Welcome to the FlowTex 2025 Cytometry Conference

Tuesday, February 25, 2025

8:30 – 9:00	**Opening Remarks**
9:00 – 12:00	**Panel Design Session**
1:00 – 2:00	**Innovation Session**
2:30 – 4:30	**Instrumentation & Analysis Session**

Wednesday, February 26, 2025

9:00 – 12:15	**Clinical Cytometry Session**
1:15– 5:00	**Science Session I**

Thursday, February 27, 2025

9:00 – 12:00	**Career Networking Session**
1:00 – 1:45	**Featured Speaker—Brian Crucian from NASA**
1:45 – 2:30	**Emerging Scientists**
3:00 – 4:30	**Science Session II-Overnight Staining for Flow Cytometry**
4:30 – 5:00	Closing Remarks & Raffle

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Welcome to the 18th Annual

FlowTex Cytometry Conference

Tuesday, February 25, 2025

Panel Design Session

8:00-8:30 Registration & Breakfast

8:30-9:00 Opening Remarks by FlowTex President **Meredith Weglarz**

9:00-9:30 **David Haviland** *A Primer to Multicolor Flow Cytometry*

9:30-10:15 **Rui Gardner** *Development of a spectral backbone panel for immune surveillance of normal and tumor tissues in mice*

10:15-10:45 Coffee Break

10:45-11:30 **Peter Mage** *Spectral hotspot analysis predicts unmixing-dependent spreading*

11:30-12:00 **Roundtable Discussion** *Led by Matilda Moström*

12:00-1:00 **Lunch Sponsored by Core Quantum Technologies & Vendor Show**

Innovation Session

1:00-1:20 **Alexandra Hyler** *Label-Free Cell Enrichments on the CytoR1: Improving Viability, Sustaining Phenotype, and Maximizing Cell Recovery*

1:20-1:40 **Ana Longhini** *Using Autofluorescence in Spectral Flow Cytometry - Identifying new cell subsets in Fetal Liver Hematopoiesis*

1:40-2:00 **Bill Freeman** *Sorting of brain cell types and phenotypic states with Miltenyi Tyto*

2:00-2:30 Coffee Break

Instrumentation & Analysis Session

2:30-3:30 **Matthew Goff & Rachael Sheridan** *Think Like an Engineer - Early Detection and Troubleshooting of Cytometer Problems*

3:30-4:30 **Nicolas Loof, Geoff Kraker & Jack Panopoulos** ***Cluster Me This:*** *A practical guide for working with automated cytometry tools*

Welcome to the 18th Annual

FlowTex

Cytometry Conference

Wednesday, February 26, 2025

Clinical Cytometry

8:00-9:00 Registration & Breakfast

9:00-9:45 **Julian Freen-van Heeren** *Beyond Telomeropathies: Flow-FISH as a Research, Diagnostic and Clinical Tool*

9:45-10:30 **Paul Mead** *Spectral Flow Cytometry in the clinical laboratory for the diagnosis and minimal residual disease analysis of pediatric leukemias*

10:30-11:00 Coffee Break

11:00-11:45 **Daniel Baker** *The expanding horizons for CAR T therapy*

11:45-12:15 **Anath C Lionel** *Flow cytometry-based CAR T-cell quantification as an early prognostic biomarker in lymphoma*

12:15-1:15 **Lunch Sponsored by FluoroFinder & Vendor Show**

Science Session I

1:15-2:00 **Paolo Casali** *A new and advanced humanized mouse model that mounts class-switched hypermutated and neutralizing antibody responses*

2:00-2:45 **Stephanie Watowich** *Type I dendritic cells as a novel cell therapy in cancer*

2:45-3:30 Coffee Break

3:30-4:15 **Evelien Bunnik** *Towards a vaccine against severe malaria*

4:15-5:00 **Amitinder Kaur** *Nonhuman primate models for vaccine development*

Welcome to the 18th Annual

FlowTex

Cytometry Conference

Thursday, February 27, 2025

Career Session

8:00-9:00 Registration & Breakfast

9:00-10:30 **Introductions of Players in the Field of Flow Cytometry Roundtable Discussion** *Led by Sarah Schneider*

10:30-12:00 **Networking Session**

12:00-1:00 **Lunch Sponsored by NanoCellect & Vendor Show**

Featured Speaker

1:00-1:45 **Brian Crucian** *Immune System Dysregulation during Spaceflight*

Emerging Scientists

1:45-2:00 **Andres Nevarez** *A Morpholome-Centric Approach Using Advanced Imaging Cytometry to Delineate the Relationship Between Genotype and Morphotype*

