

NanoFlorida 2024 International Conference

April 19-21, 2024

FAMU Auditorium & Turnbull Conference Center

Friday, April 19

5:30 – 5:45

Registration

1st Floor, College of Pharmacy and Pharmaceutical Sciences, FAMU

5:45 – 7:15

Welcome Reception (Session 1)

2nd Floor, College of Pharmacy and Pharmaceutical Sciences, FAMU

Opening Remarks:

Dean of College of Pharmacy, Johnnie Early, FL A&M Univ

Conf Co Chair, Mandip Sachdeva, FL A&M Univ

Two Decades Nanotechnology Revolution: A fire-side chat on 'UniLabs to Products'

Moderator: Shyam Mohapatra, Univ of South Florida

Panelists:

Nasser Nassiri Koopaei Univ of Florida, Gainesville;

Brian McMillan Bravado Pharma, Tampa Florida;

Jeff Whalen FL State Univ, Tallahassee

Saturday, April 20th

8:00 – 9:00

Registration and Poster Setup

Atrium

9:00 – 10:45

Conference Inauguration (Session 2) (Room 208)

Moderators: Steven Lenhert

Dignitaries Welcome: (Dr Lenhert, Dr Mohapatra, Dr Sachdeva)

Charles Weatherford – FAMU VP for research

9:00 – 9:15

Michael Shatruk - Florida State Univ

Bill Proctor - Leon County Commissioner

(Photo Session)

Keynote:

9:15 – 9:45

Adam Braunschweig: City Univ of New York - "Hypersurface Photolithography: A new approach to creating multidimensional hypersurfaces"

9:45 – 9:55

Break

Parallel Sessions

3: Nanomedicine (Room 208)

9:55 – 11:10

4: Nanophysics/Quantum Engineering (Room 205)

5: Nanophysics/Quantum Engineering (Room 201)

Session 3: Nanomedicine (Room 208)

Moderators: Ramesh Kenchappa

9:55 – 10:20

Subhra Mohapatra: Univ of South FL- "A nanomedicine approach to treating Long COVID: What's in the horizon"

10:20 - 10:30

Coffee Break

10:30 - 10:55	Andrea Raymond: <i>FL International Univ-</i> “ <i>Magnetolectric exosomal-EV latency targeting(MELT) Nanotherapeutic for the eradication of HIV by the Block-Lock-and-Kill strategy</i> ”
10:55 - 11:08	Jorge David Tovar Castro <i>Univ of Miami-</i> “ <i>Novel Nanodrug Platform for Pharmacologically Inducing Therapeutic Hypothermia (TH) After Traumatic Brain Injury (TBI)</i> ”
Session 4: Nanophysics/Quantum Engineering (Room 205)	
<i>Moderators: Marc Knecht</i>	
9:55 – 10:20	Guangxin Ni: <i>FL State Univ-</i> “ <i>3 Area -Scanning Nano-Optical Imaging of Quantum Materials</i> ” /
10:20 - 10:32	Mohammad Irfan <i>FL State Univ-</i> “ <i>Robust Topological Surface States in YbB12 A Comparative Study with SmB6 using planar tunneling spectroscopy</i> ”
10:32 - 10:42	Coffee Break
10:42 - 10:56	Omair Faqah <i>FL Atlantic Univ-</i> “ <i>Rapid Testing Platform for HIV Detection</i> ”
Session 5: Nanobiotechnology / Nanophysics (Room 201)	
<i>Moderators: Jack Judy</i>	
9:55 – 10:20	Laura Greene: <i>FL State Univ-</i> “ <i>Novel Electron Pairing in the Unconventional Superconductor CeCoIn5</i> ”
10:20 - 10:32	Jaideep Katuri <i>FL State Univ-</i> “ <i>Control of cohesive states in colloidal chiral fluids through phoretic interactions</i> ”
10:32 - 10:42	Coffee Break
10:42 - 10:56	Arthur Rech Tondin <i>Univ of Miami-</i> “ <i>Enhanced Immunomodulation in Allogeneic Transplantation: Harnessing Mesenchymal Stem Cells with a NanoFibril Rapamycin System for Targeted Inflammat...</i> ”
10:56 - 11:08	Dr. Navneet Kaur <i>FL State Univ-</i> “ <i>Comparative Analysis of Microparticle Uptake Role of Particle Anisotropy in 2D and 3D Cell Culture</i> ”
TWO DECADES OF NANOTECHNOLOGY REVOLUTION (Room 208)	
<i>Moderators: Steven Lenhart</i>	
11:10 – 11:35	Sylvia Daunert: <i>Univ of Miami -</i> “ <i>Nanomedicine, successes, challenges & the frontier</i> ”
11:35 – 12:00	Ratnesh Lal: <i>UC San Diego -</i> “ <i>Atomic Force Microscope & Nano-Imaging Tools</i> ”
12:00 – 12:25	Shyam Mohapatra: <i>Univ of South FL -</i> “ <i>Nanotechnology and AI intersection: a new frontier</i> ”
12:25 – 1:30 Lunch (Atrium)	
FAN Steering Committee Meeting (Room 201)	
1:30 -1:45 Photo session	
1:50 - 2:20 Keynote Session (Room 208) <i>Moderators: Shyam Mohapatra</i>	
Keynote 1:50 - 2:20	Jason White Conn Gvt (zoom) “ <i>Nanobiotechnology-based Strategies for Enhanced Crop Stress Resilience</i> ”
Parallel Sessions	
2:20 - 3:05	6: Simulation / AI in Nano (Room 208) 7: Nanoagriculture / Nanomaterials (Room 205) 8: Nanochemistry / Devices for Biosensing (Room 201)
Parallel Session 6: Simulation / AI in Nano (Room 208)	

