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Registration – Welcome Breakfast

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- 7:30 – 8:00 AM      **Karla S. Munoz, M.B.A., M.S.**  
*Master of Ceremony*
- 8:00 – 8:05 AM      **Andrés G. Gil, Ph.D.**  
*Vice President for Research and Economic Development  
Dean of University Graduate School  
Florida International University*
- 8:05 – 8:10 AM      **John A. Rock, M.D., M.H.C.M.**  
*Founding Dean and Professor  
Senior Vice President for Health Affairs  
Herbert Wertheim College of Medicine  
Florida International University*
- 8:10 – 8:15 AM      **Robert Sackstein, M.D., Ph.D.**  
*Harvard Medical School  
Dean Designated  
Senior Vice President for Health Affairs  
Herbert Wertheim College of Medicine  
Florida International University*
- 8:15 – 8:20 AM      **Madhavan Nair, Ph.D.**  
*Founding President  
Society for Personalized Nano-Medicine (SPNM)*

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Keynote Speaker

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- 8:20 – 9:00 AM      **“Laser ART”**  
**Howard E. Gendelman, M.D.**  
*Chair  
Department of Pharmacology & Experimental Neuroscience  
University of Nebraska Medical Center*
- Introduced by **Carolyn D. Runowicz, M.D.**  
*Professor of Obstetrics and Gynecology  
Executive Associate Dean of Academic Affairs  
Herbert Wertheim College of Medicine  
Florida International University*

**Symposium I** **Design and Development of Nanoparticles for Personalized Nano-Medicine**

**Chair: Abraham Bautista, Ph.D.**

*Director*

*Office of Extramural Activities*

*National Institute on Alcohol Abuse and Alcoholism (NIAAA)*

*National Institutes of Health (NIH)*

**Chair: John L. Volakis, Ph.D.**

*Dean and Professor*

*College of Engineering and Computing*

*Florida International University*

9:00 – 9:20 AM

**“Nanotechnology in Cancer - Current Challenges and Future Opportunities.”**

**S1: Piotr Grodzinski, Ph.D.**

*Branch Chief—Nanodelivery Systems and Devices*

*NCI/NIH*

9:20 – 9:40 AM

**“Regenerative Nano-Medicine Based on Rare-Earth Nanoparticles”**

**S2: Sudipta Seal, Ph.D.**

*Trustee Chair*

*Chair, Materials Science and Engineering*

*Pegasus and University Distinguished Professor*

*University of Central Florida*

9:40 – 10:00 AM

**“Use of Nanoparticles and Exosomes for Therapeutics and Delivery into Infected Cells”**

**S3: Fatah Kashanchi, Ph.D.**

*Professor and Director*

*Laboratory of Molecular Virology*

*George Mason University*

10:00 – 10:20 AM

**“RNA Nanomedicine for Restoring Tumor Growth Suppression.”**

**S4: Jinjun Shi, Ph.D.**

*Associate Professor*

*Harvard Medical School*

*Center for Nanomedicine*

*Brigham and Women’s Hospital*

10:20 – 10:40 AM

**SNACK/COFFEE BREAK**

**Symposium II** **Personalized Nano-Medicine for Cancer and CNS Degenerative Diseases**

**Chair: Piotr Grodzinski, Ph.D.**

*Branch Chief—Nanodelivery Systems and Devices  
NCI/NIH*

**Chair: Norma Sue Kenyon, Ph.D.**

*Vice Provost for Innovation  
Chief Innovation Officer  
Miller School of Medicine  
University of Miami*

10:40 – 11:15 AM ***“Affinity Chemistry-Based Nanotechnology for Proteomics and Personalized Therapy”***

**Plenary Speaker: Lance Liotta, M.D., Ph.D.**

*Professor  
Co-Director and Co-Founder  
Center for Applied Proteomics and Molecular Medicine  
Medical Director  
College of Science  
George Mason University*

Introduced by **Fatah Kashanchi, Ph.D.**

*Professor  
Laboratory of Molecular Virology  
George Mason University*

11:15 – 11:35 AM ***“Refinement of Cyclic Tetrapeptide Mixed Opioid Agonist/ Antagonists as Safer Analgesics and Treatments for Opioid Addiction”***

**S2: Jay P. McLaughlin, Ph. D.**

*Department of Pharmacodynamics  
College of Pharmacy  
University of Florida*

11:35 – 11:55 AM ***“Detection of Colorectal Cancer in the Era of Precision Medicine”***

**S3: Wellington Pham, Ph.D.**

*Associate Professor of Radiology and Radiological Sciences  
Associate Professor of Biomedical Engineering  
Vanderbilt University School of Medicine*

