymphocyte Reactions. *J. Immunology* 2001; 167:5531-34.
 46. Dey BR, McAfee S, **Sackstein R**, Colby C, Saidman S, Weymouth D, Poliquin C, Vanderklish J, Sachs DH, Sykes M, Spitzer TR. Successful Allogeneic Stem Cell Transplantation with Nonmyeloablative Conditioning in Patients with Relapsed Hematologic Malignancy Following Autologous Stem Cell Transplantation. *Biol. Blood Marrow Transplantation* 2001; 7:604-12.
 47. Buhler L, Awwad M, Down JD, Treter S, Chang Q, Ericsson T, Harper D, Kurilla-Mahon B, Alwayn IPJ, Basker M, Huang C, **Sackstein R**, Sykes M, White-Scharf ME, Sachs DH, Cooper DKC. Pig hematopoietic cell chimerism in baboons conditioned with a nonmyeloablative regimen and CD154 blockade. *Transplantation* 2002; 73:12-22.
 48. Fuhlbrigge R, King SL, Dimitroff CJ, Kupper TS, **Sackstein R**. Direct Real-time Observation of E- and P-selectin Mediated Rolling on Cutaneous Lymphocyte-Associated Antigen Immobilized on Western Blots. *J. Immunology* 2002; 168: 5645-51.

49. Theodore PR, Simon AR, Warren AN, **Sackstein R**, Sykes M. Porcine Mononuclear Cells Adhere to Human Fibronectin Independently of VLA-5: Implications for Donor-specific Tolerance Induction in Xenotransplantation. *Xenotransplantation* 2002; 9:277-89.
50. Buhler L, Kurilla-Mahon B, Chang Q, Abraham S, Alwayn IPJ, Appel JZ, Newman D, Awwad M, White-Scharf ME, **Sackstein R**, Sachs DH, Cooper DKC, Down JD. Cryopreservation and Mycophenolate Therapy are Detrimental to Hematopoietic Progenitor Cells. *Transplantation* 2002; 74:1159-1166.
51. Buhler L, Spitzer TR, Sykes M, Sachs DH, Delmonico F, Rubin N, Saidman S, **Sackstein R**, McAfee S, Dey B, Colby C, Wemouth D, Cosimi AB. Induction of Kidney Allograft Tolerance through Mixed Lymphohematopoietic Chimerism in Patients with Multiple Myeloma and End-stage Renal Disease. *Transplantation* 2002; 74:1405-1409.
52. Toh HC, Spitzer TR, Preffer F, Alexander SI, McAfee S, Dombowski D, Clark JS, Colby C, Saidman S, **Sackstein R**, Sykes M. Fluctuating Lymphocyte Chimerism, Tolerance and Anti-tumor Response in a Patient with Refractory Lymphoma Receiving Non-myeloablative Conditioning and a Haploidentical Related Allogeneic Bone Marrow Transplant. *Cytokines Cell Mol Ther.* 2002; 7:43-47.
53. **Sackstein R**, Messina J, Elfenbein GJ. In Vitro Adherence of Lymphocytes to Dermal Endothelium Under Shear Stress: Implications in Pathobiology and Steroid Therapy of Acute Cutaneous Graft versus Host Disease. *Blood* 2003; 101:771-778.
54. Dimitroff CJ, Bernacki RJ, **Sackstein R**. Inhibition of Cutaneous Lymphocyte-Associated Antigen Expression: Implications in Modulating Lymphocyte Migration to Skin. *Blood* 2003; 101:602-610.
55. Dey BR, Colby C, **Sackstein R**, Saidman S, Tarbell N, Sachs DH, Sykes M, Spitzer TR. Impact of prophylactic donor leukocyte infusions on mixed chimerism, graft-versus-host disease, and antitumor response in patients with advanced hematologic malignancies treated with a nonmyeloablative conditioning and allogeneic bone marrow transplantation. *Blood and Marrow Transplantation Reviews*, 2003, 13:10-12.
56. Dey BR, McAfee S, Colby C, **Sackstein R**, Saidman S, Tarbell N, Sachs DH, Sykes M, Spitzer TR. The impact of prophylactic donor leukocyte infusions on mixed chimerism, graft-versus-host disease, and antitumor responses in patients with advanced hematologic malignancies treated with nonmyeloablative conditioning and allogeneic bone marrow transplantation. *Biol Blood Marrow Transplantation* 2003; 9:320-329.
57. Daly A, McAfee S, Dey B, Colby C, Schulte L, Yeap B, **Sackstein R**, Tarbell NJ, Sachs D, Sykes M, Spitzer TR. Nonmyeloablative bone marrow transplantation: Infectious complications in 65 recipients of HLA-identical and mismatched transplants. *Biol Blood Marrow Transplantation* 2003; 9:373-82.
58. Kraus AB, Shaffer J, Toh HC, Preffer F, Dombkowski D, Saidman S, Colby C, George R, McAfee S, **Sackstein R**, Dey B, Spitzer TR, Sykes M. Early Host CD8 T-cell Recovery and Sensitized Anti-Donor IL-2-Producing and T Cell CTL Responses Associated with Marrow Graft Rejection Following Non-myeloablative Allogeneic Bone Marrow Transplantation. *Experimental Hematology* 2003; 31:609-21.

59. Dimitroff CJ, Kupper TS, **Sackstein R**. Prevention of Leukocyte Migration to Inflamed Skin with a Novel Fluorosugar Modifier of Cutaneous Lymphocyte-Associated Antigen. *Journal of Clinical Investigation* 2003; 112:1008-1018. PMCID: PMC198531.
60. Milinkovic M, Antin JH, Hergueter CA, Underhill CB, **Sackstein R**. CD44-Hyaluronic Acid Interactions Mediate Shear-resistant Binding of Lymphocytes to Dermal Endothelium in Acute GVHD. *Blood* 2004; 103: 740-742.
61. **Sackstein R**. The Bone Marrow is Akin to Skin: HCELL and the Biology of Hematopoietic Stem Cell Homing. *J. Invest. Dermatology*, 2004, 122:1061-1069.
62. Elfenbein GJ, **Sackstein R**, Oblon DJ. Do G-CSF mobilized, peripheral blood-derived stem cells from healthy, HLA-identical donors really engraft more rapidly than do G-CSF primed, bone marrow-derived stem cells? *Blood Cells, Molecules and Diseases* 2004; 32: 106-111.
63. Gopfert C, Buhler L, Wise R, Basker M, Gojo S, Imai M, Alwayn I, Sachs DH, **Sackstein R**, Cooper DK, Robson SC. Von willebrand factor concentration, multimeric patterns, and cleaving protease activity in baboons undergoing xenogeneic peripheral blood stem cell transplantation. *Transplant Proc.* 2000, 32:990.
64. **Sackstein R**. The Bone Marrow is Akin to Skin: HCELL and the Biology of Hematopoietic Stem Cell Homing. *J. Invest. Dermatology, Symposium Proceedings*, 2004, 9:215-223.
65. Elfenbein GJ, **Sackstein R**. Primed Marrow for Autologous and Allogeneic Transplantation: A New Perspective from Reviewing the Published Literature. *Exp. Hematology* 2004; 32:327-339.
66. **Sackstein, R**. The Lymphocyte Homing Receptors: Gatekeepers of the Multistep Paradigm. *Current Opinion in Hematology*, 2005, 12(6):444-450.
67. Dey BR, McAfee S, Colby C, Cieply K, Caron M, Saidman S, Preffer F, Shaffer J, Tarbell N, **Sackstein R**, Sachs D, Sykes M and Spitzer TR. Anti-tumor Response Despite Loss of Donor Chimerism in Patients Treated with Nonmyeloablative Conditioning and Allogeneic Stem Cell Transplantation. *Br. J. Hematology* 2005; 128:351-359.
68. Hanley WD, Burdick MM, Konstantopoulos K and **Sackstein R**. CD44 on LS174T Colon Carcinoma Cells Possesses E-selectin Ligand Activity. *Cancer Res.* 2005; 65:5812-5817.
69. **Sackstein, R**. A Revision of Billingham's Tenets: The Central Role of Lymphocyte Migration in Acute Graft-versus-Host Disease. *Biology of Blood and Marrow Transplantation*, 2006; 12:2-8.
70. Hanley WD, Napier SL, Burdick MB, Schnaar RL, **Sackstein R** and Konstantopoulos K. Variant Isoforms of CD44 are P- and L-Selectin Ligands on Colon Carcinoma Cells. *FASEB Journal* 2006; 20:337-339.
71. Fuhlbrigge RC, King SL, **Sackstein R**, Kupper TS. CD43 is a Ligand for E-selectin on CLA+ Human T Cells. *Blood* 2006; 107:1421-1426. PMCID: PMC1895405.
72. Burdick MM, Chu JT, Godar S, **Sackstein R**. HCELL is the major E- and L-selectin ligand expressed on LS174T colon carcinoma cells. *J. Biol. Chem.* 2006; 281:13899-905.

73. Dagia NM, Gadhoun SZ, Knoblauch CA, Spencer JA, Zamiri P, Lin CP, **Sackstein R**. G-CSF Induces E-selectin Ligand Expression on Human Myeloid Cells. *Nature Medicine* 2006; 12:1185-1190.
74. Schreiber TS, Shinder V, Cain D, Alon R, **Sackstein R**. Shear flow-dependent Integration of Apical and Subendothelial Chemokines in T Cell Transmigration: Implications for Locomotion and the “Multi-step Paradigm”. *Blood* 2007; 109:1383-1388. PMCID: PMC1794074.
75. Parmar K, Vergilio J, Mauch P, **Sackstein R**, Down JD. Distribution of Hematopoietic Stem Cells in the Bone Marrow According to Regional Hypoxia. *Proc. Natl. Acad. Sci. USA*. 2007; 104: 5431-5438. PMCID: PMC1838452.
76. **Sackstein R**, Merzaban JS, Cain DW, Dagia NM, Spencer JA, Lin CP, Wohlgemuth R. Ex Vivo Glycan Engineering of CD44 Programs Human Multipotent Stromal Cell Trafficking to Bone. *Nature Medicine* 2008; 14:181-187.
77. Shaulov A, Yue S, Wang RJ, Joyce RM, Balk SP, Kim HT, Avignan DE, Uhl L, **Sackstein R**, Exley MA. Peripheral Blood Progenitor Cell Product Contains Th1-biased Noninvariant CD1d-reactive Natural Killer T Cells: Implications for Posttransplant Survival. *Experimental Hematology* 2008; 36:464-472. PMCID: PMC2390922
78. Ngo HT, Leleu X, Lee J, Melhem M, Jia X, Runnels J, Moreau A-S, Azab AK, Roccaro A, Azab F, Sacco A, Burwick N, Farag M, Kung AL, Lin CP, **Sackstein R**, Ghobrial IM. SDF-1/CXCR4 and VLA-4 Interaction Regulates Homing in Waldenstrom Macroglobulinemia. *Blood* 2008; 112:150-158. PMCID: PMC2435685
79. Resto V, Burdick MM, Dagia NM, McCammon SD, Fennewald SM, **Sackstein R**. L-selectin-mediated Lymphocyte-Cancer Cell Interactions under Low Fluid Shear Conditions. *J. Biol. Chem.* 2008; 283:15816-15824. PMCID: PMC2414279
80. Gadhoun SZ and **Sackstein R**. CD15/Lewis x Expression in Human Myeloid Cell Differentiation is Regulated by Sialidase Activity. *Nature Chemical Biology* 2008; 4:751-757. PMCID: PMC2597094
81. Nigro J, Wang A, Mukhopadhyay D, Lauer ME, Midura RJ, **Sackstein R**, Hascall VC. Regulation of Heparan Sulfate and Chondroitin Sulfate Glycosaminoglycan Biosynthesis by 4-fluoro-glucosamine in Murine Airway Smooth Muscle Cells. *J. Biol. Chem.* 2009; 284:16832-16839. PMCID: PMC2719319
82. **Sackstein, R**. Glycosyltransferase-Programmed Stereosubstitution (GPS) to Create HCELL: Engineering a Roadmap for Cell Migration. *Immunological Reviews*, 2009; 230: 140-163.
83. Lee J, Buzney C, Poznansky M, **Sackstein R**. Dynamic alterations in chemokine gradients induce transendothelial shuttling of human T cells under physiologic shear conditions. *J. Leuk. Biology* 2009; 86:1285-1294. PMCID: PMC2796626
84. Chester R, **Sackstein R**. Embryonic Stem Cell-based Therapeutics: Balancing Scientific Progress and Bioethics. *Health Matrix: The Journal of Law-Medicine*. 2010; 20:1-15.
85. **Sackstein, R**. Hitting the Sweet Spot for Lymphoma. *Blood* 2010; 115: 4626-27.