2:00-2:15 **Alyssa Fears** *Brick By (Not So Boring) Brick: Development of a 41-color Spectral Flow Cytometry Panel for Non-Human Primate Tissues*

2:15-2:30 **Jamie Tijerina** *Submicron Sorting in a Shared Resource Laboratory (SRL) Setting*

2:30-3:00 Coffee Break

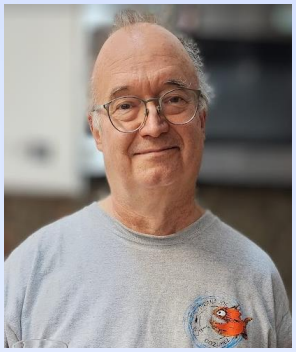
Science Session II – Overnight Staining for Flow Cytometry

3:00-3:45 **Paul Porter** *Overnight Staining Can Improve Budget, Data, and Workflow*

3:45-4:30 **Cintia de Paiva & Katie Sholand** *Doing more with less in challenging tissues.*

4:30-5:00 Closing Remarks & Raffle Prizes

Speaker Biographies



David Haviland, PhD, *A Primer to Multicolor Flow Cytometry*

David Haviland is a bit shy to state how many years ago it was - but he first put his hands on an EPICS V cytometer while in grad school around 1985 and never looked back. He fully embraced the technology and tried to pull into any research he was doing. His dissertation involved what we now know as CD44 on T-cells. From graduate school he went on to his post-doc at Washington University in St. Louis where he studied the molecular biology of Complement, Complement deficiencies, and inflammation. His little claim to fame as a footnote in the immunology textbooks is finding that some chemoattractant receptors are present on cells that are unable to chemotax. At Wash-U, he supervised an EPIC Elite and XL. In 1996, he then moved on to the University of Texas Houston at the Institute of Molecular Medicine and supervised a FACS Calibur, Vantage, and LSRII. There, he continued studies in inflammation and in 2005 made the decision to move into the flow core full time. In 2011, he was offered the core Director's position at Houston Methodist Research Institute to build the core from the ground up. Though a member of ISAC since 1997, it was when he was at Methodist where he became more involved in ISAC being on council from 2014-2018 and has been involved ever since. Currently, David oversees 8 instruments, with help from Ellie Jardinella, and is involved with client education, data analysis, and best practices.

Rui Gardner, PhD, *Development of a spectral backbone panel for immune surveillance of normal and tumor tissues in mice*

Rui's scientific career began just before graduating in Biochemistry in 1997, as a trainee in mathematical biology. In 2004 he earned his PhD in Biomedical Sciences, for which most of the work was carried out in the department of Microbiology and Immunology at the University of Michigan, but also at the University of Southern California and the Gulbenkian Institute of Science in Portugal followed by postdoctoral work on evaluating immune diversity estimation techniques, still at the Gulbenkian Institute, where in the end of 2006 Rui became Core Manager of the Flow Cytometry facility. In June 2016 Rui was hired to head the Flow Cytometry Core Facility at Memorial Sloan-Kettering Cancer Center in New York. Driven by a sense of responsibility towards his peers and the flow cytometry community Rui has been actively involved in the Core Managers Task Force of the International Society for the Advancement of Cytometry (ISAC) since 2007 and elected for ISAC's Council from 2012-2016. He has seen been involved in the establishment of several Shared Resource Lab (SRL) programs and activities and chaired the ISAC SRL Oversight Committee for the development and improvement of these programs from 2014-2016. Currently, he is a member of several ISAC committees, including the Live Education Delivery Task Force, Meetings Committee, and the Leadership Development Committee. Rui is also a member FlowCytometryUK, member and past councilor of the Sociedad Iberica de Citometria (SIC), and member of the FlowTex board.

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Peter Mage, PhD, *Spectral hotspot analysis predicts unmixing-dependent spreading*

Peter Mage is a Principal Engineer and ISAC International Innovator in the Advanced Technology Group at BD Biosciences, where he is responsible for inventing and commercializing new tools for understanding biology at the single-cell level. Peter's work focuses on computational techniques in the spectral cytometry. Prior to joining BD in 2018, he developed biosensor technologies for personalized medicine as a postdoc at Stanford University. Peter earned his PhD in Materials from the University of California, Santa Barbara, and holds bachelor's degrees in physics and math.

