During the eMerge Americas week, on June 14-15, the Miami-Florida Jean Monnet Center of Excellence organized six workshops on Health and Innovation: Nanotechnology for Medicine. On June 14th, in the morning, experts on "Nanotechnology for Medicine" met with the members of Miami-Dade community at large in the offices of Merrill Lynch, Bank of America in Miami Downtown. The workshop entitled "Health and Innovation: Nanotechnology for Medicine: The Latest research in NanoMedicine and its impacts on healthcare" included a discussion on the best research methods in the growing field of NanoMedicine and Nanotechnology, the impact of nanotechnology on medicine and its implications for the future in healthcare in Europe and in the United States. Furthermore, participants had the opportunity to discover the latest calls on "Nanotechnology" offered by the European Commission under the framework program for research and innovation, Horizon 2020.

Dr. Madhavan Nair, Distinguished Professor and Chair, Department of Immunology; Director, Institute of Neurommune Pharmacology; Associate Dean, Bio Medical Research; Associate VP, Nano-Medicine; College of Medicine, Florida International University, was the moderator of four distinguished experts (to view bios, click here):

- **Dr. Serge Braun**, Chief Scientific Officer, AFM-Telethon, Evry, France
- **Dr. Tarek R. Fadel**, Assistant Director, The Marble Center for Cancer Nanomedicine; The Koch Institute for Integrative Cancer Research; MIT, Cambridge, MA
- **Dr. Babak Kateb**, Founding Chairman of the Board of SBMT, President of Brain Mapping Foundation, Scientific Director of SBMT and Brain Mapping Foundation, Director of National Center for Nano-Bio-Electronics, Senior Editor of SBMT-NeuroMapping & Therapeutics, Chairman of Neuroscience -20/320 Summit Brain Mapping Initiative, Scientific Director and Chief Strategy Officer, California Neurosurgical Institute, CA
- **Viktoria Bodnarova**, Regional Representative, EURAXESS North America, Washington D.C.

Frank Di Rocco, Private Wealth Manager, Senior Portfolio Manager for Private Wealth and Trust, Senior Vice President, Investments, at Merrill Lynch Bank of America Corporation, and co-sponsor of the event, welcomed the audience. Christine I. Caly-Sanchez, Project Manager and Associate Director of the Miami-Florida Jean Monnet Center of excellence, FIU; and Dr. Markus Thiel, Director, Miami-Florida Jean Monnet Center of Excellence, and European Studies, FIU, thanked Mr. Di Rocco for hosting this event, the panel of experts, and sponsors.
Miami: Florida Jean Monnet Center of Excellence—FIU—Special Edition: Jean Monnet Project on Nanotechnology for Medicine

Jean Monnet Project Breakfast-Workshop: “Health and Innovation: Nanotechnology for Medicine The Latest research in NanoMedicine and its impacts on healthcare” - 06/14/17

From left to right: Viktoria Bednarova, Dr. Tarek Fadel, Dr. Serge Braun, Dr. Babak Kateb, and Dr. Madhavan Nair

After introducing each panelist, Madhavan Nair began the workshop by asking each of them to define what nanotechnology, and brain mapping were.

Dr. Babak Kateb started his presentation by introducing the Society for Brain Mapping and Therapeutics (SBMT). “This is a non-profit society created by President Obama’s BRAIN Initiative and organized for the purpose of encouraging basic and clinical scientists who are interested in areas of brain mapping, engineering, stem cell, nanotechnology, imaging and medical devices to improve the diagnosis, treatment and rehabilitation of patients afflicted with neurological disorders”, said Dr. Kateb; He also added “It is a multi-disciplinary collaboration with government agencies, patient advocacy, groups, educational institutes and private sectors as well as philanthropic organizations with a definition of nanotechnology and brain mapping”. He continued his presentation with the definition of nanotechnology and brain mapping; "Nanotechnology is the science and technology of precisely manipulating the structure of matter at the molecular level. The term nanotechnology embraces many different fields and specialties, including engineering, chemistry, electronics, and medicine, among others, but all are concerned with bringing existing technologies down to a very small scale, measured in nanometers,” said Dr. Kateb. "Brain mapping is a set of neuroscience techniques predicated on the mapping of quantities or properties onto spatial representations of the brain resulting in maps; Brain mapping is further defined as the study of the anatomy and function of the brain and spinal cord through the use of imaging (including intraoperative, microscopic, endoscopies and multi-modality imaging). Immunohistochemistry, Molecular and optogenetics, Stem cell and Cellular biology, Engineering (material, electrical and biomedical), Neurophysiology and Nanotechnology”; he also outlined what the difference between nanoneuroscience, nanoneurosurgery and nanobioelectronics was. After sharing his expertise on brain mapping, he concluded that: 1) the application of computer science in brain mapping and therapeutics, nanoneuroscience, nanoneurosurgery and nanobioelectronics will be revolutionizing the field of clinical neuroscience in the next decade through none/less invasive targeted therapies for the neurological disorder; 2) the advance therapeutics could ONLY be provided to the patients if

