

**10th Mayo Clinic Symposium on Tumor  
Microenvironment and Immuno-Oncology Crosstalk:  
From Novel Therapeutics to transformative practice**

**Ponte Vedra Inn and Club  
Ponte Vedra Beach, Florida**

**December 5-7, 2024**

*All Presentations Eastern Time*

**Thursday, December 5, 2024**

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| 7:00 a.m.  | Breakfast, Registration and Exhibits  |
| 8:00 a.m.  | Section I: Mini-Symposium – Nanotechnology and System Biology<br>Chairs: Priyabrata Mukherjee, Ph.D., Stephenson Cancer Center                                    |
| 8:10 a.m.  | Harnessing nano properties to improve cancer immunotherapy.<br>Andrew Wang, M.D., UT Southwestern Medical Center  |
| 8:30 a.m.  | Discussion  |
| 8:35 a.m.  | Biomimetic Microbubbles- A Novel Delivery Platform for Immunotherapy<br>and Imaging<br>Ramasamy Paulmurugan, Ph.D., Stanford University                           |
| 8:55 a.m.  | Discussion  |
| 9:00 a.m.  | Nanoparticles encapsulated with drugs to reduce stenosis formation in<br>hemodialysis vascular access<br>Gaurav Sahay, Ph.D., Oregon State University             |
| 9:20 a.m.  | Discussion  |
| 9:25 a.m.  | Cellular Nanoparticles for Drug and Gene Delivery<br>Liangfang Zhang, Ph.D., UC San Diego   |
| 9:45 a.m.  | Discussion  |
| 9:50 a.m.  | Title TBA<br>Priyabrata Mukherjee, Ph.D., Stephenson Cancer Center, Oklahoma  |
| 10:10 a.m. | Discussion  |
| 10:15 a.m. | Coffee Break and Exhibits   |
| 10:45 a.m. | Continuous low-dose cancer chemotherapy with oral nanoparticle-<br>paclitaxel<br>Dipanjan Pan, Ph.D., Pennsylvania State University                               |
| 11:05 a.m. | Discussion  |
| 11:10 a.m. | Tissue- and Cell-responsive biomaterials for cancer immunotherapy<br>Natalie Artzi, Ph.D., Massachusetts Institute of Technology                                  |
| 11:30 a.m. | Discussion  |
| 11:35 a.m. | Precision cancer prevention: from etiology to preventive therapy<br>Zigang Dong, M.D., Ph.D., China-US(Henan) Hormel Cancer Institute,<br>University of Zhengzhou |
| 11:55 a.m. | Discussion  |

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| 12:05 p.m. | Lunch  |
| 1:15 p.m.  | Section II: Welcome and Introduction<br>Cheryl L. Willman, M.D., Mayo Clinic Comprehensive Cancer Center<br>Asher Chanan-Khan, MD. Mayo Clinic Jacksonville<br>Vijay Shah, M.D., Mayo Clinic Florida   |
| 1:30 p.m.  | Section III: Vascular-Immune biology and cell signaling.<br>Chair: Justilien Verline, Ph.D., Mayo Clinic Jacksonville  |
| 1:35 p.m.  | Pancreatic cancer tumor microenvironment<br>M. N. V. Ravi Kumar, Ph.D., University of Alabama  |
| 1:55 p.m.  | Discussion   |
| 2:00 p.m.  | Pancreatic Cancer and novel therapy<br>Keping Xie, M.D. Ph.D., South China University of Technology School of Medicine   |
| 2:20 p.m.  | Discussion   |
| 2:25 p.m.  | Contributions of the microenvironment to tumor cell invasion (Young Investigator Talk)<br>Gina Razidlo, Ph.D., Mayo Clinic Rochester   |
| 2:40 p.m.  | Discussion   |
| 2:45 p.m.  | Young Investigator Travel Award Talks from Abstracts (not accredited)  |
| 3:15 p.m.  | Coffee Break and Exhibits  |
| 3:45 p.m.  | Section IV: Microenvironment and Immune Evasion<br>Chair: Vivek Rangnekar, Ph.D., University of Kentucky   |
| 3:50 p.m.  | Title TBA<br>Candace Johnson, Ph.D., Roswell Park Cancer Institute   |
| 4:10 p.m.  | Discussion   |
| 4:15 p.m.  | Tumor Microenvironment and cellular tracing<br>Nagarajan Kannan, Ph.D., Mayo Clinic Rochester  |
| 4:35p.m.   | Discussion   |
| 4:40 p.m.  | Liver disease and its microenvironment<br>Vijay Shah, M.D., Mayo Clinic Rochester  |
| 5:10 p.m.  | Discussion   |
| 5:15 p.m.  | The good, the bad and the yet to be known about monoclonal anti-CD38 therapy in Multiple Myeloma<br>Fabio Malavasi, M.D., University of Torino Medical School, Torino, Italy   |
| 5:35 p.m.  | Discussion   |
| 5:40 p.m.  | Section V: Martin and Winifred Ehlers Lectureship (Named-Professor Lecture)<br>Chair: Jennifer J. Westendorf, Ph.D., Mayo Clinic Rochester   |
| 5:45 p.m.  | Regenerative Biomaterials and Medical Devices for Restoring Tissue and Organ Function<br>Guillermo A. Ameer, Sc.D., Daniel Hale Williams Professor of Biomedical Engineering, McCormick School of Engineering, Professor of Surgery, Feinberg School of Medicine |
| 6:10p.m.   | Discussion   |

