

**9th Mayo Clinic Symposium on Tumor Microenvironment
and Immuno-Oncology Crosstalk:**
From Translational Research to Precision Therapy: Integration of Novel Technologies

December 9th -11th, 2022
Omni Amelia Island Resort, Florida
All Times in Eastern Time (ET)

Date	Event	Location
Friday, December 9, 2022	Registration Desk	Amelia Foyer
	General Session	Amelia Ballroom 3-4
	Exhibit and Coffee Break	Amelia Foyer
	Breakfast and Lunch	Amelia Ballroom 1-2
	Virtual Abstract Hall	Zoom*
	Welcome Reception	Amelia Foyer
Saturday, December 10, 2022	Registration Desk	Amelia Foyer
	General Session	Amelia Ballroom 3-4
	Exhibit and Coffee Break	Amelia Foyer
	Breakfast and Lunch	Amelia Ballroom 1-2
	Virtual Abstract Hall	Zoom*
	Reception	Amelia Foyer
	Dinner	Amelia Ballroom 3-4
Sunday, December 11, 2022	Registration Desk	Amelia Foyer
	General Session	Amelia Ballroom 3-4
	Exhibit and Coffee Break	Amelia Foyer
	Breakfast	Amelia Ballroom 1-2

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Friday, December 9, 2022

- 7:00 a.m. Breakfast and Registration**
- 8:00 a.m. Section I: Welcome and Introduction**
Tushar Patel, M.D., Mayo Clinic Jacksonville
Asher Chanan-Khan, M.D., Mayo Clinic Jacksonville
Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Jacksonville
- 8:20 a.m. Section II: Tumor Microenvironment crosstalk and cancer stemness**
Chair: Hugo Guerrero Cazares, M.D., PhD., Mayo Clinic Jacksonville
- 8:30 a.m. Glioblastoma microenvironment and stem cells
Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Jacksonville
- 8:50 a.m. Discussion
- 8:55 a.m. The critical role of m6A RNA methylation in cancer cell-brain microenvironment interaction and brain metastasis
Suyun Huang, Ph.D., Virginia Commonwealth University
- 9:15 a.m. Discussion
- 9:20 a.m. Ex vivo vulnerabilities of human gliomas
Panagiotis Z. Anastasiadis, Ph.D., Mayo Clinic Jacksonville
- 9:40 a.m. Discussion
- 9:45 a.m. Targeting the Development of Resistance to Stem-Cell Active Drugs in Glioblastoma
Steven Rosenfeld, M.D., Ph.D., Mayo Clinic Jacksonville
- 10:05 a.m. Discussion
- 10:10 a.m. Coffee Break**
- 10:40 a.m. Section III: Microenvironment and diseases**
Chair: Aneel Paulus, M.D., Mayo Clinic Jacksonville
- 10:50 a.m. Empowering normal cells against cancer
Vivek Rangnekar, Ph.D., University of Kentucky
- 11:10 a.m. Discussion
- 11:15 a.m. Pancreatic cancer tumor microenvironment
Peter Storz, Ph.D., Mayo Clinic Jacksonville
- 11:35 a.m. Discussion
- 11:40 a.m. The good, the bad and the yet to be known about monoclonal anti-CD38 therapy in Multiple Myeloma
Fabio Malavasi, M.D., University of Torino, Medical School & Fondazione Ricerca Molinette, Torino, Italy
- 11:55 a.m. Discussion
- 12:00 p.m. Lunch**
- 1:00 p.m. Section IV: Molecular basis of human diseases**
Chair: Krishnendu Pal, PhD., Mayo Clinic Jacksonville