Babak Kateb, M.D. Founding Chairman of the Board of SBMT, President of Brain Mapping Foundation, Scientific Director of SBMT and Brain Mapping Foundation, Director of National Center for Nano-Bio-Electronics, Senior Editor of SBMT-NeuroMapping & Therapeutics, Chairman of Neuroscience-20G20 Summit Brain Mapping Initiative, Scientific Director and Chief Strategy Officer (CSO), California Neurosurgical Institute, CA, USA

Dr. Babak Kateb is a neuroscientist with more than 15 years of research experience. His research has been focused on introduction of advance diagnostics and therapeutics into clinical neuroscience in order to rapidly identify and introduce game changing technologies to treat neurological disorders such as brain cancer, Alzheimer’s disease, Parkinson’s disease, brain and spinal disorders. Dr. Babak established Society for Brain Mapping and Therapeutics (SBMT), and currently he is the founding chairman of the board of directors & CEO Society for Brain Mapping and Therapeutics (SBMT), President and Scientific Director of the Brain Mapping Foundation and Director of National Center for Nano-Bio-Electronics; the center is focused on integration of nanotechnology, cellular therapeutics/stem cell, medical device and imaging. He was Director of Research and Development at the Department of Neurosurgery at City of Hope Cancer Center. He was a Research Scientist at Department of Neurosurgery at Cedars Sinai Medical center for near a decade where he developed partnership between Cedars-Sinai and NASA and established clinical trials using NASA technologies. He is a recipient of NASA Tech Brief Award for his pioneering work on sniffing cancer cells using NASA’s electronic nose and the SBMT Pioneer in Medicine award. He is editor of the “Textbook of Nanoneuroscience and Nanoneurosurgery”, published by Taylor & Francis 2013 and the editor of the textbook “Neurophotonic and Brain Mapping,” which is due for a release for Dec. 2015. In 2015 he took over a new role at California Neurosurgical Institute (CNI) as Scientific Director and Director of Strategic Alliance; CNI provides neurological and neurosurgical care for 5 major hospitals (4 million residents) in LA. He has been deeply involved in global neuroscience legislation: he has chaired 3 congressional briefing on Brain Mapping and given a talk to the Canadian Parliament. His initiatives have impacted the health care delivery to the wounded soldiers in the US. He has been one of the key players in President Obama’s BRAIN initiative and co-author of the G20 World Brain Mapping and Therapeutics Initiative and African Brain Mapping Initiative. For more information on SBMT, click here.
EU Jean Monnet Project
Health and Innovation: Nanotechnology for Medicine—The Latest research in NanoMedicine and its impacts on healthcare” - 06/14/17

Dr. Serge Braun is currently Scientific Director of AFM-Telethon, the French Muscular dystrophy Association acting in innovative therapies of rare diseases, and President of Genosafe, a CRO company dedicated to QC of biotherapeutic products. He has 10 years of experience in the neuromuscular diseases field in the academic sector (Univ. Strasbourg France and USC Neuromuscular Center, Los Angeles) and 10 years in the biotechnology sector (Vice-President Research of Transgene SA, Gene therapy biotech company) where he developed his career in the field of gene therapy of genetic diseases and of immunotherapy of cancer.

He was co-founder of Neurofit, a contract research organization specialized in preclinical testings of both the central and the peripheral nervous system. He was Vice-President of Alsace BioValley, the tri-national initiative, non-profit making organization, for the development of a major biotech cluster in Europe.