86. **Sackstein, R.** Directing Stem Cell Trafficking via GPS. *Methods in Enzymology*, 2010; 479: 93-105.
87. Thankamony S, **Sackstein R.** Enforced hematopoietic cell E- and L-selectin ligand (HCELL) expression primes transendothelial migration of human mesenchymal stem cells. *Proc. Natl. Acad. Sci.* 2011; 108: 2258-2263. PMCID: PMC3038774
88. **Sackstein R.** The Biology of CD44 and HCELL in Hematopoiesis: The “Step 2-bypass Pathway” and other Emerging Perspectives. *Current Opinion in Hematology*, 2011; 18:239-48. PMCID: PMC3145154
89. Merzaban JS, Burdick M, Gadhoun SZ, Dagia NM, Chu1 JT, Fuhlbrigge RC, **Sackstein R.** Analysis of Glycoprotein E-selectin Ligands on Human and Mouse Marrow Cells Enriched for Hematopoietic Stem/Progenitor Cells. *Blood* 2011; 118:1774-1783. PMCID: PMC3158712
90. Jacobs P, **Sackstein R.** CD44 and HCELL: Preventing Hematogenous Metastasis at Step 1. *FEBS Letters*, 2011; 585:3148-3158. PMCID: PMC3195965.
91. Jansen GAJ, Josefsson EC, Rumjantseva V, Liu QP, Falet H, Bergmier W, Cifuni SM, **Sackstein R**, von Andrian UH, Wagner DD, Hartwig JH, Hoffmeister K. Desialylation accelerates platelet clearance following refrigeration and initiates GPIIb/IIIa metalloproteinase-mediated cleavage in mice. *Blood* 2012; 119:1263-73. PMCID: PMC3277358.
92. **Sackstein R.** Glycoengineering of HCELL, the Human Bone Marrow Homing Receptor: Sweetly Programming Cell Migration. *Annals of Biomedical Engineering*, 2012; 40:766-776. PMCID: PMC3311703.
93. **Sackstein, R.** Re: Ex Vivo Fucosylation Improves Human Cord Blood Engraftment in NOD/SCID IL-2R α null Mice. *Experimental Hem.* 2012; 40:518-19.
94. **Sackstein, R.** Engineering cellular trafficking via glycosyltransferase-programmed stereosubstitution. *Annals of New York Acad. Sci.* 2012; 1253: 193-200. PMCID: PMC3336002.
95. Peter Y, Sen N, Keller S, Ingenito EP, Ciner A, **Sackstein R**, Shapiro SD. CD45/CD11b-positive subsets of adult lung anchorage-independent cells harness epithelial stem cells in culture. *J Tissue Eng Regen Medicine* 2013; 7:572-83. PMCID: PMC4434406.
96. Dauber A, Ercan A, Lee J, James P, Jacobs PP, Ashline DJ, Wang SR, Miller T, Hirschhorn JN, Nigrovic PA, **Sackstein R.** Congenital Disorder of Fucosylation Type 2c (LADII) Presenting with Short Stature and Developmental Delay with Minimal Adhesion Defect. *Hum Mol Genet* 2014; 23:2880-87. PMCID: 4014190.
97. Batal I, Azzi J, Mounayar M, Moore R, Lee JY, Rosetti F, Wang C, Fiorina P, **Sackstein R**, Ichimura T, Abdi R. The mechanisms of up-regulation of dendritic cell activity by oxidative stress. *J Leuk Biology* 2014; 96:283-93. PMCID: PMC4101089.
98. Silvescu C, **Sackstein R.** G-CSF induces membrane expression of a myeloperoxidase glycovariant that operates as an E-selectin ligand on human myeloid cells. *Proc. Natl. Acad. Sci.* 2014; 111(29):10696-10701. PMCID: PMC4115493.

99. Abdi R, Moore R, Sakai S, Donnelly CB, **Sackstein R**. HCELL expression on murine MSC Licenses Pancreatotropism and Confers Durable Reversal of Autoimmune Diabetes in NOD Mice. *Stem Cells* 2015; 33(5):1523-31. PMID: PMC4447299.
100. **Sackstein R**, Fuhlbrigge R. Western blot analysis of adhesive interactions under fluid shear conditions: the blot rolling assay. *Methods in Molecular Biology* 2015; 1312:399-410.
101. Merzaban JS, Imitola J, Starosom SC, Zhu B, Wang Y, Lee J, Ali AJ, Olah M, Abuelela AF, Khoury SJ, **Sackstein R**. Cell Surface Glycan Engineering of Neural Stem Cells Augments Neurotropism and Improves Recovery in a Murine Model of Multiple Sclerosis. *Glycobiology* 2015; 25(12):1392-409. PMID: PMC4634313.
102. Lee J, Dykstra B, **Sackstein R**, Rossi DJ. Progress and obstacles towards generating hematopoietic stem cells from pluripotent stem cells. *Current Opinion in Hematology* 2015; 22(4):317-23. PMID: PMC4459525.
103. Dykstra B, Lee J, Mortensen LJ, Yu H, Wu ZL, Lin CP, Rossi DJ, **Sackstein R**. Glycoengineering of E-selectin ligands by intracellular versus extracellular fucosylation differentially affects osteotropism of human mesenchymal stem cells. *Stem Cells* 2016; 34(10): 2501-11. PMID: PMC5064874.
104. **Sackstein, R**. Fulfilling Koch's postulates in glycoscience: HCELL, GPS and translational glycobiology. *Glycobiology* 2016; 26(6):560-570. PMID: PMC4847618.
105. Agre P, Bertozzi C, Bissell M, Campbell KP, Cummings RD, Desai UR, Estes M, Flotte T, Fogleman G, Gage F, Ginsburg D, Gordon JI, Hart G, Hascall V, Kiessling L, Kornfeld S, Lowe J, Magnani J, Mahal LK, Medzhitov R, Roberts RJ, **Sackstein R**, Sarkar R, Schnaar R, Schwartz N, Varki A, Walt D, Weissman I. Training the next generation of biomedical investigators in glycosciences. *J Clin Invest.* 2016; 126(2):405-8. PMID: PMC4731185.
106. Buffone A Jr, Nasirikenari M, Manhardt CT, Lugade A, Bogner PN, **Sackstein R**, Thanavala Y, Neelamegham S, Lau JT. Leukocyte-borne $\alpha(1,3)$ -fucose is a negative regulator of $\beta 2$ -integrin-dependent recruitment in lung inflammation. *J Leukoc Biol.* 2017; 101(2):459-470.
107. Pachón-Peña O, Donnelly C, Ruiz-Cañada C, Gimble J, Katz A, Fernández-Veledo S, Vendrell J, **Sackstein R**. A Glycovariant of Human CD44 is Characteristically Expressed on Human Mesenchymal Stem Cells. *Stem Cells* 2017; 35(4):1080-1092. doi: 10.1002/stem.2549. Epub 2017 Feb 5.
108. Silva M, Fung RK, Donnelly CB, Videira PA, **Sackstein R**. Cell-Specific Variation in E-Selectin Ligand Expression among Human Peripheral Blood Mononuclear Cells: Implications for Immunosurveillance and Pathobiology. *J Immunology*, 2017; 198(9):3576-3587. doi: 10.4049/jimmunol.1601636. PubMed PMID: 28330896.
109. **Sackstein R**, Schatton T, Barthel SR. T-lymphocyte homing: an underappreciated yet critical hurdle for successful cancer immunotherapy. *Lab Invest.* 2017; 97(6):669-697. doi: 10.1038/labinvest.2017.25. PMID: 28346400

110. Lee J, Dykstra B, Spencer JA, Kenney LL, Greiner DL, Shultz LD, Brehm MA, Lin CP, **Sackstein R**, Rossi DJ. mRNA-mediated glycoengineering ameliorates deficient homing of human stem cell-derived hematopoietic progenitors. *J Clin Invest*. 2017; 127(6):2433-2437. doi: 10.1172/JCI92030. PMID: 28481220
111. Wu ZL, Person AD, Anderson M, Burroughs B, Tatge T, Khatri K, Zou Y, Wang L, Geders T, Zaia J, **Sackstein R**. Imaging specific cellular glycan structures using glycosyltransferases via click chemistry. *Glycobiology*. 2018; 28(2):69-79. PMID: 29186441
112. Donnelly C, Dykstra B, Mondal N, Huang J, Kaskow BJ, Griffin R, **Sackstein R**, Baecher-Allan C. Optimizing human Treg immunotherapy by Treg subset selection and E-selectin ligand expression. *Sci Rep*. 2018; 8(1):420. PMID: 29323143
113. Silva M, Videira PA, **Sackstein R**. E-Selectin Ligands in the Human Mononuclear Phagocyte System: Implications for Infection, Inflammation, and Immunotherapy. *Front Immunol*. 2018 Jan 19;8:1878. PMCID: PMC5780348
114. Carrascal MA, Silva M, Ramalho JS, Pen C, Martins M, Pascoal C, Amaral C, Serrano I, Oliveira MJ, **Sackstein R**, Videira PA. Inhibition of fucosylation in human invasive ductal carcinoma reduces E-selectin ligand expression, cell proliferation and ERK1/2 and p38 MAPK activation. *Mol Oncol*. 2018; 12(5):579-593. PMCID: PMC5928367
115. Mondal N, Dykstra B, Lee J, Ashline D, Reinhold VN, Rossi DJ, **Sackstein R**. Distinct human $\alpha(1,3)$ – fucosyltransferases drive Lewis-X/sialyl Lewis-X assembly in human cells. *J Biol Chem*. 2018; 293(19):7300-7314. PMID: 29593094
116. Videira P, Silva M, Martin K, **Sackstein R**, Ligation of the CD44 Glycoform HCELL on Culture-Expanded Human Monocyte-derived Dendritic Cells Programs Transendothelial Migration. *J. Immunology* 2018 (In press).
117. Carrascal MA, Talina C, Borralho P, Mineiro G, Henriques AR, Pen C, Martins M, Braga S, **Sackstein R**, Videira PA. Staining of E-selectin Ligands on Paraffin-Embedded Sections of Tumor Tissue. *BMC Cancer*. 2018; 18(1):495. PMCID: PMC5930952.
118. Carrascal MA, Silva M, Ferreira JA, Azevedo R, Ferreira D, Silva AMN, Ligeiro, D, Santos LL, **Sackstein R**, Videira PA. A Functional Glycoproteomics Approach Identifies CD13 as a Novel E-selectin Ligand in Breast Cancer. *Biochim Biophys Acta* 2018; [ePub ahead of print: doi: 10.1016/j.bbagen.2018.05.013]

Books, chapters, monographs and editorials

1. Colten HR, Cole FS, **Sackstein R**, Auerbach HS. Tissue and species-specific regulation of complement biosynthesis in mononuclear phagocytes. In: *Mononuclear phagocytes*, Martinus Nijhoff Publishers, The Netherlands, 1985, pp. 147-58.
2. Chin YH, Falanga V, Cai JP, **Sackstein R**. Molecular mechanisms mediating leukocyte migration to skin. In: *Advances in gene technology: the molecular biology of immune diseases*, IRL Press, Oxford, U.K., 1990, pp. 170-73.

3. **Sackstein R**, Janssen WE, Elfenbein GJ. (editors). Bone marrow transplantation: foundations for the 21st century (Proceedings of the New York Academy of Sciences Conference, March, 1995). Ann. of NY Acad. Sci., Volume 770, 1995.
4. **Sackstein R**, Chao N. Veno-occlusive disease of the liver following bone marrow transplantation. In: The kidney in liver disease, 4th Edition, (M. Epstein, Ed.), Hanley and Belfus, Philadelphia, 1996, pp. 167-178.
5. Spitzer, T.R., **Sackstein, R**. Graft-versus-Host Disease: Has any progress been made in the past decade? In: Bone Marrow Transplantation (B. Bolwell, ed.), Humana Press, Totowa, N.J., 1999, pp. 229-248.
6. Janssen WE, Elfenbein GJ, Perkins JB, Partyka JF, Smiley RC, Ballester OF, Goldstein SC, Fields KK, Heimenz JW, **Sackstein R**, Zorsky PE. Final report of the first prospective, stratified, randomized trial comparing G-CSF primed bone marrow cells with G-CSF mobilized peripheral blood cells for pace of hematopoietic engraftment and disease free survival after high dose therapy and autotransplant. In: Autologous Blood and Marrow Transplantation. (Dicke KA, Keating A, editors). Carden Jennings, Charlottesville, VA, 1999, pp. 580-598.
7. Spitzer TR, McAfee SL, **Sackstein R**, Colby C, Dey B, Saidman S, Preffer F, Sachs DH, Sykes M. Mixed lymphohematopoietic chimerism and delayed donor leukocyte infusions following non-myeloablative conditioning and HLA-matched and mismatched donor bone marrow transplantation (BMT). In: Autologous Bone Marrow Transplantation. (Dicke KA, Keating A, editors). Carden Jennings, Charlottesville, VA, 2001, pp. 321-330.
8. **Sackstein, R**, Fuhlbrigge, RC. The Blot Rolling Assay: A Method for Identifying Adhesion Molecules Mediating Binding under Shear Flow. In: Cell-Cell Interactions (S. Colgan, ed.), Humana Press, Totowa, N.J., 2006, pp. 217-226.
9. Spitzer, T.R., **Sackstein, R**. Graft-versus-Host Disease: New Perspectives on Pathobiology and Treatment. In: Clinical Malignant Hematology (M. Sekeres, M. Kalacyio, B. Bolwell, eds.), McGraw-Hill Publishers, N.Y., 2007, pp. 1051-1062.
10. **Sackstein, R**, Fuhlbrigge R. Western Blot Analysis of Adhesive Interactions under Fluid Shear Conditions: The Blot Rolling Assay. In: Protein Blotting and Detection, Methods and Protocols (Kurien, Biji T.; Scofield, R. Hal, eds), Humana Press, Springer Science Media, New York, NY (Methods in Molecular Biology Series). Methods Mol Biol. 2009; 536:343-354.
11. **Sackstein, R**. Re: Ex Vivo Fucosylation Improves Human Cord Blood Engraftment in NOD/SCID IL-2R γ^{null} Mice. Experimental Hem. 2012; 40:518-19.
12. Agre P, Bertozzi C, Bissell M, Campbell KP, Cummings RD, Desai UR, Estes M, Flotte T, Fogleman G, Gage F, Ginsburg D, Gordon JI, Hart G, Hascall V, Kiessling L, Kornfeld S, Lowe J, Magnani J, Mahal LK, Medzhitov R, Roberts RJ, **Sackstein R**, Sarkar R, Schnaar R, Schwartz N, Varki A, Walt D, Weissman I. Training the next generation of biomedical investigators in glycosciences. J Clin Invest. 2016; 126(2):405-8. PMCID: PMC4731185.
13. **Sackstein R**. Translational glycobiology: Patient-oriented glycoscience research. Glycobiology 2016; 26(6):544-545.