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| 6:15 p.m.                       | Section VI: Virtual Poster Session and Networking   |
| 7:00 p.m.                       | Dinner (supported by the Martin and Winifred Ehlers fund for Molecular Research)<br>Health Disparities in Cancer Research and Care – Gaps and Opportunities<br>Chair:<br>Cheryl L. Willman, M.D., Mayo Clinic Comprehensive Cancer Center<br>Jennifer J. Westendorf, Ph.D., Mayo Clinic Rochester<br>Panelists:<br>Kim M. Barbel Johnson, D.O., M.P.H., Mayo Clinic Florida<br>Folakemi T. Odedina, Ph.D., Mayo Clinic Florida<br>Candace Johnson, Ph.D., Roswell Park Cancer Institute |
| 9:00 p.m.                       | ADJOURN – End of Day 1  |
| <b>Friday, December 6, 2024</b> |   |
| 7:00 a.m.                       | Breakfast, Registration and Exhibits  |
| 8:00 a.m.                       | Section VII: Molecular basis of human diseases<br>Chair: Krishnendu Pal, Ph.D., Mayo Clinic Florida   |
| 8:10 a.m.                       | Forkhead (Fox) Transcription Factors in Vascular Formation<br>Tsutomu Kume, Ph.D., Northwestern University  |
| 8:30 a.m.                       | Discussion  |
| 8:35 a.m.                       | Regulation of the PHD/HIF axis in normoxia<br>Resham Bhattacharya, Ph.D., University of Oklahoma  |
| 8:55 a.m.                       | Discussion  |
| 9:00 a.m.                       | Ultrasml silica nanoparticles improve anti-tumor pro-inflammatory and cytotoxic responses in immune suppressive microenvironments.<br>Michelle S. Bradbury, M.D., Ph.D., Weill Cornell Medical College  |
| 9:20 a.m.                       | Discussion  |
| 9:25 a.m.                       | Pancreatic Cancer and pancreatitis<br>Baoan Ji, Ph.D., Mayo Clinic Florida  |
| 9:45 a.m.                       | Discussion  |
| 9:50 a.m.                       | The interplay between LMO1-overexpressing neuroblastoma cells and macrophages contributes to tumor metastasis (Young Investigator Talk)<br>Jane Zhu, Ph.D., Mayo Clinic Rochester   |
| 10:05 a.m.                      | Discussion  |
| 10:10 a.m.                      | Coffee Break and Exhibits   |
| 10:35 a.m.                      | Section VIII: Microenvironment and Cell Signaling<br>Chair: Sujit Basu, M.D., Ph.D., Ohio State University  |
| 10:40 a.m.                      | Metabolism and Cancer<br>Edward Chini, M.D., Ph.D., Mayo Clinic Florida   |
| 11:00 a.m.                      | Discussion  |
| 11:05 a.m.                      | Endothelial Cilia: Unexpected Roles in Vascular Biology<br>Ramani Ramchandran, Ph.D., Medical College of Wisconsin  |
| 11:25 a.m.                      | Discussion  |