Alex Hyler, PhD, *Label-Free Cell Enrichments on the CytoR1: Improving Viability, Sustaining Phenotype, and Maximizing Cell Recovery*

Dr. Alex Hyler earned her PhD in biomedical engineering from the Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences in 2018, which included earning a Fulbright to conduct research in Denmark. She was trained in the Davalos and Schmelz laboratories at VT and has expertise in ovarian cancer biology, microfluidics and device engineering. As CytoRecovery's Chief Science Officer, Alex has been with the company since its founding in 2018 and currently manages the Company's operations including product development, R&D, manufacturing, and sales. Alex earned her bachelor's with honors in chemical engineering from the University of Kansas in 2013. When she's not busy working, Alex enjoys traveling, watching sports, and spoiling her two dogs.

Ana Longhini, *Using Autofluorescence in Spectral Flow Cytometry - Identifying new cell subsets in Fetal Liver Hematopoiesis*

Ana began her career in flow cytometry as a Field Application Specialist for BD, shortly after earning her master's degree in Immunology. She trained users across diverse applications, building a strong foundation in the field. Ana earned her PhD in Immunology at the University of Campinas in Brazil while managing the Flow Cytometry Lab at the Hematology Center. There, she worked extensively on a variety of diseases, cell types, and assays, further honing her expertise. In 2017, Ana moved to the USA for a postdoctoral position in a Stem Cell lab at the University of Alabama at Birmingham (UAB). She later joined UAB's Flow Cytometry Core, supporting researchers in cell sorting and imaging flow cytometry. In 2020, Ana became a Flow Cytometry Coordinator at MD Anderson Cancer Center, where she gained experience in high-parameter panel design and data analysis for clinical trials. From 2021 to 2024, Ana served as the Scientific Manager at Memorial Sloan Kettering Cancer Center (MSKCC)'s Flow Cytometry Core Facility. During her tenure, she contributed to several scientific publications, delivered talks at local and international conferences, and played a pivotal role in developing high-parameter panels. Currently, Ana is the Global Scientific Affairs Senior Manager for Sony Biotechnology. She is an active member of the MetroFlow Steering Committee and contributes to educational initiatives in flow cytometry. Ana is passionate about advancing science and enjoys collaborating with researchers to optimize protocols and ensure accurate experimental results.

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Bill Freeman, PhD *Sorting of brain cell types and phenotypic states with Miltenyi Tyto*

Dr. Freeman is originally from Virginia and completed his undergraduate degrees in Chemistry and English and his PhD in Pharmacology at Wake Forest University in Winston-Salem, North Carolina. After post-doctoral training at the Vollum Institute at Oregon Health & Science University and Yerkes National Primate Research Center at Emory University, Dr. Freeman began his faculty career at the Penn State College of Medicine and in 2019 Dr. Freeman moved to the Oklahoma Medical Research Foundation as a Professor in the Genes & Human Disease Program. He also holds a Research Career Scientist appointment with the Veterans Administration. His lab examines neuroepigenetic and neuroinflammatory mechanisms in brain and eye aging and neurodegeneration.

Rachael Sherdian PhD, *Think Like an Engineer - Early Detection and Troubleshooting of Cytometer Problems*

Rachael discovered flow cytometry during her PhD studies at the University of Wisconsin – Madison and took a role in the UW-Madison Flow Cytometry Core after graduation. In 2016, she secured a position with the Van Andel Institute in Grand Rapids, Michigan where she currently serves as the Director of the Flow Cytometry Core. Rachael is active in the flow cytometry community as a member of the GLIIFCA board of directors, Chair of the ABRF Flow Cytometry Research Group, Chair of the ISAC Flow Content Committee, Annual Course Instructor, and ISAC SRL Emerging Leader. Her cytometry interests include instrument characterization, cell sorting, non-immunological assays, and methods to support single cell genomics methods. She plans to continue building cross core collaborations and asking what if. Outside of cytometry, she enjoys being active, watching her kids be awesome, and eating snacks. She can also be found on the Flow Cytometry Discord server or haunting r/flowcytometry.

Matthew Goff, *Think Like an Engineer – Early Detection and Troubleshooting of Cytometer Problems*

Matthew's journey with flow cytometry began in 2005 while he was investigating environmental toxicology and it's effects on developing immune systems. From there he has been a research associate and core lab manager prior to moving into industry in 2010. Progressively moving through technical sales and marketing roles, Matthew is now leading the flow cytometry hardware team at Beckman Coulter Life Sciences, focusing on new product innovation and sustainment. In his spare time he enjoys watching his son grow up, camping where cell phones don't work and spending time with friends and family around the world.