Books/Textbooks for the medical or scientific community

1. **Sackstein R**, Janssen WE, Elfenbein GJ. (editors). Bone marrow transplantation: foundations for the 21st century (Proceedings of the New York Academy of Sciences Conference, March, 1995). Ann. of NY Acad. Sci., Volume 770, 1995.

Thesis

Analysis of the Murine Major Histocompatibility Complex Class III Genes C4 and Factor B. **Ph.D., Immunology, Harvard University (Graduate School of Arts and Sciences), 1984.**

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings:

NOT LISTED (over 300 to date)

Narrative Report (limit to 500 words)

My efforts as a basic scientist and clinician are intimately intermeshed. I am a basic science immunologist/biochemist/molecular biologist with clinical expertise in internal medicine/hematology/immunology and, in particular, in hematopoietic stem cell transplantation (HSCT). Accordingly, my bench research efforts aim to elucidate biologic processes critical to improving outcomes for patients undergoing stem cell transplantation, such as: (1) hematopoiesis, and other cell and tissue regeneration from stem cell-based therapeutics; (2) tissue-specific lymphocyte migration (including the immunobiology of lymphocyte migration in host defense and in pathologic reactions such as graft-versus-host disease); and (3) pathobiology of tumor cell proliferation and tumor metastasis. *The common thread for all these efforts is to manipulate the biology of cellular trafficking, as it pertains to stem cell transplantation and tissue regeneration ('regenerative medicine'), to host defense/inflammation, and to cancer growth and metastasis.*

At the outset of my career as an HSCT physician (1980s), there were two principal obstacles to successful application of this life-saving technology: (1) Graft failure, and (2) Graft-versus-host disease (GVHD). In that era, the problem of graft failure was profound, as >20% of recipients died from lack of blood cell regeneration within certain transplant groups (e.g., aplastic anemia, T-cell depletion, unrelated donors, etc.). Though many factors contributed to graft failure, a fundamental piece of information related to solving this mystery was missing: there was essentially nothing known about the molecular basis of hematopoietic stem cell migration to the marrow. Just as the development of GVHD was clearly related to the capability of infused donor lymphocytes to preferentially migrate to certain target tissues (i.e., the skin, the gut and the liver), there was also no knowledge of the molecular effectors of such trafficking. *I thus sought to define the specialized adhesion molecules on the surface of blood-borne cells called "homing receptors" that bind to endothelial cells at target tissues under hemodynamic shear conditions, thus directing cellular migration patterns.*

Early on, most of our understanding of cell migration was derived from studies of lymphocyte trafficking to lymph nodes. It was recognized that lymphocyte homing into peripheral lymph nodes was principally regulated by a lymphocyte membrane protein operationally known as the "lymph node homing receptor"

(now known as ‘L-selectin’) that adheres to its ligands expressed on lymph node high endothelial venules. Our laboratory identified that L-selectin expression is characteristic not only of lymphocytes but also of early hematopoietic progenitor cells, and this observation prompted us to examine the expression of selectin ligands among human bone marrow cells. These studies led to discovery of a novel selectin ligand present on hematopoietic progenitor cells. Our subsequent biochemical studies revealed that this selectin ligand, now known as Hematopoietic Cell E-/L-selectin Ligand (HCELL), is the most potent naturally-expressed E- and L-selectin ligand in the body. The HCELL molecule is a unique glycoform of CD44, and it is natively expressed on *human* hematopoietic stem cells. By mediating binding to marrow sinusoidal endothelium that constitutively expresses E-selectin, HCELL functions as the “bone marrow homing receptor”, directing human stem cell migration into the marrow. We are presently elucidating the role(s) of HCELL in hematopoiesis and in hematopoietic stem cell homing. We have also developed gateway technologies to glycan engineer the surface of stem cells to specifically enforce HCELL expression, thereby licensing osteotropism, and are currently examining whether HCELL+ mesenchymal stem cells (MSC) can be used to cure generalized bone diseases. Furthermore, because E-selectin expression is induced with inflammation or injury on vascular endothelium at all sites of tissue injury, we are investigating whether enforced HCELL expression will confer efficient vascular deliver of stem or tissue-specific progenitor cells for regenerative therapeutics. In related research, our studies are moving beyond normal stem cells to the biology of the ‘cancer stem cell’: we have found that HCELL is characteristically expressed on blasts of human acute leukemia and also among certain human cancer cells, and thus we are investigating how HCELL expression is related to leukemogenesis/carcinogenesis and to metastasis.

In other studies of the molecular basis of cellular trafficking, our laboratory is investigating the physiology of lymphocyte migration following stem cell transplantation to determine how pathologic tissue-specific migration patterns develop post-transplant, such as in acute GVHD. In particular, we are examining the adhesion molecules that regulate skin-specific migration of lymphocytes in cutaneous GVHD reactions, in order to elucidate the molecular basis of this process and develop therapeutic agents to treat or prevent this condition. We thus aim to devise novel therapies to eliminate the detrimental GVHD reaction of allogeneic transplantation without disturbing beneficial immune reactions such as the graft-versus-malignancy effect. Toward this goal, we are also testing whether enforced surface HCELL expression can improve the delivery of regulatory lymphocytes to blunt GVHD and/or can augment the capacity of MSC (which are immunomodulatory) to abrogate the GVHD reaction. In other studies, we are investigating the structural biology of key molecules that mediate adhesive interactions that create microenvironmental “niches” for tumor cell proliferation, the adhesion molecules that allow for tumor cell dissemination, and the adhesion molecules that regulate lymphocyte trafficking to sites of tumor. The goal in these studies is to utilize structural information for the rational design of drugs that disrupt key adhesion molecules in tumor cell growth and metastasis, and of agents/technologies that may improve immune effector cell infiltration of tumor tissue.

TENURE AND PROMOTION CURRICULUM VITAE
OF
Dr. Arijit Sengupta, Department of Information Systems and Business Analytics

EDUCATION (List most recent degree first)

Degree	Institution	Field	Dates
Ph.D.	Indiana University, Bloomington	Computer Science	1992-1997
MS	Indiana University, Bloomington	Computer Science	1992-1997
B.Tech.	Indian Institute of Technology, Kharagpur	Computer Science & Engineering	1988-1992

FULL-TIME ACADEMIC EXPERIENCE (list most recent first)

Institution	Rank	Field	Dates (Month & Year)
Wright State University	Associate Dean, Academic Programs and AACSB Accreditation	Business	Oct 2013-Present
Wright State University	Professor	Information Systems	Jul 2012-Present
Wright State University	Associate Professor	Information Systems	Aug 2008-July 2012
Wright State University	Assistant Professor	Information Systems	Jun 2005-July 2008
Indiana University	Assistant Professor	Information Systems	Aug 2001-May 2005
Georgia State University	Assistant Professor	Computer Information Systems	Aug 1999-July 2001
Indiana University	Director of Educational Development and Assistant Professor	Computer Science	Aug 1997-July 1999

PART-TIME ACADEMIC EXPERIENCE (list most recent first)

N/A

NON-ACADEMIC EXPERIENCE

Place of Employment	Title	Dates
Interactive Control Solutions	Senior Software Engineer/Chief Information Officer	Jun 2011-Current
Crown Partners LLC	Senior Consultant	Oct 2011-Apr 2012
TagMaster North America	Project Manager/Chief Technical Officer	2010-2015
Intelligent Micro Systems	Software Engineering Consultant	May-Aug 1994
Oil and Natural Gas Corporation	Software Engineer Intern	May-Aug 1991

EMPLOYMENT RECORD AT FIU

N/A

PUBLICATIONS IN DISCIPLINE

(List most recent first. List only items already in print or accepted for publication. For items accepted but not yet published, indicate “in press” and number of typewritten pages, single or double-spaced. If publication is co-authored, all authors must be listed as they appear in the publication—i.e., same order. If sole authored, author’s name must be given. Indicate by “NPR” any publications that were not peer reviewed.)

Books (give full bibliographical references)

Dennis Groth and Arijit Sengupta. "Introduction to database applications: a problem-solving approach." First edition. McGraw-Hill Publishing Company, December 1998.

Articles (give full bibliographical references)

Arijit Sengupta. “On the feasibility of using conceptual modeling constructs for the design and analysis of XML data”. Data and Knowledge Engineering (DKE). Vol 72 pp. 219-238, Feb 2012.

Arijit Sengupta and V. Ramesh. “DocBase - Design, Implementation and Evaluation of a Document Database for XML.” Journal of Database Management (JDM). 22:4 pp. 30-56. Oct-Dec 2011.

Arijit Sengupta and V. Ramesh. “Document SQL (DSQL) – a Conservative Extension to SQL as an Ad-hoc Querying Frontend for XQuery”. Selected for inclusion in “Theoretical and Practical Advances in Information Systems Development: Emerging Trends and Approaches.” an edited volume of selected articles from the Journal of Database Management. August 2010. *(re-published version of the article below as an invited collection from JDM)*

Arijit Sengupta and V. Ramesh. “Designing Document SQL (DSQL)- an Accessible Yet Comprehensive Ad-hoc Querying Frontend for XQuery” Journal of Database Management (JDM) 20:4 pp. 25-51, Oct 2009.

Arijit Sengupta. “CFC (Comment-First-Coding) – A simple yet Effective Method for Teaching Programming to Information Systems Students.” Journal of Information Systems Education, 20:4, pp393-399, Sept 2009.

A. Sengupta, S. Schiller and S.L.Wang. “Saving Lives: The Case of RFID-Based Personnel Tracking in a Chinese Coal Mine”. Production and Inventory Management Journal, 45:1 pp. 44-55, April 2009.

Arijit Sengupta, Shu Z. Schiller. “FlexRFID: A Design, Development and Deployment Framework for RFID-based Business Applications” Information Systems Frontiers. Vol 1572-9419. Feb 2009.

R. Pal, A. Sengupta and I. Bose. “Role of Pilot Study in Assessing Viability of New Technology Projects: The Case of RFID in Parking Operations”. Communications of the Association of Information Systems (CAIS) Vol. 23. Article 15. Pp. 257-276. Sep 2008.

Arijit Sengupta and Vikram Sethi. The Promise of RFID Technologies. Communications of the Association of Information Systems (CAIS) Vol. 20, Article 56. Pp. 944-957, 2007.

Henry M. Kim, Arijit Sengupta and Joerg Evermann. “MOQ: Web Services Ontologies For QOS And General Quality Evaluations.” International Journal of Metadata, Systems and Ontologies (IJMSO), 2:3 September 2007.

Henry M. Kim, Mark S. Fox and Arijit Sengupta. "How to build enterprise models to achieve compliance to standards or regulatory requirements (and share data)". *Journal of the Association for Information Systems*, JAIS, 8:2, pp. 105-128, Feb 2007.

H. M. Kim, A. Sengupta. "Extracting Knowledge from XML Document Repository: A Semantic Web-Based Approach". *Information Technology and Management (ITM)*, 8:3, pp. 205-221, September 2007.

Henry.M. Kim, Arijit Sengupta, Mark Fox and Mehmet Dalkilic. "A Measurement Ontology Generalizable for Emerging Domain Applications." *Journal of Database Management (JDM)* 18:1, Jan-Mar 2007. pp. 20-42

Arijit Sengupta and Andrew Dillon. "Query By Templates: Using the Shape of Information to Search Next Generation Databases." *IEEE Transactions on Professional Communication*, 49:2, June 2006. pp. 128-144. **Winner of the Rudolph J. Joenk, Jr. Award for Best Paper in the [2006] IEEE Transactions on Professional Communication.**

Arijit Sengupta and Sandeep Purao. "Transitioning Existing Content: Inferring Organization Specific Documents" *Australian Journal of Information Systems* 8:1, September 2000. p 91-99

Arijit Sengupta and Andrew Dillon. "Extending SGML to Accommodate Database Functions: A Methodological Overview." *Journal of the American Society of Information Systems (JASIS)*, special issue on structured information/standards for document architectures. pages 629-637, July 1997.

Refereed Professional/Practitioner Journals

S. Mohan, A. Sengupta, Y. Wu. "A Rewrite based Approach for Enforcing Access Constraints for XML". *KES 2007. Lecture Notes in Computer Science (LNCS)* vol. 4694. Pp. 1081-1089, Sep. 2007.

