Registration – Welcome Breakfast

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)

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
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


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
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 Pharmaceutics & 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
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 NeuImmune Pharmacology  
Seton Hall University

2:00 – 2:20 PM  
**“Organellar 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
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-β 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