11:55 – 12:15 PM ***“Activation of GPR55 induces Neuroprotection of Hippocampal Neurogenesis and Immune Responses of Neural Stem Cells following Chronic, Systemic Inflammation”***

**S4: Yuri Persidsky, M.D., Ph.D.**  
*Professor and Chairman  
Department of Pathology and Laboratory Medicine  
Temple University Lewis Katz School of Medicine*

12:15 – 1:30 PM **LUNCH BREAK**

1:30 – 2:30 PM **Poster Session**

**Symposium III Personalized Nano-Medicine Approach for Opioid Addiction/Substance Abuse**

**Chair: Rao S. Rapaka, Ph.D.**  
*Branch Chief  
Chemistry and Pharmacology Branch  
NIDA/NIH*

**Chair: Marcus Kaul, Ph.D.**  
*Associate Professor  
Division of Biomedical Sciences  
School of Medicine  
University of California, Riverside*

2:30 – 2:45 PM ***“Current Events Talk: Opioid Epidemic: NIDA’s Perspective”***


**S1: Rao S. Rapaka, Ph.D.**  
*Branch Chief  
Chemistry and Pharmacology Branch  
NIDA/NIH*

2:45 – 3:05 PM ***“MRGPR-based Analgesics - 1”***

**S2: Corey Hopkins, Ph.D.**  
*Associate Professor  
Department of Pharmaceutical Sciences  
College of Pharmacy  
University of Nebraska Medical Center*

3:05 – 3:25 PM ***“Fibroblast Growth Factor 21 as a Possible Treatment for Opioid Use Disorder”***

**S3: Jean M. Bidlack, Ph.D.**  
*Professor and Associate Chair*



*Department of Pharmacology and Physiology  
University of Rochester School of Medicine and Dentistry*

3:25 – 3:45 PM

**“Nasal Drug Delivery”**

**S4: Predrag Cudic, Ph.D.**

*Professor*

*Department of Chemistry and Biochemistry  
Charles E. Schmidt College of Science  
Florida Atlantic University*

3:45 – 4:05 PM

**“The Current Status of Consciousness Science and its Relevance to Nano-Medicine”**

**S5: Subhash Kak, Ph.D.**

*Regents Professor*

*School of Electrical and Computer Engineering  
Oklahoma State University*

4:05 – 4:25 PM

**“Development of Safer Opioid Analgesics for Chronic Treatment”**

**S6: Laura Bohn, Ph.D.**

*Professor*

*Department of Molecular Medicine  
Department of Neuroscience  
The Scripps Research Institute  
Florida Atlantic University Brain Institute*

4:25 – 4:40 PM

**BREAK**


**Symposium IV Gut-Brain Axis: Role of Micro-Biome in Personalized Nano-Medicine**

**Chair: Sabita Roy, Ph.D.**

*Professor Department of Surgery  
Associate Vice Chair for Career Development and Mentoring  
University of Miami*

**Chair: Babak Kateb, M.D.**

*Founding Chairman of the Board of Directors  
CEO and Scientific Director  
Society for Brain Mapping and Therapeutics (SBMT)*



4:40 – 5:00 PM

***“Role of Gut Micro-Biome in Opioid Associated Comorbidities”***

**S1: Sabita Roy, Ph.D.**

*Professor*

*Department of Surgery*

*Associate Vice Chair for Career Development and Mentoring*

*University of Miami*

5:00 – 5:20 PM

***“Role of Microbial Dysbiosis in HIV Drug Pharmacokinetics”***

**S2: Nichole Klatt, Ph.D.**

*Vice Chair of Research*

*Adrienne Arsht Endowed Chair in Pediatric Clinical Research*

*Associate Professor*

*University of Miami*

5:20 – 5:40 PM

***“Microbial Dysbiosis in Ulcerative Colitis: Role of Acetylcholinesterase Inhibitor”***

**S3: Mohan Sopori, Ph.D.**

*Director*

*Immunology Program*

*Lovelace Respiratory Research Institute*

5:40 – 6:00 PM

***“Role of Gut Microbiome in Cancer Immunotherapy”***

**S4: Vikas Dudeja, M.D.**

*Assistant Professor of Surgery*

*Divisions of Surgical Oncology and Basic and Translational Research*

*University of Miami Miller School of Medicine*

6:15 – 8:00 PM

**BANQUET DINNER at Graham Center Room #243**

Banquet Introduction: ***“Engineering Changes in Healthcare: Bringing Transformative Impact to Nano-Medicine”***