Sriram Mohan and Arijit Sengupta. "DocBase – the INEX Evaluation Experience". In N. Fuhr et al. (Eds). *Advances in XML Information Retrieval. INEX 2004. Lecture Notes in Computer Science (LNCS)* vol. 3493, pp. 261-275, March 2005.

Arijit Sengupta and Mehmet Dalkilic. "DSQL – An SQL for Structured Documents". *CAiSE 2002. Lecture Notes in Computer Science (LNCS)* vol. 2348, pp.757-760 May 2002

Invited Articles

Arijit Sengupta. "Decision Sciences Institute Job Placement Services Update". *Decision Line* 38(4). July 2007. Pp. 25-26

Arijit Sengupta. "You've got RFID... Now What? Be Flexible... Do FlexRFID!" in *Technology First*, Dayton, January 2007. p.9

Arijit Sengupta and Henry M. Kim. "SWAP – A Framework for Ontology Support in Semantic Web Applications". In *AIS SIGSEMIS Bulletin*, 2(1), pp. 48-52, March 2005.

Arijit Sengupta. "Information Technology Innovations at the Decision Sciences Institute" *Decision Line*, 34(5) September 2003, pp. 14-18

Arijit Sengupta. "Demand More from Your SGML Database! Bringing SQL Under the SGML Limelight." *<TAG> The SGML Newsletter*, 9(4):pp. 1-7, April 1996.

Proceedings (give full bibliographical references: author(s); journal title, publisher, title, date, volume and page number)

A. Sengupta and S. Schiller. Enabling Virtual Assistance in the Real World using Augmented Reality and Sensor-equipped Mobile Devices. In Proceedings, International Conference on Information Systems, Workshop on Augmented Reality. Dec 2012.

A. Sengupta. Assess My Program (AMP): An innovative way to perform Assurance of Learning (AoL) tasks for accreditation. In Proceedings, Decision Sciences Institute Annual Meeting, Nov 2012.

B. Denison and A. Sengupta. "Developing an Assessment Process for a Master of Information Systems Program." In Proceedings of the Americas Conference on Information Systems (AMCIS 2010). Peru, South America. Aug 2010.

A. Sengupta, R. Pal. "On the Use of RFID Technology to Improve Efficiency in Automated Parking Management". Presented at the 2007 Decision Sciences Institute Annual Meeting, Phoenix, Arizona, Nov 16-20, 2007.

V. Choppella, A. Sengupta, E.L. Robertson, S.D. Johnson. Preliminary Explorations in Specifying and Validating Entity-Relationship Models in PVS. In Proceedings of the Conference on Automated Formal Methods (AFM'07). Atlanta, GA. November 6 2007.

A. Sengupta. "FlexRFID: A Control Logic Architecture for Fast and Flexible RFID-based System Design". In Proceedings of the 16th Workshop on Information Technologies and Systems (WITS-2006). Milwaukee, WI. Dec 9-10, 2006.

Arijit Sengupta, S. Mohan, J. Klinginsmith, A. Sengupta and Y. Wu. "ACXESS - Access Control for XML with Enhanced Security Specifications". Accepted for Publication at the International Conference of Data Engineering. April 2006.

A. Sengupta and Sandeep Purao. A Testbed for Implementing Inter-organizational Structures. Accepted for Publication at the Decision Sciences Institute Annual Meeting, November 2005.

Peng Xu and Arijit Sengupta. "Provenance in Software Engineering – A Configuration Management View". Accepted for publication at AMCIS 2005 minitrack on Systems Analysis and Design. Nebraska, USA, Aug 11-14, 2005

Arijit Sengupta and Benjamin Murphy. "Mobistik - an Effective Small Footprint Mobile Device Communication Method". Accepted for publication at HCI International 2005, Las Vegas, USA, 22-27 July 2005.

Henry M. Kim, Arijit Sengupta and Joerg Evermann. "MOQ: Web Services Ontologies for QOS and General Quality Evaluations". Accepted for publication at ECIS 2005, Regensburg, Germany, May 26-28, 2005.

Mehmet Dalkilic and Arijit Sengupta. "Design and Evaluation of CATPA: Curation Alignment Tool for Protein Analysis". In Proceedings, ACM Symposium on Applied Computing (SAC 2005). March 13-17, 2005, Santa Fe, New Mexico, USA pp190-194.

Mehmet Dalkilic and Arijit Sengupta. "Circle: Design and Implementation of a Classifier Based on Circuit Minimization." In Proceedings, ACM Symposium on Applied Computing. March 13-17, 2005, Santa Fe, New Mexico, USA pp. 547-548.

Mehmet Dalkilic and Arijit Sengupta. "Semantic Thumbnails: Summarizing XML Documents for the Semantic Web". In Proceedings, XML 2004 Conference, Washington, DC. November 15-19, 2004.

Mehmet Dalkilic and Arijit Sengupta. "A Logic-theoretic Classifier called Circle". In Proceedings, 8th International Conference on Control Automation, Robotics and Vision (ICARCV 2004), Kunming, China, Dec 6-9 2004.

Malvika Gulati and Arijit Sengupta. "TRACS: Tractable Conference Scheduling" in Proceedings, Decision Sciences Institute Annual Meeting (DSI 2004). Boston, MA, USA. Nov 20-23, 2004. pp.3161-3166

Arijit Sengupta, Mehmet Dalkilic and James Costello. "Semantic Thumbnails – a Novel Method for Summarizing Document Collections" in Proceedings, 22nd ACM Annual International Conference on Design of Communication (SIGDOC 2004), Memphis, TN. USA. Oct 11-13, 2004. pp. 45-51

Raja Sooriamurthi, Arijit Sengupta, Suzanne Menzel, Katie Moor, Sid Stamm and Katy Borner. "Java Engagement for Teaching Training: An Experience Report" Proceedings the Frontiers in Education Conference (FIE), Savannah, Florida, October, 2004.

Arijit Sengupta, Sriram Mohan and Rahul Doshi. "XER – Extensible Entity Relationship Modeling" in J. Harnad et al. Eds. Proceedings of the XML 2003 Conference, Philadelphia, PA, USA. December 8-12 2003.

V. Ramesh, Arijit Sengupta and Bryan Reinicke. "Querying XML Data – Does One Query Language Fit All?" In Proceedings of the 12th Annual Workshop on Information Technology and Systems (WITS'02). December 14-15, 2002. Barcelona, Spain. pp. 127-132.

Sandeep Purao, Veda Storey, Arijit Sengupta and Melody Moore. "Reconciling and Cleansing: An Approach to Inducing Domain Models" in Proceedings, Workshop on Information Systems and Technologies (WITS), Brisbane, Australia, Dec 9-10, 2000.

Arijit Sengupta and Peng Xu. "An Approach for a Reusable Electronic Commerce System Model" in Proceedings of the 4th Multiconference on Systemics, Cybernetics and Informatics (SCI-2000). Orlando Florida, July 23-26, 2000.

Arijit Sengupta and Sandeep Purao. "Transitioning Existing Content: Inferring Organization-Specific Document Structures" in Proceedings of the conference on XML Meets Business Heidelberg, Germany, 4th May 2000. **Selected for Best paper Award.**

Arijit Sengupta. "The compleat closure: toward a unified view of structured document database objects" in Proceedings of the Fifth International Conference on Information Systems Analysis and Synthesis (ISAS '99). Volume 5, pp 269-273. Orlando, Florida. July 31-August 4, 1999

Arijit Sengupta, David C. Wilson and David B. Leake. "Constructing and Transforming CBR Implementations: Techniques for Corporate Memory Management. Proceedings of the Workshop on Practical Case-Based Reasoning Strategies for Building and Maintaining Corporate Memories, Third International Conference on Case-Based Reasoning, Seon, Germany, 1999. pp 9-18.

Arijit Sengupta, David C. Wilson and David B. Leake. "On Constructing the Right Sort of CBR Implementation." Proceedings of the IJCAI-99 Workshop on Automating the Construction of Case Based Reasoners, Stockholm, Sweden, 1999.

Arijit Sengupta. "Toward the union of databases and document management: The design of DocBase." In C.S.R. Prabhu, editor, *Databases for the Millennium 2000: Proceedings, 9th International Conference on Management of Data*, Hyderabad, India, pages 88-109 December 16-18, 1998.

Arijit Sengupta and Andrew Dillon. "Query By Templates: A Generalized Approach for Visual Query Formulation for Text Dominated Databases." in *Proceedings, IEEE Forum on Research and*

Technology Advances in Digital Libraries (IEEE ADL'97), Washington DC, pages 36-47, May 7-9 1997.

Arijit Sengupta. "Standardizing the Querying Process with SGML: The SQL DTD." In Tommie Usdin and Debbie Lapeyre, editors, *Proceedings of the SGML'96 Conference*. Graphic Communications Association, pages 323-337, November 1996.

Pradip Bose, Santanu Chaudhuri, and Arijit Sengupta. "Automated Verification of Printed Circuit Boards: A Fast AI Approach." In Vijay P. Bhatkar and Kiran M. Rege, editors, *Frontiers in Knowledge Based Computing, Proceedings of the International Conference on Knowledge Based Computing Systems (KBCS90)*, pages 155-164, December 1990.

Chapters in Books (give complete bibliographical references)

A. Sengupta. Automated Product Identification Using RFID (Radio Frequency Identification) in Wiley Encyclopedia of Management, 3rd Edition. Nov 2014.

A. Sengupta. Docbase: Design, Implementation and Evaluation of a Document Database for XML. In K. Siau, Ed. *Innovations in Database Design, Web Applications, and Information Systems Management*. Sep 2012. Ch. 14, pp 365-393.

A. Sengupta and H.M. Kim. SWAP - A Framework for Ontology Support in Semantic Web Applications. Chap. XIII. in Eldon Y. Li. And Timon C. Du Eds. "Semantic Web and Intelligent Web Services" - *Advances in Electronic Business*. Cyber-Tech. Publishing, Idea-Group, c 2007. pp. 310-320

S. Mohan and A. Sengupta. "Conceptual Modeling for XML – A Myth or a Reality?" Chap X. In Zongmin Ma, ed. *Database Modeling for Industrial Data Management: Emerging Technologies and Applications*. Idea Group Inc. 2006. pp. 293-322

V. Ramesh and A. Sengupta. "J2EE Vs. .NET: An Application Development Perspective". In Carol Brown and Heikki Topi (eds.) *IS Management Handbook 2003*, Auerbach Publications, 2003.

Arijit Sengupta. "Database Concepts for marked-up textual documents" in Amita Chin, editor. *Text Databases and Document Management: Theory and Practice*. Idea Group Publishing. July 2000

Government Reports or Monographs (give complete bibliographical references)

N/A

Book Reviews (give complete bibliographical references)

N/A

OTHER PUBLICATIONS (List publications outside of discipline. Give complete bibliographical references.)

N/A

PRESENTED PAPERS, AND LECTURES (List title, date, and venue where presented)

Arijit Sengupta. “AssessMyProgram: An e-Assessment Process for Automated and Effective Assurance of Learning Process”. Presented at ABET Symposium on Assessment Best Practices. Indianapolis, IN April 2011.

Vikram Sethi and Arijit Sengupta. “The Promise of RFID Technologies.” Accepted Panel proposal, AMCIS 2007. Aug 2007.

Arijit Sengupta, Vikram Sethi. “IT and Supply-Chain Management with Focus on RFID (Radio Frequency Identification)”. Invited Lecture at SP Jain Center for Management. Dubai, UAE. Feb 2007.

Arijit Sengupta and Erik Wilde, “The Case for Conceptual Modeling for XML”, TIK Report 244, Computer Engineering and Networks Laboratory (TIK), ETH Zürich, February 2006.

Arijit Sengupta. “Algorithms, Hashing and Efficiency.” Invited lecture at ACM Java Engagement for Teacher Training (JETT) 2005. Bloomington, IN. Nov 11-12, 2005.

Arijit Sengupta. “Introduction to Object-Oriented Programming”. Invited lecture at ACM Java Engagement for Teacher Training (JETT) 2004. Bloomington, IN. Nov 5-6, 2004

Arijit Sengupta. XER – Extensible Entity Relationship Modeling for XML. Demonstration Session, Workshop on Information Technologies and Systems (WITS 2003) December 13-14, Seattle, Washington, USA.

Arijit Sengupta. ADAM – an intelligent Domain Model Extractor. Demonstration Session, Workshop on Information Technologies and Systems (WITS 2000) December 9-10, Brisbane, Australia.

CREATIVE WORK

Passport To Success Developed a set of mobile apps and backend processes as an incentive program for students attending College events, 2017

Assess My Program Developed an efficient and collaborative platform for performing assessment and assurance of learning data collection and analysis for accreditation purposes. 2008

SmartParkRF Developed an automated parking solution for Wright State Faculty parking lot. 2009.

WORKS IN PROGRESS

Papers submitted to journals for consideration (list Journal and date of submission)

Arijit Sengupta and Carol Wang. “Does seasonality affect student performance? An analysis of assurance of learning data for a College of Business”. Submitted to Journal of Higher Education, Aug 2018

Other completed papers

N/A

Research in Progress

Arijit Sengupta and Scott Williams. “Using mobile technology to engage students: The Passport to Success story.”