For more information on AFM-Telethon, click here

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government, academia, industry and private partnership take an active role;
3) scientists must be involved in shaping brain policy and help standardize the neurotechnologies;
4) development of advance therapeutics and intelligent microscopy will be only possible through partnership and collaboration;
5) advocating for funding and creation of Global Alliance for NanoBioElectronics between EU-USA (Horizon 2020 nanomedicine).

Dr. Serge Braun proceeded to talk about “How patients can change the game in (gene based) nanotechnologies”. We were honored to have Dr. Braun share his expertise in innovative therapies of rare diseases in France; He pointed out that gene therapy is now reaching the level of maturity and more than 5 products have been approved in 188 companies. According to Forbes, companies that use viruses to replace disease genes have been booming. Finally, all these new biotherapeutic products are a path to a new industrial nanotechnology sector;

According to Allied Market Research report, the RNA therapeutics market is expected to reach $1.2 billion by 2020. 160 companies, and 65 academic institutes are developing RNA-based therapeutics.

Afterwards, Dr. Tarek Fadel talked about “Nanomedicine: enabling breakthrough diagnostics and therapeutics”

He pointed that nanomedicine lies at the convergence of modern biology and engineering. At the MIT Koch Institute for Integrative Cancer Research, 26 faculty members as well as 3 clinical investigators and their respective laboratories actively collaborate to develop breakthrough solutions not only in nanomedicine,
but also in the areas of metastasis, OMICS, immuno-oncology, and biomedicale devices. Dr. Fadel also spoke about the recent launch of the Marble Center for Cancer Nanomedicine within the Koch Institute. Dr. Sangeeta N. Bhatia, member of the Koch Institute and the John J. and Dorothy Wilson Professor of Health Sciences and Technology and Electrical Engineering and Computer Science, serves as the inaugural director for the center. The Marble Center focuses on grand challenges in cancer detection, treatment, and monitoring that can benefit from the emerging biology and physics of the nanoscale. These challenges include detecting cancer earlier than existing methods allow, harnessing the immune system to fight cancer even as it evolves, using therapeutic insights from cancer biology to design therapies for previously undruggable targets, combining existing drugs for synergic action, and creating tools for more accurate diagnosis and better surgical intervention. “We would like to grow the Marble Center to be a world-class community for cancer nanomedicine, provide an infrastructure that amplifies the impact of our research force, and advance promising nanotechnologies to the clinic”, said Dr. Fadel.

Finally, Viktoria Bodnarova, after a presentation on Horizon 2020, the EU Framework Program for Research and Innovation, brought up interesting information on the calls on Nanotechnology offered by the European Commission under the framework of Horizon 2020. She also pointed out that the newly signed EU-US arrangement offers new opportunities for STI cooperation. “On October 17, 2016, the European Commission and the US Government signed an agreement which facilitates cooperation between US organizations and Horizon 2020 participants. The aim of the arrangement is to enable US researchers to cooperate with Horizon 2020 projects outside the framework of the grant agreement, and to increase cooperation in research projects,” she said. For more information on the implanting arrangement, click here. For FAQ on EU-US implementing arrangement, click here.

The workshop was a success. More than 50 guests, from Miami-Dade County attended the workshop. The target audience consisted of Miami-Dade community members at large. For more information on the Marble Center for Cancer Nanomedicine, click here.
EU Jean Monnet Project
“Nanotechnology for NanoMedicine
The Best Practices and technologies” - 06/14/2017

From left to right, Valérie Trentesaux, Maria-Jesus de Gonzalo, Hon. Clément Leclerc, Dr. Serge Braun, Dr. Tarek Fadel, Dr. Madhavan Nair, Dr. Babak Kateb, Christine I. Caly-Sanchez, Dr. Andreas Larsson, Hon. Gloria Bellelli, Viktoria Bodnarova, and Tomas Abreu

Madhavan Nair, Ph.D.
Distinguished Professor and Chair, Dept. of Immunology
Director, Institute of Neuroimmune Pharmacology
Associate Dean Bio-Medical Research; Associate VP, Nano-Medicine; College of Medicine, FIU

Dr. Madhavan Nair received his PhD from Tata Memorial Cancer Center, Bombay University, India in Cancer Immunology and trained at Memorial Sloan Kettering Cancer Center, New York City. He then joined the faculty of the Department of Pediatrics at University of Michigan, Ann Arbor and subsequently worked at the Department of Medicine and Microbiology at SUNY, Buffalo, NY as a Tenured Professor and Director of Research in Allergy and Immunology. He is a certified Clinical Nutrition Specialist (CNS), Fellow of American College of Nutrition (FACN) and Fellow of American Academy of Allergy, Asthma and Immunology (FAAAI).