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| 11:30 a.m. | Microenvironment Dynamic role in Cancer role<br>Hellmut Augustin, DVM, Ph.D., Heidelberg University   |
| 11:50 a.m. | Discussion  |
| 11:55 a.m. | Short Talk from Abstract (not accredited)   |
| 12:00 p.m. | Lunch   |
| 1:00 p.m.  | Section IX: Special Keynote Lecture<br>James C. and Sarah K. Kennedy Dean of Research Professorship<br>Chair: Asher Chanan-Khan, MD. Mayo Clinic Jacksonville |
| 1:05 p.m.  | Title TBA<br>Arul M. Chinnaiyan, M.D., Ph.D., University of Michigan  |
| 1:30 p.m.  | Discussion  |
| 1:35 p.m.  | Section X: Microenvironment and Cell Therapy<br>Chair: Hirendra Banerjee, M.D., Ph.D., Elizabeth City State University, NC                                    |
| 1:40 p.m.  | Role of stem cells in vascular injury<br>Sanjay Misra, M.D., Mayo Clinic Rochester  |
| 2:00 p.m.  | Discussion  |
| 2:05 p.m.  | Endometriosis and Endometrial Cancer: Immune infiltrating cells<br>Khashayarsha Khazaie, Ph.D., D.Sc., Mayo Clinic Arizona                                    |
| 2:25 p.m.  | Discussion  |
| 2:30 p.m.  | TNBC and immune therapy (Young Clinical Investigator Talk)<br>Pooja Advani, M.D., Mayo Clinic Florida   |
| 2:45 p.m.  | Discussion  |
| 2:50 p.m.  | Coffee Break and Exhibits   |
| 3:20 p.m.  | Section X: GBM Microenvironment and novel therapeutics<br>Chair: Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Florida   |
| 3:30 p.m.  | Engineering in precision medicine<br>Ali Khademhosseini, Ph.D., Terasaki Institute  |
| 3:50 p.m.  | Discussion  |
| 3:55 p.m.  | RNA modifications in GBM: Molecular Signaling and Therapeutic Implications<br>Suyun Huang, M.D., Ph.D., Virginia Commonwealth University                      |
| 4:15 p.m.  | Discussion  |
| 4:20 p.m.  | Functional genomics identify vulnerabilities in high copy number endometrial cancer.<br>Panagiotis Z. Anastasiadis, Ph.D., Mayo Clinic Florida                |
| 4:35 p.m.  | Discussion  |
| 4:40 p.m.  | Targeting the Development of Resistance to Stem-Cell Active Drugs in Glioblastoma<br>Steven Rosenfeld, M.D., Ph.D., Mayo Clinic Florida                       |
| 5:00 p.m.  | Discussion  |
| 5:00 p.m.  | Section XI: Virtual Poster Session and Reception and Dinner with Cultural Program   |
|            | ADJOURN – End of Day 2  |

## Saturday, December 7, 2024

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| 7:00 a.m.  | Continental Breakfast, Registration and Exhibits  |
| 8:00 a.m.  | Section XII: Developing precision therapy targeting microenvironment-immune pathways from preclinical to clinical steps.<br>Chair: Name TBA<br>Name TBA   |
| 8:10 a.m.  | TTFields and pancreatic cancer<br>Hani M. Babiker, M.D., Mayo Clinic Florida  |
| 8:30 a.m.  | Discussion  |
| 8:35 a.m.  | Preclinical to Clinical trial in renal cancer<br>Al Copland, Ph.D., Mayo Clinic Florida   |
| 8:55 a.m.  | Discussion  |
| 9:00 a.m.  | Overcoming barriers to drug delivery to tumors for radio sensitization<br>Sunil Krishnan, M.D., Ph.D., UT Health Houston  |
| 9:20 a.m.  | Discussion  |
| 9:25 a.m.  | MegaMolecules and Applications as Antibody Mimics<br>Milan Mrksich, Ph.D., Northwestern University  |
| 9:45 a.m.  | Discussion  |
| 9:50 a.m.  | Coffee Break and Exhibits   |
| 10:20 a.m. | CAR-T cell therapy in solid tumors<br>Hong Qin, M.D., Ph.D., Mayo Clinic Florida  |
| 10:40 a.m. | Discussion  |
| 10:45 a.m. | Immune Therapy Clinical Trials and outcomes<br>Keith L. Knutson, Ph.D., Mayo Clinic Florida   |
| 11:05 a.m. | Discussion  |
| 11:10 a.m. | Section XIII: Joseph Austin McCartney and Ruth McCartney Hauck<br>Named Visiting Professorship Lecture<br>Chairs: Alfredo Quiñones-Hinojosa, M.D., Mayo Clinic Florida<br>Vijay Shah, M.D., Mayo Clinic Rochester |
| 11:20 a.m. | Title TBA<br>Chad Mirkin, Ph.D., Northwestern University  |
| 11:55 p.m. | Discussion  |
| 12:10 p.m. | Overview of the symposium<br>Asher Chanan-Khan, M.D. and Dev Mukhopadhyay, Ph.D., Mayo Clinic Florida   |
| 12:20 p.m. | Vote of Thanks<br>Dev Mukhopadhyay, Ph.D., Mayo Clinic Florida  |
| 12:30 p.m. | ADJOURN – End of Day 3  |