Grant Proposals (list title of project, agency receiving proposal, and date of submission)

FUNDED RESEARCH

(List all investigators, title of project, funding agency [if the funding is a subcontract, from what organization], project dates, and amount of funding [when there are co-PIs on an award, give the portion of the total award coming to the candidate]).

Ohio State Infrastructure Capital Funding Grant. “D.A.V.E. – Data Analytics and Visualization Environment”. With Dr. Joanne Li and Dr. Shu Schiller. Funded \$600,000.

RFID Lab Continuing Development, Ohio House Bill, (December 2008 - June 2009). Total Award amount: \$22,200.

“Preventive Maintenance of RFID implementations – Phase II.” Alien Technology Federal Pass-through Grant. PI with co-PI Dr. Vikram Sethi. Total grant value \$25,000. Mar 2008

RFID Lab Development. Ohio House Bill Award. December 2007. Total award amount \$42,600.

“Wright Research Initiative for the Technological Evolution with RFID (WRITER)”. Wright State University Research Challenge/ Major Collaboration Award. Award amount \$25,000. PI, with co PIs Dr. Vikram Sethi and Dr. XinHui Zhang. May 2007.

“Preventive Maintenance of RFID implementations.” Alien Technology Federal Pass-through Grant. PI with co-PI Dr. Vikram Sethi. Total grant value \$25,000. Mar 2007

“CompTIA RFID+ - Alien Academy Bridge”. Alien Technology Curriculum Development Grant. PI with co-PI Dr. Vikram Sethi. Total Grant value \$27,000. Mar 2007.

“ROI with RFID”. Alien Technology Federal Pass-through Grant. PI with co-PI Dr. Vikram Sethi. Total Grant value \$20,000. Mar 2007.

Alien Technologies Equipment Grant. Grant valued at \$3,500. August 2006.

“Managing data in the RFID-driven supply chain” Wright State University Research Initiation Grant. Awarded \$10,000. April 2006.

“An Architecture for Secure and Integrated Management of XML and Relational Data.” Wright State University Research Challenge Early Start/Augmentation Grant Competition. Awarded \$21,000. January 2006.

“Microsoft .NET Curriculum Development Grant” – February 2002. Microsoft Corporation. William Perkins (project director), Arijit Sengupta (member of development team) and V. Ramesh. One time grant of \$30,000 cash, hardware and software valued at \$37,544, and training costs as requested.

“Incorporating Solaris and Java Technologies into the new MS Information Systems Curriculum” February 2002. Sun Microsystems – Arijit Sengupta (co-principal investigator), Ramesh Venkataraman and Tracy Connolly. One-time infrastructure grant, approximate total dollar value of \$50,000.

Faculty Mentoring Grant. September 2000. Awarded \$10,000 for conducting research on “DocBase II” – the next generation digital library system.

Research and Infrastructure Grant, National Science Foundation, 1996.

PROPOSALS SUBMITTED BUT NOT FUNDED

(List title of project, funding agency, project dates, and amount of requested funding)

N/A

PATENT DISCLOSURES, APPLICATIONS, AND AWARDS

N/A

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

National/External

Mid-American Business Deans Association (MABDA) Innovation in Business Award. First Place Award. Received for Proposal “*Assess My Program (AMP) – Using a collaborative online approach to improve the assurance of learning process*” Sep 2016

Southwestern Ohio Council of Higher Education (SOCHE) Award of Excellence in Teaching. April 2011.

“Greater Dayton’s Top 40 under 40 Award” April 2009

Rudolph J. Joenk, Jr. Award for Best Paper in the [2006] IEEE Transactions on Professional Communication. July 2007.

“Microsoft .NET Peer-to-peer award” – December 2003. Microsoft Corporation. One of four universities selected to Microsoft .NET peer-to-peer showcase at ICIS 2003, Seattle, WA, Dec 15-17, 2003.

National Talent Search Scholarship, Dept of Education, India, 1986-92; best 100 scores in nationally conducted tests/interviews among 100,000 high school graduates in India.

TERA (Teaching Excellence Recognition Award), March 1998.

GAANN Fellowship, US Dept. of Education, 1995-1997.

Department

Raj Soin College of Business Outstanding ISOM Teacher Award, June 2012. **Received this award five years in a row.**

Raj Soin College of Business Outstanding ISOM Teacher Award, June 2011.

Raj Soin College of Business Outstanding ISOM Teacher Award, June 2010.

Raj Soin College of Business Outstanding ISOM Teacher Award, June 2009

Raj Soin College of Business Outstanding ISOM Teacher Award. May 2008.

Best B.Tech. Project Award, Indian Institute of Technology, Kharagpur, India, 1992; one of two best undergraduate projects among 200.

School/College

Raj Soin College of Business Outstanding Researcher Award. May 2008.

Raj Soin College of Business Outstanding Researcher Award. Nov 2006.

University

Nominated for the Wright State University Presidential Award for Early Faculty Achievement. May 2007.

OFFICES HELD IN PROFESSIONAL SOCIETIES

Job Placement Coordinator, Decision Sciences Institute, 2005-2011.

Information Technology Committee Member, Decision Science Institute 1999-2011.

Membership Services Committee Member, Decision Sciences Institute, 2007-Current.

Information Technology Liaison. Decision Sciences Institute. Assist the Institute with development of new IT projects and manage current projects and their implementation. 2009-2010

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Advisory Board Member, Physician Leadership Development Program (PDLP). Wright State University. 2017-Present

Beta Gamma Sigma Chapter Advisor for Wright State University. 2016-Present

**THE FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES**

Academic Policy and Student Affairs Committee

December 5, 2018

Subject: New Program Proposal: Bachelor of Science in Interdisciplinary Engineering

Proposed Committee Action:

Recommend to the Florida International University Board of Trustees approval of the New Program Proposal: Bachelor of Science in Interdisciplinary Engineering (CIP 14.0101).

Background Information:

The School of Universal Computing, Construction, and Engineering Education (SUCCEED) in the College of Engineering and Computing at Florida International University is proposing a new Bachelor of Sciences degree in Interdisciplinary Engineering under the Science, Technology, Engineering, and Mathematics (STEM) CIP code 14.0101.

This is a 120-credit undergraduate degree. The B.S. in Interdisciplinary Engineering would be the first of its kind in the Florida State University System, housed in a College that is among the top-30 producers of Engineering Bachelor's degrees, and the nation's #1 producer of Hispanic Engineering and #9 producer of African American Engineering undergraduate degrees.

Rather than focusing exclusively on an existing Engineering subfield such as Biomedical, Civil, Environmental, Electrical, Computer, or Mechanical Engineering, this will be a uniquely interdisciplinary program with broad flexibility and student-guided focus. The U.S. Bureau of Labor Statistics (BLS) from department of labor website projects employment growth for engineers, with nearly 140,000 new jobs expected for engineers over the 2016–26 decade.

Each university board of trustees shall approve for implementation new degree programs at the bachelor's, master's, advanced master's, and specialist levels in accordance with Florida Board of Governors Regulation 8.011 – *Authorization of New Academic Degree Programs and Other Curricular Offerings*.

Supporting Documentation: Executive Summary: Bachelor of Science in Interdisciplinary Engineering (CIP 14.0101) New Program Proposal

Facilitator/Presenter: Elizabeth M. Bejar

This page intentionally left blank

Proposed B.S. in Interdisciplinary Engineering
School of Universal Computing, Construction, and Engineering Education
College of Engineering and Computing
Florida International University

EXECUTIVE SUMMARY

The School of Universal Computing, Construction, and Engineering Education (SUCCEED) in the College of Engineering and Computing at Florida International University is proposing a new Bachelor of Sciences degree in Interdisciplinary Engineering under the Science, Technology, Engineering, and Mathematics (STEM) CIP code 14.0101.

This is a 120-credit undergraduate degree. The B.S. in Interdisciplinary Engineering would be the first of its kind in the Florida SUS, housed in a College that is among the top-30 producers of Engineering Bachelor's degrees, and the nation's #1 producer of Hispanic Engineering and #9 producer of African American Engineering undergraduate degrees.

Rather than focusing exclusively on an existing Engineering subfield such as Biomedical, Civil, Environmental, Electrical, Computer, or Mechanical Engineering, this will be a uniquely interdisciplinary program with broad flexibility and student-guided focus. The core vision is providing a customizable degree for students so they may optimize their opportunities to enter the workforce, including emergent entrepreneurial businesses. The curriculum will combine a core encompassing math, sciences, business, communication, and engineering courses from all disciplines along with a secondary field that could include traditional existing engineering areas such as Biomedical Engineering, Computer Engineering, Telecommunications Engineering, and Transportation Engineering, or potentially others such as Internet of Things, Engineering Management, etc. Students and graduates will tackle complex engineering and business situations.

The students will learn all aspects of project management, working in multiple disciplines, and getting results in a real-world team environment. Research in faculty laboratories, summer internships, and the three-semester Interdisciplinary Senior Engineering Project complement the classroom curriculum with hands-on experience working for industry. A B.S. in Interdisciplinary Engineering will prepare students to do well in all aspects of industry, including health care, communications, environmental stewardship, government, and business producing more of the highest paid STEM graduates. Available jobs through online job websites include numerous opportunities for a "generalist" or "interdisciplinary" engineer, including in the Department of Defense and the US Navy. According to a February 2018 report at the

[U.S. Department of Labor website](#), the U.S. Bureau of Labor Statistics (BLS) projects employment growth for engineers, with nearly 140,000 new jobs expected for engineers over the 2016–26 decade. And in 2016, engineers had a median annual wage of \$91,010 – more than twice the median wage for all workers, also noting that “Architectural and Engineering Managers” are in especially high demand with a median annual wage of \$134,730 and nearly 10,000 projected new jobs.

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	65	52.0	\$5,805	\$ 301,844	\$		\$ 301,804
Year 2	130	104.0					
Year 3	227	191.6					
Year 4	292	253.6					
Year 5	317	275.6	\$3,845	\$1,059,706	\$		\$1,059,706

**THE FLORIDA INTERNATIONAL UNIVERSITY
BOARD OF TRUSTEES**

Academic Policy and Student Affairs Committee

December 5, 2018

Subject: Approval of the creation of Regulation FIU-2502 Children's Creative Learning Center at FIU

Proposed Committee Action:

Recommend that the Florida International University Board of Trustees approve the creation of Regulation FIU-2502 Children's Creative Learning Center at FIU (CCLC).

Background information:

The basis for this regulation is to establish the purpose and mission of the CCLC, permit the University President to delegate responsibility for the operation and supervision of the CCLC, outline the duties of the CCLC Director, establish and outline the responsibilities of the Advisory Board, publish fees charged for child care and services, specify funding for the CCLC, and outline opportunities for internships and clinical experiences for students.

Florida Board of Governors Regulation 10.004, Educational Research Centers for Child Development, provides, in relevant part, that each university board of trustees shall adopt regulations for the operation of an Educational Research Center for Child Development on its campus which shall include fees for child care and services, the establishment of an advisory board, and priority of admission. Proposed Regulation FIU-2502 ensures FIU is compliant with Board of Governors' Regulation 10.004. All fees included in proposed Regulation FIU-2502 reflect fees currently charged to children enrolled in the CCLC that have not been increased since 2014.

Florida Board of Governors Regulation 1.001(3)(j)(l) provides, in relevant part, that each board of trustees is authorized to promulgate university regulations in accordance with the Regulation Development Procedures adopted by the Board of Governors; and each board of trustees shall be responsible for campus safety and emergency preparedness, to include safety and security measures for university personnel, students, and campus visitors.

Supporting Documentation:

Executive Summary for New Regulation 2502
Children's Creative Learning Center

Board of Governors Regulation 10.004 Educational
Research Centers for Child Development

Proposed Regulation FIU-2502 Children's Creative
Learning Center

Facilitator/Presenter:

Carlos B. Castillo

This page intentionally left blank

Executive Summary for New Regulation 2502 Children's Creative Learning Center

Board of Governors' Regulation 10.004 and section 1011.48, Florida Statutes, permit each university to establish an educational research center for child development. Although FIU's Children's Creative Learning Center (CCLC) was established in 1987, the promulgation of this regulation ensures the University is in compliance with statutory and BOG requirements.

Children enrolled in the CCLC are now called Panther Cubs.

In pertinent part, new FIU-2502:

- Outlines the purpose of CCLC as specifically stated in section 1011.48, Florida Statutes;
- Specifies that the University President is responsible for, and may delegate, responsibility for the operation and supervision of the CCLC;
- Details how the CCLC Director is selected and the Director's responsibility for the day-to-day operation and management of the CCLC;
- Establishes the responsibilities and composition of the CCLC Advisory Board. FIU's CCLC shall have an Advisory Board instead of a Board of Directors in compliance with BOG Regulation 10.004 because the CCLC is a part of the university instead of separately incorporated;
- Grants admission priority for students, faculty, staff, alumni, and members of the University community;
- Lists the registration fee, supply fee, and tuition for children enrolled at the CCLC. Such fees have not been increased since 2014 and no increase is proposed at this time;
- Delineates responsibility for student internships and clinical experiences; and
- Mandates all research involving children at the CCLC be approved by the Institutional Review Board prior to commencement.