**Larry Nagahara, Ph.D.**

*Associate Dean for Research*

*Whiting School of Engineering*

*Johns Hopkins University*



8:00 – 8:25 AM

**BREAKFAST**

8:25 – 8:30 AM

**Marisela Agudelo, Ph.D.**

*Assistant Professor*

*Department of Immunology and Nano-Medicine*

*FIU Herbert Wertheim College of Medicine*

*Master of Ceremony*

**Symposium V**

**Application of CRISPR Technology in Nano-Medicine**

**Chair: Jeymohan Joseph, Ph.D.**

*Chief, HIV Neuropathogenesis, Genetics and Therapeutics Branch*

*Division of AIDS Research*

*National Institute of Mental Health*

**Chair: Lidia Kos, Ph.D.**

*Associate Dean, University Graduate School*

*Associate Vice President, Office of Research and Economic Development*

*Professor, Biological Sciences*

*Florida International University*

8:30 – 8:55 AM

**“Toward HIV/AIDS Cure”**

**Plenary Speaker: Kamel Khalili, Ph.D.**

*Laura H. Carnell Professor and Chair*

*Department of Neuroscience*

*Director, Center for Neurovirology and Comprehensive NeuroAIDS*

*Co-Director, Center for Translational AIDS Research*

*Temple University Lewis Katz School of Medicine*

8:55 – 9:15 AM

**“Mobilizing NK Cells for a Personalized HIV Cure: NK Cells Can Target and Kill Latently HIV-1-Infected Primary T Cells Following Proviral Reactivation.”**

**S2: Jonathan Karn, Ph.D.**

*Reinberger Professor of Molecular Biology*

*Chair*

*Department of Molecular Biology and Microbiology*

*Director*

*Case Center for AIDS Research*

*Case Western Reserve University*

9:15 – 9:35 AM

***“Personalized and Broad-spectrum gRNAs for Targeting HIV Quasispecies using CRISPR/Cas9 Therapeutics”***

**S3: Brian Wigdahl, Ph.D.**

*Professor and Chair*

*Department of Microbiology and Immunology*

*Director*

*Institute for Molecular Medicine and Infectious Disease*

*Drexel University College of Medicine*

9:35 – 9:55 AM

***“Personalized Organoid Development”***

**S4: Kaiming Ye, Ph.D.**

*Professor and Chair*

*Department of Biomedical Engineering*

*Director*

*Center for Biomanufacturing for Regenerative Medicine*

*Binghamton University, State University of New York*

9:55 – 10:15 AM

***“Gene Editing Strategies in the HIV-1 Tg Rat and Functional Outcomes.”***

**S5: Rosemarie Booze, Ph.D.**

*Professor and Bicentennial Endowed Chair in Behavioral Neuroscience*

*Department of Psychology*

*University of South Carolina*

10:15 – 10:35 AM

***“Safety Considerations for Engineered Nanomaterials: Case Studies for Poly (amido amine) Dendrimers and Silica Nanoparticles”***

**S6: Hamid Ghandehari, Ph.D.**

*USTAR Professor*

*Department of Pharmaceuticals & Pharmaceutical Chemistry*

*Department of Bioengineering*

*Co-Founder and Co-Director*

*Nano Institute of Utah*

*Director*

*Utah Center for Nanomedicine*

*The University of Utah*

10:35 – 10:55 AM

**BREAK**



## Symposium VI

### Nanomedicine for Emerging Infections

**Chair: Kendall J. Bryant, Ph.D.**  
*Director, HIV/AIDS Research  
NIAAA—NIH*

**Chair: François J. Villinger, DVM, Ph.D.**  
*Director  
New Iberia Research Center  
University of Louisiana at Lafayette*

11:00 – 11:20 AM ***“Nano-Medicine for Treating Infectious Diseases that are Prominent in Third World Countries”***

**S1: Jessica L. Reynolds, Ph.D.**  
*Research Associate Professor  
Department of Medicine  
Jacobs School of Medicine and Biomedical Sciences  
University at Buffalo, The State University of New York*

11:20 – 11:40 AM ***“Host-Virus Interaction in Zika Infection”***

**S2: Siddappa Byrareddy, Ph.D.**  
*Associate Professor  
Department of Pharmacology & Experimental Neuroscience  
College of Medicine  
University of Nebraska Medical Center*

11:40 – 12:00 PM ***“Magnetic Nanoparticles-based Ablation of Cancer Cells in vitro and in vivo”***

**S3: Raveendran Pottathil, Ph.D.**  
*CEO  
AccuDux, Inc.  
Visiting Professor  
Department of Immunology and Nano-Medicine  
Herbert Wertheim College of Medicine  
Florida International University*

12:00 – 12:20 PM ***“Identifying Antiviral Therapies for the Treatment of Arboviral Infections”***