Dr. Nair and his colleagues discovered the suppressor factor in cancer serum (1978) and first reported that intravenous drug users manifest low natural killer cell activity (1986) and morphine induces apoptosis of normal lymphocytes (1997). In 1988, Dr. Nair reported for the first time (PNAS) that HIV recombinant purified gene products possess significant biological activities. His original discovery that cocaine increases the sensitivity to HIV infection by increasing the HIV co-receptors and methamphetamine exacerbates the HIV replication in dendritic cells had a profound effect on the role of these drugs on HIV disease progression. His recent research mainly involves the role of different drugs of abuses such as alcohol, morphine, cocaine and methamphetamine on neuro-AIDS and therapeutic approach to control Neuro-AIDS by specific drug targeting to brain using nanotechnology.

Dr. Nair is the first FIU researcher to earn a prestigious MERIT Award from the National Institutes of Health recognizing outstanding competence and productivity in research (2008-2018). Nair is also the recipient of University of Michigan Distinguished Research Scientist Award (1990), Exceptional Research Scholar Award from State University of New York (2005), Excellence in Faculty Scholarship Award from FIU (2008) and Presidential Leadership Award from FIU in 2009.

Dr. Nair has published more than 100 papers as first and/or senior author, mentored more than 50 undergraduate, graduate, postdoctoral fellows, high school and minority students, served in various committees, organized various national and international conferences, chaired number of scientific sessions and served in various NIH study sections committees as chair/member since 1980.

His research is currently supported with four major NIH grants. https://medicine.fiu.edu/about/faculty-and-staff/people/nairm.html

health and medical company CEOs, European Consuls General and Deputy Consuls General (France, Germany, Italy, & Netherlands), Miami Dade County Economic Development and International Trade officials, executive directors of European chambers of commerce (France), Miami City Hall representatives, and even a Science and Technology of the Republic of Belarus delegation. The Miami-Florida Jean Monnet Center of Excellence would like to sincerely thank our co-sponsor Merrill Lynch, especially Mr. Frank Di Rocco, and Mr. Roberto Alvarez for allowing us to use the Merrill Lynch facilities. We would also sincerely thank the Office for Science and Technology at the French Embassy in Washington D.C., and especially Valérie Trentesaux, for helping us to bring distinguished Dr. Serge Braun.

In addition, the same day, the Miami-Florida Jean Monnet Center of Excellence organized a luncheon-workshop on “Nanotechnology for Medicine: Initiatives and Perspectives: a comparison between Europe and the United States” held at the Coral Gables Country Club, where distinguished guests from Miami-Dade County government officials, European consuls general, and doctors gathered. We were honored to have the presence of Gloria Bellelli, Consul General of Italy; Clément Leclerc, Consul General of France; Valérie Trentesaux, Attachée for Science and Technology, Embassy of France in Washington D.C.; and Andreas Lanners, Counselor for Science, Technology and Innovation at the Swedish Embassy in Washington D.C.

Christine I. Caly-Sanchez, Associate Director, Project Manager, Miami-Florida Jean Monnet Center of Excellence, FIU, and organizer of the two-day project, welcomed and thanked the audience, consuls general, doctors, and panelists for sharing their expertise. She was very pleased to have such an outstanding panel of experts.
In the afternoon of June 14th, 2017, thanks to the collaboration with the University of Miami Miller School of Medicine, Dr. John T. Macdonald Foundation Biomedical Nanotechnology, and the Miami Scientific Italian Community, the Miami-Florida Jean Monnet Center of Excellence organized a workshop on Nanotechnology for Medicine at the UM Silvester Comprehensive Cancer Center, where European and American doctors and scientists shared their best practices, and the latest technologies and opportunities in Nanomedicine. After a very constructive and fruitful discussion between UM experts and our three European and American panelists—Drs. Babak Kateb, Serge Braun, and Tarek Fadel—Viktoria Bodnarova, EURAXESS North America Regional Representative, made a well-received presentation on EURAXESS North America, the EU-US funding opportunities and latest call through Horizon 2020, in particular Marie Sklodowska-Curie Actions & European Research Council Grants Horizon 2020. The audience, composed of UM faculty, students, and Miami-Dade community at large were impressed to receive all this useful information.
The Miami-Florida Jean Monnet Center of Excellence would like to sincerely thank the University of Miami Miller School of Medicine, Dr. John T. Macdonald Foundation Biomedical Nanotechnology, and especially Drs. Alice Tomei and Francesco Raymo for their leadership; Dr. Cote for allowing us to use UM Sylvester Comprehensive Cancer Center facilities; Drs. Agarwal Ashutosh, Spana Deo, Sung Jin Tim, for their presentations; and Ms. Melissa Dietrick, for making this third event a success. A particular thanks to Dr. Antonello Pileggi, and Mr. Fabio de Furia, Miami Scientific Italian Community, for their kind help.