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Jack Panopoulos, PhD, *Cluster Me This:* *A practical guide for working with automated cytometry tools*

Jack--Avid supporter of novel technologies (and the LA Rams) that reduce complex biological problems into fascinating insights. As a lab native, he seeks to understand the primary pain points that prevent or restrain rapid access to critical answers in single cell science. Part designer, part teacher - all scientist, he endeavors to create, promote, and deliver tools that enable rapid and robust solutions to the scientific community. Prior to his negotiated release into the wild, Jack initially worked in the laboratory of Ebrahim Zandi, doing hard time with the IKK complex, its regulatory mechanisms and control over NFkappaB. After securing parole, he worked in the laboratory of Robert Margolis, demystifying mechanisms of mitotic catastrophe and its role in neoplastic initiation. During those historic times, now almost ancient, he gained experience in cytometry, microscopy, and molecular biology. Since his release, he has spent 10 years working for titans in the field, including FlowJo and BD.

NIcolas Loof, *Cluster Me This:* *A practical guide for working with automated cytometry tools*

Nicolas Loof bring over 17 years of expertise in the field of Flow Cytometry. He received his MS degree in Cellular and Molecular Biology from University of Paris (Pierre and Marie Curie University) in 2008. Between 2010-2012 Nicolas served as a Flow Cytometry SRL manager at Baylor Institute for Immunology Research. In 2012 he joined UT Southwestern in Dallas, Texas as the Director of the Moody Foundation Flow Cytometry facility servicing over 120 laboratories and 350+ users. In 2021 Nicolas moved to industry and joined BD-FlowJo as Senior Application Scientist and Multi-Omics Specialist and became the Informatics Solution Leader in 2024. He is also a recognized Member of ISAC since 2010 and a FlowTex committee member since 2011.

Geoff Kraker, *Cluster Me This:* *A practical guide for working with automated cytometry tools*

Geoff started his flow career with several years in the full service core at Northwestern and then spent the next 12 years working with high parameter analysis tools as an application scientist at various software and instrument vendors and is now a Senior Application Scientist at OMIQ. He's a persistent advocate for data quality and is passionate about educating people in the field on approachable strategies for high-dimensional cytometry analysis.

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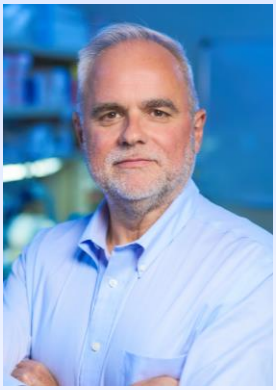
Julian Freen-van Heeran, *Beyond Telomeropathies: Flow-FISH as a Research, Diagnostic and Clinical Tool*

Julian Freen-van Heeren is a senior R&D scientist, with a focus on assay development for therapeutic modalities. His work spans various applications, including immunology, dermatology, allergy, and oncology, all intersecting on compound interactions in whole blood, immune cell components and complement proteins. Julian holds a PhD in T cell immunology from the University of Amsterdam, where he conducted research on T cell biology and effector functions. During his doctoral studies and thereafter, he developed or implemented innovative flow cytometric assays, including Flow-FISH, allowing for the simultaneous measurement of cytokine mRNA and protein in T cells.



Paul E Mead, PhD, *Spectral Flow Cytometry in the clinical laboratory for the diagnosis and minimal residual disease analysis of pediatric leukemias*

Dr. Mead is a Principal Scientist and Director of the Translational Immunopathology laboratory in the Department of Pathology at St Jude Children's Research Hospital. The Translational Immunopathology laboratory is responsible for developing new flow cytometry assays for the Clinical Immunopathology laboratory and provides support for research aims in St Jude-led clinical trials. Dr. Mead is a licensed Medical Laboratory Supervisor and serves as Technical Director of the Clinical flow laboratory.

Dr Mead received his undergraduate and graduate degrees in Biochemistry from Massey University, New Zealand and post-doctoral training at Harvard Medical School in the Department of Hematology/Oncology, Children's Hospital, Boston. As an independent, NIH-funded investigator in the Department of Pathology, St Jude Children's Research Hospital, Dr Mead's research interests focused on the development of the hematopoietic system during early embryonic development. For more than a decade, Dr Mead has been the Director of the Translational Immunopathology laboratory where his research interests have focused on immunophenotyping and minimal residual disease detection of pediatric hematopoietic malignancies. Most recently, these efforts have been directed towards developing high-parameter spectral flow cytometry panels for diagnosis and treatment follow-up of pediatric leukemias in the clinical laboratory setting.