<i>Moderators: Sapna Deo</i>	
2:20 - 2:45	Prem Chapagain: <i>FL International Univ- From structure prediction to nanomolecular design: the rapidly evolving landscape of molecular modeling and simulations”</i>
2:45 - 2:57	Belal Jahannia <i>Univ of FL- “Binarized neural networks”</i>
2:57 - 3:09	Coffee Break
3:09 - 3:21	Jiachi Ye <i>Univ of FL- “Demultiplexing structured beams using hybrid optical-electronic neural network”</i>
3:21 - 3:33	Sophie Jermyn <i>FL State Univ- “Dynamics of Rigid Achiral Magnetic Microswimmers in Shear-Thinning Fluids”</i>
Parallel Session 7: Nanoagriculture / Nanomaterials (Room 205)	
<i>Moderators: Satya Prakash</i>	
2:20 - 2:45	Swadesh Santra <i>Univ of Central FL- “Nanotechnology for crop protection”</i>
2:45 - 2:57	Melissa Deinys <i>Univ of Central FL- “Nanoformulation-based Intervention for Mitigating Pestalotiopsis spp. in Mangrove Die-off A Sustainable Approach for Ecosystem Conservation”</i>
2:57 - 3:09	Coffee Break
3:09 - 3:21	Md Zakariya Mohayman <i>Univ of Central FL- “Exploring the Impact of Lithium Concentration on the Mechanical Properties of Li6PS5Cl Solid Electrolytes for All-Solid-State Lithium Batt”</i>
3:21 - 3:33	Utkarsh Misra <i>Univ of South FL- “Reduced Graphene Oxide A New Contender for Thermal Management in RF IC Packaging”</i>
Parallel Session 8: Nanochemistry / Devices for Biosensing (Room 201)	
<i>Moderators: Subhra Mohapatra</i>	
2:20 - 2:45	Ajeet Kaushik <i>FL Polytechnic Univ- “Smart sensor for health and environmental management”</i>
2:45 - 2:57	Sawyer Chang <i>Univ of Central FL- “Pragmatic synthesis of loaded tea-derived polymer-polyphenol particles”</i>
2:57 - 3:09	Coffee Break
3:09 - 3:21	Yusuf Muhammed <i>FL State Univ- “Drug-induced Cell Death and its Heterogeneity in Single Lung Adenocarcinoma Cells Observed using Scanning Ion Conductance Microscopy”</i>
3:21 - 3:33	Ana Ramirez <i>FL State Univ- “Functionalization of Nanopipettes with Aptamers for Biosensing of Biomolecules”</i>
3:40 - 6:30	Poster Sessions 1 and 2 (Hallway)
3:40 - 5:05	<i>Poster Session 1</i>
5:05 - 6:30	<i>Poster Session 2</i>
*5.00-6:30	Refreshments (Hallway)