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- 1:10 p.m. Forkhead (Fox) Transcription Factors in Vascular Formation
Tsutomu Kume, Ph.D., Northwestern University
- 1:30 p.m. Discussion
- 1:35 p.m. Regulation of the PHD/HIF axis in normoxia
Resham Bhattacharya, Ph.D., University of Oklahoma
- 1:55 p.m. Discussion
- 2:00 p.m. Ultrasmall silica nanoparticles improve anti-tumor pro-inflammatory and cytotoxic responses in immune suppressive microenvironments
Michelle S. Bradbury, M.D., Ph.D., Memorial Sloan Kettering Institute
- 2:20 p.m. Discussion
- 2:25 p.m. A new mechanism used by human resilient T cells to avoid exhaustion and retain tumoricidal activity in response to immunotherapy
Dong, Haidong, M.D., Ph.D. Mayo Clinic Rochester
- 2:45 p.m. Discussion
- 2:50 p.m. Coffee Break**
- 3:20 p.m. Section V: Microenvironment and Cell Signaling**
Chair: Sujit Basu, M.D., Ph.D., Ohio State University,
- 3:30 p.m. The revolution of immunotherapy in Smoldering Myeloma and Multiple Myeloma
Claudio Cerchione, M.D., Ph.D., Istituto Romagnolo per lo Studio dei Tumori "Dino Amadori" - IRST IRCCS
- 3:50 p.m. Discussion
- 3:55 p.m. Cilia as a biomarker of vascular health
Ramani Ramchandran, Ph.D., Medical College of Wisconsin
- 4:15 p.m. Discussion
- 4:20 p.m. The evolving role of epigenetics in renal cell carcinoma
Thai Ho, M.D., Ph.D., Mayo Clinic Arizona
- 4:40 p.m. Discussion
- 4:45 p.m. Special Investigator Talk from Abstract**
RAB27B Drives a Cancer Stem Cell Phenotype in NSCLC Cells Through Enhanced Extracellular Vesicle Secretion
Verline Justilien, Ph.D., Mayo Clinic Jacksonville
- 5:00 p.m. Section VI: Martin and Winifred Ehlers Lectureship**
(Named-Professor Lecture)
Chair: Jennifer J. Westendorf, Ph.D., Mayo Clinic Rochester
- 5:05 p.m. Leveraging the Natural Cellular and Biomolecular Interactions in Blood for the Design of Targeted, Anti-Inflammatory Particle Therapeutics
Omolola Eniola-Adefeso, Ph.D., University of Michigan
- 5:35 p.m. Discussion
- 5:45 p.m. Section VII: Virtual Poster Session and Networking**
- 6:15 pm Dinner** (Supported by Ehlers Lectureship Honoring Dr. Eniola-Adefeso)
and Health Disparities in Cancer Research and Care – Gaps and Opportunities
Chair: Dr. Jennifer J. Westendorf, Ph.D. Chair of Biochemistry & Molecular Biology
Discussants: Dr. Lewis R. Roberts, M.B., Ch.B., Ph.D., Professor of Medicine MCCCC

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- 7:00 a.m. Breakfast and Registration**
- 8:00 a.m. Section IX: Joseph Austin McCartney and Ruth McCartney Hauck Named Visiting Professorship Lecture**
Chair: Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Jacksonville
- 8:10 a.m. von Hippel-Lindau Disease: Insights into Oxygen Sensing, Protein Degradation, and Cancer
William G. Kaelin, Jr., M.D., Harvard Medical School and the Dana-Farber Cancer Institute
- 8:45 a.m. Discussion
- 8:55 a.m. Section X: Microenvironment and growth factors**
Chair: Radisky, Derek C., Ph.D., Mayo Clinic Jacksonville
- 9:15 a.m. SDC1 inhibitors as a strategy to target therapeutic resistance cancer
John “Al” Copland, Ph.D. Mayo Clinic Jacksonville
- 9:35 a.m. Discussion
- 9:40 a.m. Aberrant PTEN Signaling Causes Cholangitis and Cholangiocarcinoma
Baoran Ji, M.D., Ph.D., Mayo Clinic Jacksonville
- 10:00 a.m. Discussion
- 10:05 a.m. Coffee Break**
- 10:35 a.m. Short Talks from Abstract**
Immunotherapy in Peritoneal Mesothelioma
Smith, Caleb J., M.D., Mayo Clinic Rochester
- 10:45 a.m. Special Investigator Talks from Abstract**
Transcriptional control of exercise fitness by estrogen-related receptors
Danesh H. Sopariwala, Ph.D., UTHealth McGovern Medical School Institute of Molecular Medicine
- 11:00 a.m. Section XI: Vascular-Immune biology and cell signaling**
Chair: Ying Wang, M.D., PhD. Mayo Clinic Rochester
- 11:10 a.m. Liver disease and its microenvironment
Vijay Shah, M.D., Mayo Clinic Rochester
- 11:30 a.m. Discussion
- 11:35 a.m. Discovery of small peptide-based checkpoint inhibitors for cancer immunotherapy
Kun Cheng, Ph.D., University of Missouri - Kansas City
- 11:55 a.m. Discussion
- 12:00 p.m. Special Young Investigator Talk from Abstracts**
Therapeutic extracellular vesicle-based targeting of NK cell activation in hepatocellular Cancer
Piyushkumar R. Gondaliya, Ph.D., Mayo Clinic Jacksonville
- 12:15 p.m. Lunch**