► To view pictures, click here

The multiple workshops on June 14th ended with a networking event at the Consul’s General of France residence where panelists, European consuls general, Miami-Dade Government representatives, faculty and doctors gathered and recognized the importance of such program. Among the 50 guests, we were honored to have the presence of Gloria Bellelli, Consul General of Italy; Clément Leclerc, Consul General of France; Valérie Trentesaux, Attachée for Science and Technology, Embassy of France; Nathalie Olijslager, Consul General of the Kingdom of Netherlands; Cándido Creis Estrada, Consul General of Spain; Tomas Abreu, Honorary Consul of the Principality of Monaco in Miami; Dr. Babak Kateb, Miami Cancer Institute - Baptist Health South Florida; Dr. Mark Rosenberg, President, Florida International University, and Pamela Fuertes-Berti, Vice President, International Economic Development Program, The Beacon Council, Miami-Dade County’s Official Economic Development Partnership; Hon. Clément Leclerc, Consul General of France, recognized and thanked the Miami-Florida Jean Monnet Center of Excellence for having organized such a successful program on “Innovation and Research in Nanotechnology for Medicine”, and congratulated Christine I. Caly-Sanchez.

The Miami-Florida Jean Monnet Center of Excellence would like to sincerely thank Hon. Clément Leclerc for allowing the MFJMCE to organize its networking event at the Consul General’s of France residence and all the sponsors: the French American Chamber of Commerce Florida, and the Southern Glazer’s.

By Christine, I. Caly-Sanchez
EU Jean Monnet Project—Networking Event
“Health and Innovation: Nanotechnology for Medicine”

Hon. Clément Leclerc, Consul General of France

Dr. Markus Thiel and Christine I. Caly-Sanchez

Viktoria Bodnarova, Dr. Kalai Mathee, and President Mark Rosenberg

Dr. Minesh Metha and Dr. Jeffrey Boyd

► For more information on the two-day program, click here
► For bios panelists, click here
► For pictures, click on the following links:
  ● Breakfast pictures, click here
  ● Lunch pictures, click here
  ● Afternoon Workshop pictures, click here
  ● Networking Reception, click here
► To view the panelists’ PowerPoint Presentations, click on the following links:
  ● Dr. Serge Braun
  ● Dr. Tarek Fadel
  ● Viktoria Bodnarova
► To view luncheon-workshop video, click here
On June 15th, the Miami-Florida Jean Monnet Center of Excellence, in collaboration with the Miami Cancer Institute, and FIU Wertheim College of Medicine, organized a top-ranked European and American doctors, researchers, and scientists meeting at the Miami Cancer Institute - Baptist Health South Florida to discuss the best practices and latest technologies and opportunities for the future in nanomedicine in Cancer in Europe and in the United States.

The delegation, composed of Drs. Serge Braun, Tarek Fadel, Babak Kateb, Ms. Viktoria Bodnarova, Dr. Christine I. Caly-Sanchez, Dr. Michael Ziffer, Dr. Sergei Braun, Dr. Tarek Fadel, Dr. Yazmin Odia, Dr. Minesh Mehta, were privileged to visit the Institute and discover the best and latest technologies available in cancer research and treatment in Miami.

After a fruitful discussion on future collaboration between European and American doctors and the Miami-Cancer Institute doctors, Viktoria Bodnarova conducted a practical workshop on EU-US research collaboration and funding opportunities in Horizon 2020 and especially in the field of health and cancer research. It was a great honor and privilege to collaborate with the Miami Cancer Institute and FIU Wertheim College of Medicine.