Sunday, April 21

Keynote: Elias Sayour *Univ of FL- (zoom)* “Unlocking cancer immunotherapy with RNA-nanoparticle vaccines”
9:00 – 9:30

9:30 – 10:20 **University – Industry Education Collaboration** (Room 208)

Moderators: Ratnesh Lal

9:30 – 9:55 **Shyam Mohapatra** (*FAN- Summer Internship*)

9:55 – 10:20 **Ramesh Kenchappa** (*Lonza*)

Parallel Sessions

10:25 – 11:50
9: Nanomedicine (Room 208)
10: Nanobiotechnology & Cancer Therapeutics (205)
11: Nanoenergy/Nanomaterials/Nanobiotechnology (Room 201)

Parallel Session 9: Nanomedicine

 (Room 208)

Moderators: Ajeet Kaushik

10:25 - 10:50 **Nasser Koopaei**: *Univ of FL- “Novel exosomes for targeted delivery of therapeutic cargos”*

10:50 - 11:02 Anatasian Estephan *Univ of South FL- “Potential of CBD and Nano-CBD as adjunct therapy for Epilepsy”*

11:02 - 11:14 Break

11:14 - 11:26 Mounika Aare *FL A&M Univ - “CBD camel milk-derived exosome formulation with enhanced bioavailability for the treatment of Breast cancer”*

11:26 - 11:38 Aakash Nathani *FL A&M Univ - “Combined role of interleukin-15 stimulated natural killer cell-derived extracellular vesicles and carboplatin in Osimertinib resistant H1975 lung cancer with...”*

11:38 - 11:50 Stephanie Herrera *Univ of FL- “Supramolecular peptide-protein granule system for intracellular co-delivery of proteins”*

Parallel Session 10: Nanobiotechnology & Cancer Therapeutics

 (Room 205)

Moderators: Steven Lenhart

10:25 - 10:50 **Satya Prakash** *McGill Univ - “Nano siRNA formulation as Head and Neck Cancer and Lung Cancer Therapeutics”*

10:50 - 11:02 Torus Washington *UC San Diego- “Bowl-Ing for Cancer Drug Delivery Success Striking Down Lung Cancer with Silica Nanobowls”*

11:02 - 11:14 Break

11:14 - 11:26 Sophia Claymore *Univ of South FL- “Utilization of Bixen-loaded Nanoparticles to Ameliorate E-Cig-mediated Dysregulation of Airway iNOS Pathway”*

11:26 - 11:38 Yating Mao *FL State Univ- “Microrheological Characterization of Pseudomonas aeruginosa and Staphylococcus aureus Biofilms”*

11:38 - 11:50 Qi Wang *FL State Univ- “Fabrication and Propulsion of Erythrocyte-Based Micromotors in Low Reynolds Number Fluids”*

Parallel Session 11: Nanoenergy / Nanomaterials / Nanobiotechnology

 (Room 201)

Moderators: Arti Vashist

10:25 - 10:50 **Nikki Tjahjono** “Engineering a novel chemigenetic fluorescent biosensor for multiplexed glutamate imaging”

10:50 - 11:02 Ryan Green *Univ of South FL- “Potential for Cannabidiol to Improve Lung Cancer Patient Treatment, Rehabilitation, and Quality of Life”*

11:02 - 11:14 Break

11:14 - 11:26	Supun Attanayake <i>Univ of South FL- "Size-Tunable Magnetite Superparticles for Magnetic Hyperthermia Therapy"</i>
11:26 - 11:38	Ahmed Hegazy <i>Univ of Central FL- "Wafer-scale development, characterization, and high temperature stabilization of epitaxial Cr₂O₃ films grown on Ru(0001)"</i>
11:38 - 11:50	Samaiyah Mason <i>FL A&M Univ- "The Development of BNNTTi₂C₃ Silicon Carbide Composite Nanomaterials with Enhanced Thermal and Electronic Properties"</i>
12:00 – 1:30	Poster Prizes and Closing Remarks (Room 208) <i>Moderators: Mandip Sachdeva</i>