This page intentionally left blank

10.004 Educational Research Centers for Child Development.

- (1) Each university board of trustees shall adopt regulations for the operation of an Educational Research Center for Child Development on its campus. Such regulations shall be consistent with the university mission and Board of Governors regulations.
- (2) Upon approval of the university president, the student government association of any state university may establish an educational research center for child development. Each such center shall be an early childhood center established to provide education and care for the children of students, both graduate and undergraduate, faculty, and other staff and employees of the university and to provide an opportunity for interested schools or departments of the university to conduct educational research programs and establish internship programs within such centers. Whenever possible, such center shall be located on the campus of the university. There shall be a director of each center, selected by the hiring official and approved by the center's board of directors or advisory board.
- (3) Each center shall give highest priority to serving the children of students, followed by the children of staff and faculty.
- (4) Each educational research center for child development shall be funded by a portion of the Capital Improvement Trust Fund fee established by the Board of Governors. Each university that establishes a center shall receive a portion of such fees collected from the students enrolled at that university, usable only at that university, equal to 22.5 cents per student per credit hour taken per term, based on the summer term and fall and spring semesters. This allocation shall be used by the university for the establishment and operation of a center as provided in this regulation. Said allocation may be made only after all bond obligations required to be paid from such fees have been met.
- (5) Funds appropriated for the Educational and General activities of the State University System shall not be used to staff and operate centers. Operations may be financed either through the capital improvement trust fund fee, activity and service fee allocations, user charges, grants and donations, or any combination of these sources. Funds subject to bond commitment may be used only to the extent that current bond obligations and the terms of the trust indenture are met.
- (6) University facilities constructed for the accomplishment of the university's academic mission may be used for university research centers for child development provided that rent is charged, which may be minimal. Such centers will not generate a requirement for fixed capital outlay.

(7) The president shall be responsible for the operation and supervision of the educational research center for child development. The university board of trustees shall promulgate regulations for the operation of the educational research center for child development, including guidelines for the use and supervision of student interns, the receipt and monitoring of funds in accordance with the laws of the State of Florida and regulations of the university and the Board of Governors, and participation by the student government association. It is recognized that intent of this program is to provide research and training activities which are representative of a comprehensive scope of child development needs throughout the community. To this end, university regulations shall include an admission process that is inclusive race, ethnicity, socio-economic status, gender, as well as mental and physical ability.

(8) Each university board of trustees which establishes an educational research center for child development shall provide for an advisory board if the center is part of the university, or a board of directors, if the center is separately incorporated. The board of directors for each educational research center for child development shall consist of the president of the university or his or her designee, the student government president or his or her designee, the chair or designee from one of the departments participating in the center, and a representative number of parents of children enrolled in the center, elected by parents of children enrolled in the center. The director of the center shall be an ex officio, nonvoting member of the board. The board of directors shall establish local policies and perform local oversight and operational guidance for the center and shall insure that the center is operated according regulations of the Board of Governors and the university.

(9) Each university board of trustees is authorized to establish fees for child care and services provided by the center. Fees should be set at the level required to support the cost of providing the service. Exceptions should be made for the children of students and may be made for low-income faculty and staff. These fees must be approved by the Board of Governors and in accordance with BOG Regulation 7.003(17).

Authority: Section 7(d), Art. IX, Fla. Const., History--Formerly 6C-2.79, 10-7-74, Amended and Renumbered 12-17-74, Amended 2-18-80, 8-11-85, Formerly 6C-10.04, Amended 12-25-86, 11-29-94, Amended and Renumbered 1-29-09.

**THE FLORIDA INTERNATIONAL UNIVERSITY BOARD OF TRUSTEES
FLORIDA BOARD OF GOVERNORS**

NOTICE OF PROPOSED REGULATION

REGULATION NO.: FIU-2502
REGULATION TITLE: Children's Creative Learning Center at FIU

SUMMARY: This Regulation establishes the purpose and mission of the Children's Creative Learning Center (CCLC), permits the University President to delegate responsibility for the operation and supervision of the CCLC, outlines the duties of the CCLC Director, establishes and outlines the responsibilities of the Advisory Board, publishes fees charged for child care and services, specifies funding for the CCLC, and explains opportunities for internships and clinical experiences for students.

TEXT OF REGULATION: The full text of the Proposed Regulation can be viewed below and on the website of The Florida International University Board of Trustees at <http://regulations.fiu.edu/>. If you would like a copy of the Proposed Regulation, please contact Eli Deville, Departmental Administrator, Office of the General Counsel, (305) 348-2103, devillee@fiu.edu.

AUTHORITY: Florida Board of Governors' Regulation 10.004

NAME OF PERSON INITIATING PROPOSED REGULATION: Dr. Elizabeth Bejar,
Senior Vice President Academic & Student Affairs

ANY PERSON SEEKING TO COMMENT ON THE PROPOSED REGULATION MUST SUBMIT COMMENTS IN WRITING TO THE CONTACT PERSON LISTED BELOW. ALL WRITTEN COMMENTS MUST BE RECEIVED BY THE CONTACT PERSON WITHIN 14 CALENDAR DAYS OF THE DATE OF PUBLICATION OF THIS NOTICE.

CONTACT PERSON REGARDING THE PROPOSED REGULATION: Eli Deville,
Departmental Administrator, Office of the General Counsel, Florida International University,
11200 SW 8th Street, PC 511, Miami, FL 33199. Phone: 305-348-2103, Fax: (305) 348-3272,
email: devillee@fiu.edu.

DATE OF PUBLICATION: November 1, 2018

THE FULL TEXT OF THE REGULATION IS PROVIDED BELOW:

FIU-2502 Children's Creative Learning Center at FIU

- (1) The Florida International University (University) Board of Trustees established the Children's Creative Learning Center (CCLC) an educational research center for child development, to:
 - a. Serve as an early childhood center for the children of students, employees, and other members of the University community;
 - b. Provide an opportunity for interested schools and colleges of the University to conduct educational research programs; and
 - c. Establish internship opportunities within CCLC.
- (2) The University President shall be responsible for the operation and supervision of the CCLC. The President may delegate this authority.
- (3) The Director of the CCLC shall be selected by the hiring official after consultation with the CCLC Advisory Board. The Director is responsible for the day-to-day operation and management of the CCLC.
- (4) The CCLC Advisory Board shall recommend Center policies and procedures, support the CCLC's mission, provide recommendations regarding matters brought forth by the CCLC Director, advocate for adequate resources to meet the operational needs of the Center, and enhance the Children's Creative Learning Center's public standing.
 - a. The Advisory Board shall not exceed thirteen (13) members and consist of University faculty members, parents of children in the CCLC, and one (1) representative from the Student Government Association (SGA) chosen by the SGA President. Members of the community may be added to the Advisory Board based on their expertise. The Director shall serve as a non-voting *ex officio* member of the Advisory Board.
 - b. The Director shall recommend applicable policies and procedures to the President or his/her designee with input from the Advisory Board for approval. All approved policies and procedures shall be published in the Children's Creative Learning Center's Family Handbook.
- (5) Admission of children into the Children's Creative Learning Center shall be inclusive of race, ethnicity, socio-economic status, gender, and mental and physical ability. First priority for admission is given to children of University students. On a space available basis, second priority for admission is given to children of University faculty and staff, and third priority is given to children of alumni.
- (6) As an auxiliary within the Division of Academic and Student Affairs, the Children's Creative Learning Center is partly funded by Capital Improvement Trust Fund Fees, user fees, Student Activity and Service Fees, grants, and donations in accordance with state law. The receipt and monitoring of all funds are in accordance with state law and regulations of the Board of Governors and University.

- (7) The Children's Creative Learning Center may charge fees for child care and services. Fees may be staggered based on family income or the child's parent/legal guardian's relationship to the University. The fees shall be as follows:

<u>Registration Fee</u>	<u>Semester</u>	<u>Affiliation</u>	<u>Amount</u>
<u>School Session</u>	<u>Fall - Summer A</u>	<u>All</u>	<u>\$ 250.00</u>
<u>Summer Camp</u>	<u>Summer B</u>	<u>All</u>	<u>\$ 100.00</u>

<u>Supply Fee</u>	<u>Semester</u>	<u>Affiliation</u>	<u>Amount</u>
<u>School Session</u>	<u>Fall - Summer A</u>	<u>Students</u>	<u>\$ 200.00</u>
<u>School Session</u>	<u>Fall - Summer A</u>	<u>Non-Students</u>	<u>\$ 225.00</u>
<u>Summer Camp</u>	<u>Summer B</u>	<u>All</u>	<u>\$ 150.00</u>

<u>Tuition</u>	<u>Semester</u>	<u>Affiliation</u>	<u>Amount</u>
<u>Monthly</u>	<u>Year Round</u>	<u>Students</u>	<u>\$ 475.00</u>
		<u>Staff</u>	<u>\$ 675.00</u>
		<u>Faculty</u>	<u>\$ 700.00</u>
		<u>Alumni</u>	<u>\$ 700.00</u>
		<u>Community</u>	<u>\$ 725.00</u>

- (8) The Children's Creative Learning Center may furnish internships and clinical experiences for students of the University. Students shall be supervised by CCLC staff and function under guidelines of the CCLC and the respective academic department.
- (9) Any research involving human subjects proposed at the Children's Creative Learning Center shall be submitted to the Institutional Review Board (IRB) for approval prior to commencement.

Authority: Board of Governors' Regulation 10.004; History—New

This page intentionally left blank

ACADEMIC AFFAIRS REGULAR REPORTS

- I. FIU*BeyondPossible*2020**
- II. Academic and Career Success**
- III. Engagement**
- IV. Enrollment Management and Services**
- V. Information Technology**
- VI. Research and Economic Development / University Graduate School**
- VII. Student Affairs**

I. FIUBeyondPossible2020

1. FIU ComPASS

FIU's Communication Protocol for Accountability and Strategic Support (ComPASS) was developed in 2016 to aid in the University's achievement of its *FIUBeyondPossible2020* Performance Funding goals. The efforts of which are being actualized through significant improvements in the university's four-year graduation rate of our students, from 28% to 33% in the last two years of this exercise.

ComPASS is comprised of a series of meetings that monitor the University's immediate instructional, curricular, and operational needs and their impact on FIU's mission and position relative to the State's Performance Funding Model. More specifically, ComPASS sessions focus on three target areas of strategic planning; Completion and Employment, Strategic Enrollment and Research and Revenue. Through these sessions, FIU is able to bridge increasing accountability demands with opportunities for improvement at the University and individual unit level. Thus far, the University has held eight successful ComPASS meetings involving the President, Provost, vice presidents, deans, chairs, and college staff.

On August 9, 2018, we continued the conversation of Completion and Employment. The ComPASS session focused heavily on strategies supporting our achievement of our current university wide four-year graduation rate goal of 45% for the 15-16 cohort. This goal of 45% will ensure a successful pathway to the university's ultimate goal of achieving a 60% four-year graduation rate for the 18-19 cohort. Colleges shared recent successes as well as obstacles in the areas of retention, progression, graduation and employment.

The October 23, 2018, session focused on the Pathway to Preeminence with a particular emphasis on improving research preeminence, enhancing the university's reputation and rankings. This session highlighted the first instance where specific strategies to improve the University's reputation was discussed. The session identified strategies that can be implemented by the university and colleges that will improve local, national and international rankings to include initiatives to encourage faculty awards, increase postdoctoral fellows and doctoral degrees across the university.

2. BEYOND POSSIBLE STRATEGIC PROJECTS

The *FIUBeyondPossible2020* strategic project plans have made significant progress within the last quarter. The Office of the Provost has been meeting with project leads on a regular basis in order to evaluate project performance and set milestones for future achievements. Below is a brief status report highlighting progress of some of the 33 approved projects.

International Requirement

Many of the efforts towards international recruitment are in conjunction with International Dual Enrollment and Recruitment strategic endeavors performed within Office of Faculty and Global Affairs (OFGA). The team has spent significant time in the field to engage prospective students to encourage them to select FIU as their educational destination. International

Recruitment has started a project called “JumpStart” and has launched a website, soon to be translated to Chinese to attract those native speakers. The team is actively involved in the creation of strategies for developing and increasing transfer and dual degree programs with key international institutions.

Panther Alumni Recruitment Team (PART)

The PART project boasts one of the highest rates of accomplishments as they are engaging FIU alumni and using them to increase recruiting of prospective students. All of their volunteer training initiatives have been launched, and plans are in place to offer these training programs in different languages. There are now more than 300 PART volunteers (+25% active, 61% female, 72% in state) with an average age of 40 (previously +50) who help with and/or contribute to an annual giving of more than \$88,500. PART volunteers have already represented FIU at over 10 college fairs in six strategic markets (including Maryland, D.C. and NY), raising awareness among over 2,000 students.

Improve and Increase Hybrid Courses

The team added 103 new courses to the directory of hybrids within the 17-18 year. They have held regular workshops for faculty to inspire and support them to start offering hybrid courses. The project has been successful in the development of required infrastructure and human resources, and the team is now fully focused on achieving 2020 and 2025 strategic goals/percentages as planned. They are also working on more ways to incentivize faculty which would eventually result in a higher ratio of hybrid to traditional face-to-face courses offered. More than 14,000 students were enrolled in FIU hybrid courses through 17-18 academic year, and the team has recently exceeded their Certified Instructor Goal of 300.