**S4: Ashley N. Brown, Ph.D.**  
*Assistant Professor  
Institute for Therapeutic Innovation*

*Department of Medicine  
University of Florida College of Medicine*

12:20 - 1:20 PM

**LUNCH**

**Symposium VII** **Personalized Nano-Medicine in HIV and Drugs of Abuse**

**Chair: Anthony J. McGoron, Ph.D.**

*Professor and Associate Dean  
Department of Biomedical Engineering  
College of Engineering and Computing  
Florida International University*

**Chair: Sanjay Maggirwar, M.B.A., Ph.D.**

*Professor  
Microbiology and Immunology  
School of Medicine and Dentistry  
University of Rochester Medical Center*

1:20 – 1:40 PM

***“The Dopamine Transporter: An Unrecognized Nexus for Dysfunctional Peripheral Immunity”***

**S1: Habibeh Khoshbouei, Pharm.D., Ph.D.**

*Associate Professor  
Department of Neuroscience  
Center for Addiction Research and Education  
University of Florida College of Medicine*

1:40 – 2:00 PM

***“Involvement of IRF7 in Modulation of the Immune-related Genes by the Addictive Substances”***

**S2: Sulie L. Chang, Ph.D.**


*Professor  
Department of Biological Sciences  
Director  
Institute of NeuroImmune Pharmacology  
Seton Hall University*

2:00 – 2:20 PM

***“Organelar Consequences of Nanoparticles Endocytosis”***

**S3: Jonathan D. Geiger, Ph.D.**

*Chester Fritz Distinguished Professor  
Department of Basic Biomedical Sciences  
School of Medicine and Health Sciences*



*University of North Dakota*

2:20 – 2:40 PM

**"Polymeric Nano-formulations for Delivery of Drugs and Neuroprotectants"**

**S4: Nagesh Kolishetti, Ph.D.**

*Assistant Professor*

*Department of Immunology and Nano-Medicine*

*Herbert Wertheim College of Medicine*

*Florida International University*

## **Symposium VIII**

### **Early Career Investigators in Nanomedicine**

**Chair: Shilpa Buch, Ph.D.**

*Professor and Vice Chair for Research*

*Department of Pharmacology and Experimental Neuroscience*

*Director, Nebraska Center for Substance Abuse Research*

*University of Nebraska Medical Center*

**Chair: Nazira El-Hage, Ph.D.**

*Associate Professor*

*Department of Immunology and Nano-Medicine*

*Herbert Wertheim College of Medicine*

*Florida International University*

2:40 – 2:55 PM

**"Eradication of HIV-1 Infection using MENPs-bound Therapy in the Context of Opioids in a Murine Model of HIV"**

**S1: Umakant Sharma, Ph.D.**

*Associate Scientist*

*Department of Surgery*

*University of Miami*

2:55 – 3:10 PM

**"Multifunctional Nanotherapeutics for the Treatment of NeuroAIDS in Drug Abusers"**

**S2: Rahul Dev Jayant, Ph.D.**

*Assistant Professor*

*Department of Pharmaceutical Sciences*

*School of Pharmacy*

*Texas Tech University Health Sciences Center*



3:10 – 3:25 PM

***“Engineering of Nanodrugs as Therapeutic Agents for the Treatment of Biomedical Conditions”***

**S3: Suzana Hamdan, Ph.D.**

*Analytical Chemist/Materials Scientist  
Postdoctoral Associate  
Daunert Research Group  
Department of Biochemistry & Molecular Biology  
University of Miami Miller School of Medicine*

3:25 – 3:40 PM

***“Nano-formulations Targeting Latent Reservoirs in the Brain for the HIV-1 Treatment”***

**S4: Purnima Gupta, Ph.D.**

*Postdoctoral Research Associate  
Department of Immunology and Nano-Medicine  
Herbert Wertheim College of Medicine  
Florida International University*

3:40 – 3:55 PM

***“Nano-based Antiretroviral Drug Therapy for Targeting HIV-infected Macrophages and Microglia in the Central Nervous System”***

**S5: Yuqing Gong, M.S.**

*Graduate Student  
Pharmaceutical Sciences  
University of Tennessee Health Science Center*

3:55 – 4:10 PM

***“Molecular Dynamics of Amyloid- $\beta$  Protein Binding with the Potential Neuroprotectant, Withaferin A”***

**S6: Sneham Tiwari, M.S.**

*Graduate Student  
Department of Immunology and Nano-Medicine  
Herbert Wertheim College of Medicine  
Florida International University*



4:10 – 4:25 PM

Q & A Section

4:25 – 4:45 PM

Award Ceremony

4:45 – 4:50 PM

Closing Remarks