The Miami-Florida Jean Monnet Center of Excellence would like to sincerely thank the Miami Cancer Institute founder Dr. Michael Ziffer and Dr. Minesh Mehta, Deputy Director and Chief of Radiation Oncology, for their leadership and allowing us to use the Miami-Cancer Institute facilities for the meeting. We also want to thank all the Miami Cancer Institute doctors for their kindness and willingness to answer all our questions in cancer research.

A particular thanks to Dr. Sergio Gonzalez-Arias, who helped us from the beginning of this program and without whose help said program would have never taken place. Thanks also to Melissa Lovermi, executive assistant, Miami Cancer Institute; and Laura Almaguer, Assistant, Office of Clinical Affairs, Dept. of Neuroscience, and Office of Continuing Medical Education, FIU Herbert Wertheim College of Medicine; who kindly helped us during all the preparations of this event.

The Miami-Florida Jean Monnet Center of Excellence is proud to have contributed to future collaborations in health cancer research.

To view pictures, click here

By Christine. I. Caly-Sanchez
Following the EU Jean Monnet Project on Nanotechnology for Medicine on June 14 & 15, MFJMCE organized a “Practical Workshop on Horizon 2020 and EU Funding possibilities for US Researchers and Faculty”. The session — with over 45 participants — took place at Florida International University Computing & Information Science School on Thursday, June 15, 2017, from 12:00 p.m. to 1:00 pm. The participants in the workshop hailed from FIU different departments, including the Office of Faculty & Global Affairs, the Office of Research and Economic Development, the School of Computing & Information Sciences, the Environment Department, and the School of Medicine. This diverse group participated in a lively and active discussion over the course of one hour;

Dr. Iyengar, Ryder Professor of Computer Science and Director of FIU School of Computing and Information Sciences, welcomed the audience and speaker. Christine I. Caly-Sanchez, Associate Director/Project Manager MFJMCE, and organizer of the event, thanked the audience for participating in the workshop and introduced the speaker Viktoria Bodnarova, Regional Representative, EURAXESS North America.

The first segment of the workshop began with a working roundtable with FIU faculty and the representative from Horizon 2020. The discussion was about future possibilities of scientific projects between FIU and European partners through Horizon 2020. Horizon 2020, itself, attempts to couple research to innovation, with a particular focus on societal challenges facing the EU, such as health; demographic change and wellbeing; secure, clean and efficient energy; climate action; and smart, green and integrated transport.

The three priority areas for Horizon 2020 are Excellent Science, Industrial Leadership, and Societal Challenges, the latter having the greatest portion of budget allocation with 38.53% of the budget. US researchers are eligible for this funding, so long as they are able to partner up with at least three different legal entities from three different European countries. Conditions and rules do apply and the eligibility for funding depends on the country. After applying for funding, projects will be evaluated based on excellence, impact, and implementation.

By showing the success of US participants in previous EU funding initiatives, such as FP7, Viktoria Bodnarova showed researchers that funding from the EU was accessible and possible, particularly in areas of health, ICT, food, agriculture, biotechnology, and energy. So far, the US has had a 15.2% success rate when it comes to applicants in granted proposals for H2020, with a total of 17.6 million euros in EU contribution.

Viktoria Bodnarova presented also the objectives and goals of EURAXESS, which focus less on collaborative projects, and more on individuals, mobility and fellowship. She informed the audience about the job vacancies and funding opportunities available in 40 European countries.

She also pointed out that the newly signed EU-US arrangement offers new opportunities for STI cooperation. For more information, click here.

A lively discussion between the presenters and faculty members continued after the presentation.

By Christine. I. Caly-Sanchez

For more information on the workshop, click here
To view Horizon 2020 PPT presentation, click here
For more information on Horizon 2020, click here
To view pictures, click here
For more information on the EU-US implementing arrangement, click here
After the presentation on Horizon 2020, the scientific delegation, experts in Nanotechnology for Medicine—Drs. Serge Braun, Tarek Fadel, Babak Kateb— and Valérie Trentesaux from the French Embassy in Washington D.C. visited FIU Herbert Wertheim College of Medicine, where they met with College of Medicine faculty members.