II. ACADEMIC AND CAREER SUCCESS

1. EAB Student Success Collaborative (SSC)

EAB Student Success Collaborative officially launched on September 17, 2018. By the end of September, nearly 5,000 students had signed on to the platform. The program has been renamed Panther Success Network and will lay the foundation for the development of a collaborative care student support system throughout the university. Outreach campaigns designed to target specific student populations will run and be tracked through the system.

2. Career and Talent Development

In an effort to both increase the career readiness and professional development of our students and to become more responsive to the needs of our employer-partners, the leadership team of Career and Talent Development (CTD) has finalized the reorganization of the unit. The new structure has expanded the traditional Career Development/ Employer Relations organizational paradigm by identifying four key areas to guide all career readiness initiatives: Career Development and Coaching, Operations and Events, Employer Engagement, and Strategic Connections and Communication. Each area will be led by an Associate Director who

will work closely with the Director to leverage this new approach for the benefit of our students.

Between September and November, CTD has offered programming that facilitated interactions between 6,059 students and alumni, 424 employers and 62 graduate programs. Some of the activities included On-Campus Interviews, Career Fairs (3), Internship Fair, Career Bash, Graduate School Week, Panels, Webinars, Mentor Mondays, Information Sessions and Resume Fest. Additionally, as of Fall 2018, Handshake (a Career Management System) is being used by all three career centers. Students are now able to manage their career development through one system. Some of the features include 24/7 access to thousands of jobs and internships, appointment scheduling with career coaches, on-campus interview scheduling, and the ability to RSVP for all career events. New employer registrations have risen by over 50 percent in the past year. Currently, there are 4,779 full-time and 1,215 internship opportunities available to FIU students.

3. Academic Advisor Initiatives

To assure that FIU students are provided with an effective and efficient support network, ACS is committed to providing the university advising community with quick access to the information and resources they need to assist our students. ACS, in collaboration with student support partners across the university, is developing an Advising Portal. The primary goal of the portal will be to provide an up-to-date knowledge base and resource center for advisors, faculty member, and other staff members who may need to access current policies, procedures, best practices, or resources as they are working with students. This will be a 24/7 interactive source of information related to various areas across campus such as the Career and Talent Development, Center for Student Engagement, Enrollment Management, OneStop, Registrar's Office, Financial Aid, Global Affairs, Honors, SAAC, and Student Affairs. As part of this initiative, an AI powered chatbot is being developed within the portal. The chatbot will be connected to the existing DoIT and OneStop chatbots as repositories of up-to-date information. The portal is projected to launch by Spring 2019.

III. ENGAGEMENT REPORT

1. Carnegie Community Engagement Classification and launch of #FutureIsUs

Engagement launched the inter-disciplinary and university wide #FutureIsUs Taskforce in Spring 2018. The team will work to attain the 2020 Carnegie Community Engagement Re-Classification, led by co-chairs VP Saif Ishoof and SVP Academic and Student Affairs Elizabeth M. Bejar. This group will also work to develop infrastructure to allow for the appropriate tracking and evaluation of university-wide community engagement activities. The infrastructure will also allow the university to tell the story of impact related to activities. The Community Engagement Classification is awarded to institutions that demonstrate collaboration with their larger communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity. Furthermore, a critical component of

the Florida State University System's mission is public service and the commitment of state universities to engage with Florida's communities and businesses. In fact, *Community & Business Engagement* is one of the goals detailed in the SUS 2025 strategic plan.

The #FutureIsUs launch party and official social media launch occurred on September 24, 2018 with over 200 members of the university community in attendance. The day including much online traffic with over 1.5 million impressions on social media focused on the community-engaged work of FIU.

2. Future of Work: Urban Potential Laboratories

On August 1, 2018, the JP Morgan Chase Foundation approved a grant of \$500,000 for the launch of UP Labs – a proposal submitted by the Office of Engagement in partnership with the FIU Foundation.

UP Labs is a new workforce development concept. Through an articulated sequence of courses and work experiences, UP Labs will meet employer demand for middle-skills workers and secure 21st-century employment for participants. UP Labs will start as a one-year pilot with two cohorts comprised of non-traditional learners starting in January 2019. Learners will engage in a series of labs over the course of 14 weeks that will prepare them for middle-skill jobs in healthcare. Participating employers will identify high-demand jobs and work collaboratively with FIU staff and faculty to develop learning labs around targeted workforce skills development.

An internal working group has been established with representatives from Continuing Education, Academic Planning and Accountability, Stempel College of Public Health and Social Work, Wertheim College of Nursing and Health Sciences, and NeighborhoodHELP. FIU Continuing Education is designing the curriculum in preparation of program launch.

The public announcement with Chase took place during the Forward Cities Conference on November 8, 2018 in conjunction with a Workforce Innovation panel featuring Maria Escorcia of Chase and Marshall Ames of Lennar Foundation.

3. Public-Private Partnerships: Royal Caribbean Ltd.

Twenty-six FIU students participated in Royal Caribbean's 10-week Summer Internship Experience in Summer 2018. This is the largest cohort of FIU students to participate to date. Fifty-five students interviewed for the program. Twenty-six students completed the program and three students were offered and accepted full-time positions following the internship.

4. Municipal Partnerships: City of Miami Beach The City of Miami Beach Commission approved FIU Dual Enrollment at Miami Beach Senior High School for the 2018-19 school year at \$62,000 – an increase from previous years. Since the Spring 2015 semester, the City of Miami Beach has funded twenty unique FIU Dual Enrollment courses at Miami Beach Senior High

School. Six hundred, seventy-one students have participated in twenty-nine class sections.

The City of Miami Beach has changed their internship policy and internships are now unpaid. This decision was made due to internal budgeting within the City and will be reviewed in September 2019. The internship positions are closely aligned to current working groups. Since the Summer 2015 semester, the City of Miami Beach has hired 49 FIU interns, with seven of those interns receiving promotions to full time positions within the City.

IV. ENROLLMENT MANAGEMENT AND SERVICES REPORT

1. University Enrollment

Summer 2018

Early Fall/Summer Point in Time Comparisons by Count Type and Term

Count Type	Summer 2017	Summer 2018	Diff	% Diff
Headcount	37,012	39,473	2,461	6.65%
Fundable FTE's	7,480	8,124	644	8.61%
Student Credit Hours	252,120	270,386	18,266	7.24%

10/10/2018 Reporting Date

As of October 10, 2018, we enrolled 39,473 students in courses for the summer 2018 term. This represents a nearly 7% increase as compared to summer 2017 enrollment of 37,012.

Fundable FTE's have increased by almost 9% or by 644, from 7,480 in summer 2017 to 8,124 in summer 2018. Student credit hour production increased by 18,266 or 7.24%, from 252,120 in summer 2017 to 270,386 in summer 2018.

Fall 2018

Fall Point in Time Comparisons by Count Type and Term

Count Type	Fall 2017	Fall 2018	Diff	% Diff
Headcount	56,886	57,803	917	1.61%
Fundable FTE's	17,811	18,061	250	1.40%
Student Credit Hours	579,641	588,396	8,755	1.51%

10/10/2018 Reporting Date

As of October 10, 2018, 57,803 students enrolled in fall 2018 courses. This represents a nearly 2% increase as compared to fall 2017 enrollment of 56,886. Fundable FTE's have increased from 17,811 in 2017 to 18,061 in 2018, a 1.40% increase. Student credit hour production increased by 8,755 or 1.50%, from 579,641 in fall 2017 to 588,396 in fall 2018.

The Office of Admissions hosted Showcase FIU on September 29. This is an on-campus program designed to attract new FTIC and transfer students to the university for the 2019-2020 academic year. Three hundred and ten prospective students were in attendance and 26 of the prospective students applied on-site.

The Office of Admissions hosts on-campus events for transfer students as well – Transfer Tuesday and Transfer Day by the Bay – to educate prospective transfer students about the benefits of an FIU education. In addition, the Office of Admissions has attended six community college fairs at the Florida state colleges in Broward, Miami Dade and Palm Beach counties.

A Graduate Student Orientation was hosted at the start of the semester. The Office of Admissions has attended four college fairs in the State of Florida including in Fort Myers and Orlando.

2. International Admissions

As of October 12, 2018, our fall 2019 applicants and admitted students exceed fall 2018 for both FTIC and transfer students. For the academic year 2018-2019, FTIC enrolled student numbers are down 28.37% (61 FTIC all terms) when compared to this point in the 2017-2018 cycle; due to the increase in fall entry requirements, we expected this dip in enrollment. Fall 2018 alone saw a reduction in 87 enrolled students. Given that we have 34% more admitted students for the upcoming spring 2019 term, we project spring enrollments to meet or exceed the enrollments from spring 2018.

For the academic year 2018-2019 (as of 10/12/2018), we enrolled 13.44% more transfer students (70 transferring students) than we did last year at this time. We believe that this improvement is related directly to our more efficient credential evaluation, communications, and admission decision processes. We improved the quality of incoming student class and the size of these classes in a context which includes national trends of declining international students.

Summer, Fall, and Spring 2018-19 Point in Time Comparisons 10/12/2018

								Actual Difference			Percentage Difference		
		SU17	FA17	SP18	SU18	FA18	SP19	SU	FA	SP	SU	FA	SP
FTIC	Applied	199	1,102	359	305	808	398	106	-294	39	53%	-27%	11%
	Admitted	92	395	93	215	278	125	123	-117	32	134%	-30%	51%
	Matriculated	48	237	40	78	111	41	30	-126	1	63%	-53%	63%
	Enrolled	34	181	0	60	94	0	26	-87	0	76%	-48%	0%
Transfer	Applied	197	1,056	355	186	1,128	454	-11	72	99	-6%	7%	28%
	Admitted	96	623	126	111	690	134	15	58	8	16%	9%	6%
	Matriculated	80	501	46	96	549	51	16	48	5	20%	10%	11%
	Enrolled	63	458	0	82	509	0	19	51	0	30%	11%	0%

3. Financial Aid

Disbursement

As of October 8, 2018, the Financial Aid Office has disbursed \$194 million to 33,246 students for the fall semester. For the same time period last year \$185 million was disbursed to 33,870 students. This represents a 5% increase in funding. Final 2017-2018 aid disbursed totaled \$500 million to 43,392 students, a 5% increase compared to 2016-2017 \$478 million to 41,359.

Cohort Default Rate

FIU's 3-Year Cohort Default rate showed a decrease for the 2015 cohort. This is the lowest it has been since the advent of the 3-Year Cohort Default Rate was instituted. The following table provides a comparison to all 4-year public institutions and the national rates for all institutions.

<i>FIU Cohort Default Rate Compared with 4-Year Public Institutions and All Institutions</i>						
	Cohort					
Institution/Type	2010	2011	2012	2013	2014	2015
FIU	10.5%	8.9%	6.8%	5.4%	5.8%	5.3%
4-Year Public	9.3%	8.9%	7.6%	7.3%	7.5%	7.1%
National All	14.7%	13.7%	11.8%	11.3%	11.5%	10.8%

4. Office of Scholarships

Identifying Unspent Scholarship Dollars

In the last year, the Office has worked with units across the university to identify unspent foundation scholarship dollars and develop awarding strategies to meet enrollment goals. During this time, we increased fund utilization by 27%. We continue working on implementing awarding strategies and spending plans to ensure no funds are left unspent.

Leveraging Scholarships to support State Metrics

We continue to work with Department leads to identify students in graduation cohorts that are in need of financial assistance to complete their degrees. We work closely with Academic Affairs to administer the Braman Completion Grant and Graduation Success Initiative Grant in support of student success.