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- 1:15 p.m.** **Section XII: Mini-Symposium – Nanotechnology and System Biology**
Chairs: Priyabrata Mukherjee, Ph.D., and Santanu Bhattacharya, Ph.D.
- 1:25 p.m. Harnessing nano properties to improve cancer immunotherapy
Andrew Wang, M.D., UT Southwestern Medical Center
- 1:45 p.m. Discussion
- 1:50 p.m. Biomimetic Microbubbles- A Novel Delivery Platform for Immunotherapy and Imaging
Ramasamy Paulmurgan, Ph.D., Stanford University
- 2:10 p.m. Discussion
- 2:15 p.m. Nanoparticles encapsulated with drugs to reduce stenosis formation in hemodialysis
vascular access
Sanjay Misra, M.D., Mayo Clinic Rochester
- 2:35 p.m. Discussion
- 2:40 p.m. **Name and Title TBA**
- 3:00 p.m. Discussion
- 3:05 p.m.** **Coffee Break**
- 3:35 p.m. Continuous low-dose cancer chemotherapy with oral nanoparticle-paclitaxel
Ravikumar Majeti, Ph.D., The University of Alabama in Tuscaloosa
- 3:55 p.m. Discussion
- 4:00 p.m. Probing cellular processes with engineered nanoparticles.
Priyabrata Mukherjee, Ph.D., University of Oklahoma
- 4:20 p.m. Discussion
- 4:25 p.m.** **Special Young Investigator Talk**
Dynamic Alterations of Linear Nanomechanical Attributes in Pancreatic cancer cell
membrane During Receptor Mediated
Endocytosis of Targeted Gold Nanoparticles
Santanu Bhattacharya, Ph.D., Mayo Clinic Jacksonville
- 4:40 p.m.** **Short Talk from Abstracts**
A new mouse model to study pancreatic pathophysiology
Nicolas Means, University of Oklahoma - Health Sciences Center
- 4:50 p.m.** **Short Talk from Abstracts**
Impact of Heterogenous Microenvironment Niches in Glioblastoma's Therapeutic
Vulnerability
Diogo Moniz-Garcia, M.D., Mayo Clinic Jacksonville
- 5:00 p.m.** **Section XIII: Virtual Poster Session and Reception and Dinner**
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Sunday, December 11, 2022

- 7:00 a.m.** **Continental Breakfast and Registration**
- 8:00 a.m.** **Section XV: Developing precision therapy targeting microenvironment- immune
pathways from preclinical to clinical steps**
Chair: Roxana S. Dronca, M.D Mayo Clinic Jacksonville
- 8:10 a.m. Synthetically Lethal Combination of Radiation Therapy and Other Therapies

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- 8:30 a.m. Sunil Krishnan, M.D., Ph.D., UT Health Science Center, Houston, TX
Discussion
- 8:35 a.m. Precision therapy: Immunity and tumor targeting
Lewis R. Roberts, M.B., Ch.B., Ph.D. Mayo Clinic Rochester
- 8:55 a.m. Discussion
- 9:00 a.m. NAD metabolism in aging and disease
Eduardo N. Chini, M.D., Ph.D. Mayo Clinic Jacksonville
- 9:20 a.m. Discussion
- 9:25 a.m. Protein Kinase Ci Mediates Immune Suppression in Lung Adenocarcinoma
Alan Fields, Ph.D., Mayo Clinic Jacksonville
- 9:45 a.m. Discussion
- 9:50 a.m. Immune Therapy Clinical Trials and outcomes
Keith L. Knutson, Ph.D., Mayo Clinic Jacksonville
- 10:10 a.m. Discussion
- 10:15 a.m. Coffee Break**
- 10:40 a.m. Section XVI: Selected Talks from Abstracts**
Chairs: Leslie T. Cooper, M.D., Mayo Clinic Jacksonville
- 10:45 a.m. Short Talk from Abstracts**
Understanding the mechanism for Rab11 inactivation by the Gyp2 Protein
Brianna Pendergrass, Edward Waters University
- 10:55 a.m. Short Talk from Abstracts**
Exploring Osteopontin (Opn) isoforms as a potential biomarker for glioblastoma
multiforme susceptibility to radiation and chemotherapy treatment via FDA-approved
pitavastatin
Ellie D. Gabriel, MS, Mayo Clinic Jacksonville
- 11:05 a.m. Section XVII: Folkman Lectureship Forum**
Chair: Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Jacksonville
- 11:10 a.m. Endothelial – Tumor cell interactions during metastasis
Luisa Iruela-Arispe, Ph.D., Northwestern University
- 11:35 a.m. Discussion
- 11:40 a.m. Cancer Cells Don't Live Alone!: Exploring Tumor Neighborhoods
M. Celeste Simon, Ph.D., University of Pennsylvania Perelman School of Medicine
- 12:05 p.m. Discussion
- 12:15 p.m. Overview of the symposium
Asher Chanan-Khan, M.D. and Dev Mukhopadhyay, Ph.D., Mayo Clinic Jacksonville
- 12:25 p.m. Vote of Thanks
Dev Mukhopadhyay, Ph.D., Mayo Clinic Jacksonville
- 12:30 p.m. Adjourned**