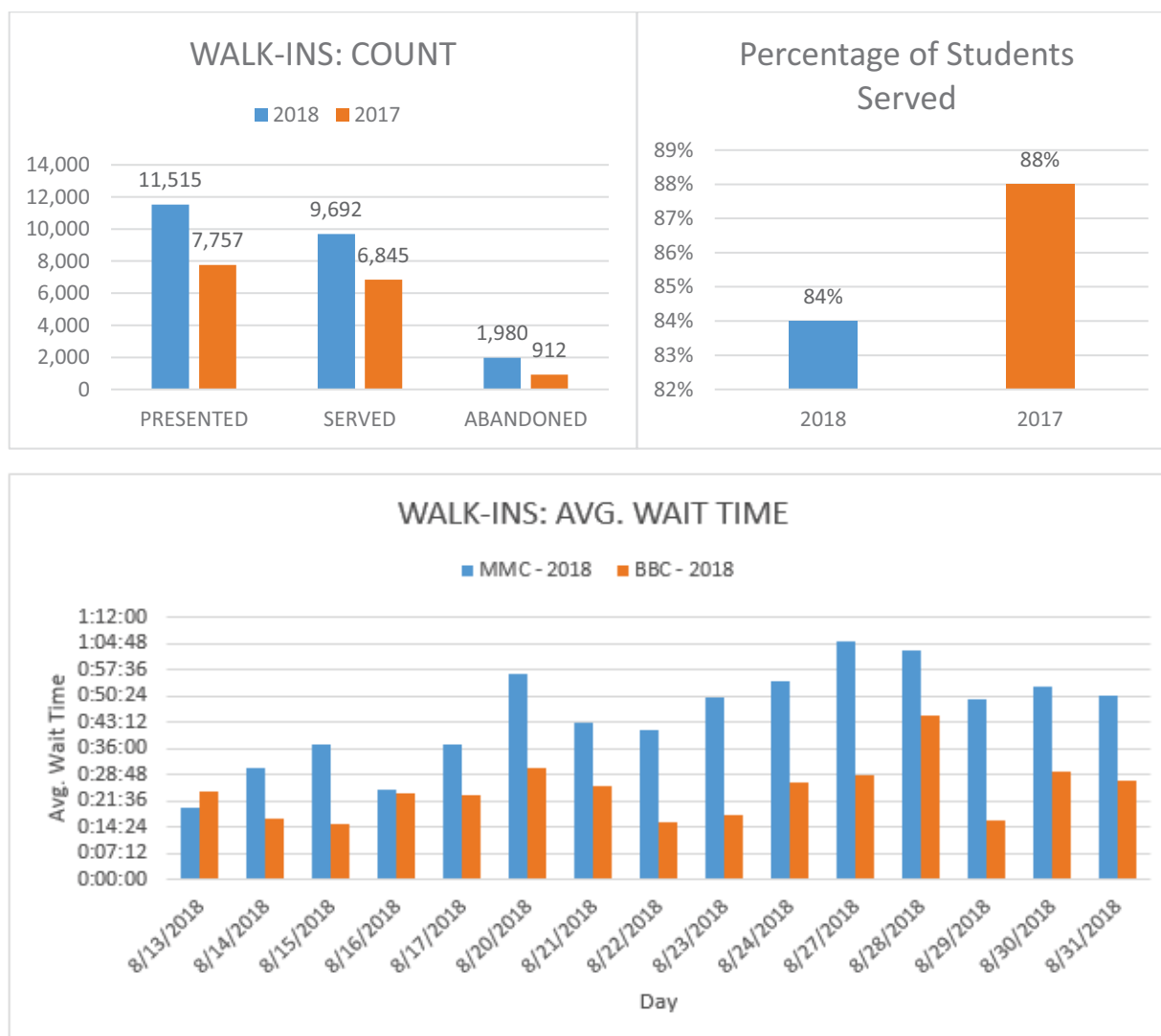
5. University Registrar

We concluded our work with our consultants to implement the "sessions within term" academic calendar redesign pilot test. For the fall 2018 term, we included two seven-week sessions within our 16-week semester. We concluded this pilot term with 44 courses that served 1,189 students. We will include seven-week A and B sessions and a 16-week C session for the spring 2019 term. Once completed, this effort should diminish the number of dynamic class sections that we cannot serve via automation and self-service enrollment, improve our credit hour per student measures, and provide students with greater enrollment flexibility.

6. OneStop

From August 13 to August 31, 2018, the One Stop served 9,692 students at our MMC and BBC locations; we addressed questions regarding Financial Aid, Registration, and Admissions. We were able to service 84% of the students who signed into our OneStop queue system. Due to the a-systematic increase in the number of our students selected for verification, we encountered slightly longer service time for each student served.

As part of our efforts to improve the student experience, One Stop has partnered with Student Financials. Student Financials is now included in the student line management queue. In addition to the information desk, we now use the multi-purpose room to provide a pleasant shared space for students. One Stop adjusted our hours to open 30 minutes earlier, to reflect Student Financials hours, in addition to our extended hours in the evening to assure that students were able to sign into the student line management queue to meet with a representative.



7. Customer Relationship Management (CRM) & Enrollment Communications

As of August 2018, the CRM office has completed integration between Salesforce and Marketing Cloud. Our office decided to manage this implementation in-house to save university funds. This is the beginning of communication automation to prospective students. We currently have complete automation with our applicant communication plans as well as prospect and inquiry communication plans. In addition to this, we have built segmentation to support major specific communications for students interested in the Steven J. Green School of International and Public Affairs (SIPA). This includes undergraduate, graduate I & II.

We are close to executing our first pilot for graduate 1 major specific communications with SIPA. We have developed content for the following majors: Global Affairs, Latin American & Caribbean Center (LACC), History, Religious Studies, International Studies, Political Sciences, Public Administration, Criminology and Criminal Justice, Spanish, Asian Studies, and African and African Diaspora Studies. A total of 123 communications have been written for this population specifically. However, we will launch our pilot with majors of strategic emphasis first and that includes: Asian Studies, LACC, Global Affairs, International Studies, and Spanish.

V. INFORMATION TECHNOLOGY REPORT

1. Technology Fee for the 2018/2019 Academic Year

The Technology Fee Council reviewed one-hundred and eighty-two proposals (182) from academic and administrative units. The final recommendations were submitted to the Vice President and CIO Robert Grillo and Executive Vice President and Provost Dr. Kenneth G. Furton for approval. Based on recommendations made by the Technology Fee Council, a total of fifty-three (53) proposals were approved. The proposals include 3D printing and virtual reality simulators for instructional learning and an Internet of Things (IoT) Teaching and Resource Lab for the newly established Bachelor of Science in Internet of Things. Also included is the continued expansion and improvements of the University's classroom and technologies across all our campuses, in addition to updates to technology equipment in our labs and libraries and enhancements to our wireless infrastructure.

2. Science DMZ

The Division of Information Technology has established the FIU Science Demilitarized Zone DMZ, a separate portion of the network specifically engineered for high-performance scientific applications rather than for general-purpose campus enterprise systems. Research is global in scope, requiring collaborations across institutions nationally and internationally. Resources for research, such as devices that either generate or consume data, computational clusters for data intensive computations or storage clusters to store data, are increasingly used by researchers at FIU. These resources, connected to the FIU campus network, are referred to as Research Cyberinfrastructure (or Research CI) – examples of this include our Wall of Wind (WOW), High- Performance Computing (HPC) Cluster, and the Magnetic Resonance Imaging (MRI) instrument. The FIU Science DMZ facilitates faculty and student research projects by supporting the data movement requirements of data intensive science without interfering with

the FIU network designed for business operations. This project was supported by the National Science Foundation (NSF) Award for Campus Cyberinfrastructure – Data, Networking and Innovation (CC*DNI) and the FIU Student Technology Fee.

3. Institutional Business Intelligence and Analytics Update

One of the largest challenges for administrators across units has been to be able to find as much information about a student without going to multiple systems, navigations, pages and links. The Division of Information Technology has implemented the Student 360 Dashboard as part of the FIU Business Intelligence and Analytics project. This dashboard provides users with a complete view of student information ranging from admissions to enrollment, financial aid to student financials. This view of student information can be integrated to any business intelligence analytics dashboard or report within the system to provide comprehensive coverage and usability.

VI. RESEARCH AND ECONOMIC DEVELOPMENT / UNIVERSITY GRADUATE SCHOOL

1. External Grant Awards' Performance

During the first quarter of fiscal year (FY) 2017-18, the value of awards received was \$53.63M, which represents a 22% increase when compared with the same period last FY 2016-17. The distribution of funds received by federal sources increased by \$8.1M (21%), private/ other sources by \$200K (7%), and state/local government by \$1.48M or 61%. Notable increases among colleges include the College of Business (177%), Steven J. Green School of International and Public Affairs (81%), Nicole Wertheim College of Nursing and Health Sciences (42%), and the College of Arts, Sciences and Education (69%). Overall, centers and institutes experienced a 24% decline in funds received when compared with the same period last year. Nonetheless, noteworthy increases include 707% (\$2.12M) for the Jack D. Gordon Institute of Public Policy and Citizenship, 180% (\$2.59M) for Center for Children and Families, 135% (\$303K) for LACC, 110% (\$154K) for the Metropolitan Center, 54% (\$152K) for the Institute of NeuroImmune Pharmacology, 47% (\$1.6M) for the Southeast Environmental Research Center, and 41% (\$520K) for the STEM Transformation Institute.

2. Innovation, Partnerships and Economic Development

StartUP FIU received two new grants totaling \$627,000 (\$377,000 from JP Morgan Chase for a procurement project and \$250,000 from Citi Foundation for a high school entrepreneurship program.) The procurement project targets to increase minority-owned company sales to Miami anchor institutions above the current 9 percent of total purchases. Anchors include educational institutions, hospitals and government agencies. The new Citi grant supports the development of a high school entrepreneurship program in Miami-Dade County Public Schools where low-income students will actually design and sell their products through e-commerce. This program prepares students for jobs and micro-entrepreneurship and visits to FIU should encourage some of these students to apply to FIU. Collectively, the Empower companies had revenue in the most recent quarter of over \$2.6 million and revenue of \$7.8 million since inception. The companies raised \$110,000 in new equity capital in the last quarter

and \$1.9 million since program inception. The Proof of Concept Studio completed two studios in the quarter. Twenty-seven teams in total completed the program, which included four student teams. All of the teams presented at their Pitch Day. The Miami-Dade County (MDC) IT Department chose StartUP FIU to facilitate their annual one day retreat in July. This event lead to a student project at MDC to do a data analytics project for the public housing department and another project is under discussion. These projects provide real experience in preparation for the Decision Lab that is under development by a University team lead by StartUP FIU. During the first quarter of FY 2018-2-19, FIU researchers disclosed 27 inventions, filed 11 patent applications and received 17 patents.

3. University Graduate School (UGS)

The final enrollment numbers for new students during Fall 2018 yielded 442 doctoral students, a 29.24% increase compared to last year, and 2,472 master's students, a 5.19% increase compared to last year. Notable increases include the College of Business (enrolled 39 doctoral compared to seven last fall) and the College of Engineering and Computing, which enrolled 87 doctoral students (compared to 46 last fall). The NSF Louis Stokes Alliances for Minority Participation (LSAMP) Bridge to the Doctorate awarded FIU \$1.07M to support 12 underrepresented graduate students in STEM fields. In partnership with the Center for Leadership, the Academy of Leaders now has a graduate student track with 44 students. The track engages students in interactive learning activities that include self-assessment, reflection, group problem solving, feedback, and goal setting. The first Alumni Colloquium was held on August 27, in which Dr. Bryan Dewsbury (MSc 2006, PhD 2014) spoke to 44 graduate students regarding transitioning from graduate student to faculty.

VII. STUDENT AFFAIRS REPORT

1. The Culturally Engaging Campus Environments (CECE) Model results

The Division of Student Affairs welcomed researchers from the Culturally Engaging Campus Environments (CECE) project on October 29 to provide an overview of the CECE survey model and conduct three distinct learning sessions surrounding FIU results from the 2017-2018 survey administration. Discussion focused on strategies that will support student engagement, foster inclusive and equitable classrooms, and learning environments.

During the 2017-2018 academic year, Student Affairs worked with the National Institute for Transformation and Equity (NITE) to conduct a school-wide assessment for its undergraduate students. The purpose of this assessment was to understand how FIU cultivates an inclusive, equitable, and supportive campus environment for its diverse students. Through analyzing the data collected from the CECE survey(s), this assessment produces insights regarding undergraduate students' perceptions and experiences with the campus environments at FIU. This report offers a summary of the key findings to inform institutional policies and practices that aim to enact FIU's mission towards "collaborative engagement with our local and global communities"

(Vision and Mission, 2018).

The CECE model is derived from three decades of published research in higher education, over 180 interviews conducted across several qualitative studies, and the findings of many quantitative analyses that examine the experiences and outcomes of diverse colleges students. It explains the ways in which campus environments shape the experiences and outcomes of diverse student populations in college.

The CECE four-year college survey measures four-year college students' perceptions of their campus environments. Specifically, the CECE four-year college survey measures the degree to which students perceive their campus environments to be characterized by the following: Cultural familiarity, Culturally relevant knowledge, Cultural community service, Meaningful cross-cultural engagement, Cultural validation, Collectivist orientations, Humanized educational experiences, Proactive philosophies and Holistic support.

2. Veteran and Military Affairs Collaboration

The Veteran and Military Affairs office in collaboration with FIU Office of Engagement, Student Veterans of America, and external partners hosted a special 9/11 edition of Office of Engagement's signature event, Tostada Tuesday, focusing on leadership, service, and community. The initiative seeks to spark new collaborations and partnerships with the community over a cafecito and tostada. Community partner, The Mission Continues- a nonprofit, non-partisan organization dedicated to bringing together veterans and innovative community organizations to create transformational change for communities in need all across the country, lead an impactful service project as part of the program. Over 100 hygiene kits were created for homeless veterans to be donated at an event later that week. Dr. Thompson, a full time humanitarian volunteer working in the largest disasters around the world for the past 25 year the keynote speaker. Dr. Thompson was a first responder during the September 11 attacks in New York City, she volunteered at ground zero for 9 months where 64 of her friends had died in the North Tower which changes the direct of her life towards full time service.

3. CCAMPIS Grant

The Children's Creative Learning Center was awarded a \$1.1 million dollar over 4-years Child Care Access Means Parents in School Program (CCAMPIS) grant from the Department of Education. The CCAMPIS Program is governed by the Higher Education Opportunity Act (Public Law 110-315) (HEOA) This program supports the participation of low-income parents in postsecondary education through the provision of campus-based childcare services. Funds are used to support or establish campus-based child care programs primarily serving the needs of low-income students enrolled in IHEs. Grants may be used for before- and after-school services. In addition, grants may be used to serve the child care needs of the community served by the institution.

This page intentionally left blank