Daniel Baker, *The expanding horizons for CAR T therapy*

Daniel Baker is an immunologist and PhD student at the University of Pennsylvania, training with Dr. Carl June and Dr. Zoltan Arany. He focuses on expanding the use of cellular therapies beyond cancer to treat a wide variety of diseases.

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Anath Lionel, MD, PhD, *Flow cytometry-based CAR T-cell quantification as an early prognostic biomarker in lymphoma*

Anath Lionel is currently a clinical fellow in MD Anderson in Lymphoma and Cellular Therapy. He obtained his MD and PhD in Medical Genomics from the University of Toronto, Canada.

Stephanie S. Watowich, PhD, *Type I dendritic cells as a novel cell therapy in cancer*

Dr. Stephanie S. Watowich is Professor and Deputy Chair in the Department of Immunology at MD Anderson Cancer Center, where she holds the Vivian L. Smith Distinguished Chair in Immunology. Her research interests center on understanding mechanisms that regulate innate immune cell generation and function in cancer and inflammation, with the goal of using this knowledge to advance new cancer immunotherapies. Dr. Watowich obtained her B.A. in Biology from Carleton College (1983) in Northfield, Minnesota. She started her career in cancer research at the University of Chicago, where she worked with Dr. Geoff Greene from 1983-1985. She progressed to PhD studies at Northwestern University (1985-1990) with Dr. Richard I. Morimoto, where her research on heat shock gene transcriptional regulation provided foundation for the unfolded protein response. Dr. Watowich performed postdoctoral research at the Whitehead Institute of Biomedical Research with Dr. Harvey F. Lodish (1990-1995). Her groundbreaking work on the erythropoietin receptor provided a paradigm for cytokine receptor activation mechanisms via receptor oligomerization. At MD Anderson, Dr. Watowich's laboratory has uncovered molecular mechanisms of innate immune development and understanding of STAT3 function in hematopoiesis. Her group has recently advanced a novel dendritic cell (DC)-based immunotherapy and pioneered the development of mouse models to investigate immune-related adverse events (irAEs) to cancer immunotherapy. Dr. Watowich is co-PI of the MD Anderson CPRIT Research Training Award and the NIH R25 UPWARDS training program, and co-director of the MD Anderson CATALYST summer research training program. She is a member of the NIH CMIB study section and has participated regularly on cancer immunology study sections and fellowship panels. Dr. Watowich has received numerous honors and awards including The William Randolph Hearst Foundation Faculty Achievement Award in Education, MD Anderson (2009), induction into the UT Kenneth I. Shine Academy of Health Science Education (2010), the John P. McGovern Outstanding Teacher Award (2010), and the President's Recognition of Faculty Excellence for Education and Mentorship Advancement (2022). In 2023, she was recognized by her alma mater with the Carleton College Alumni Distinguished Service Award.

Link to publications:
https://www.ncbi.nlm.nih.gov/sites/myncbi/stephanie.watowich.1/bibliography/41138711/public/?sort=date&direction=descending

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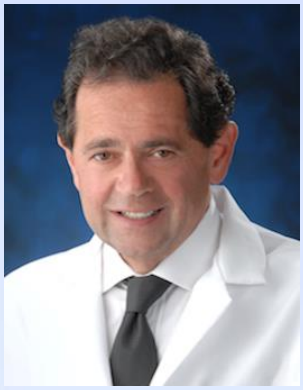
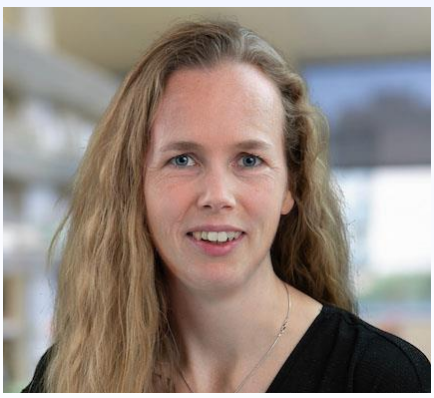


Paolo Casali, MD, *A new and advanced humanized mouse model that mounts class-switched hypermutated and neutralizing antibody responses*

Paolo Casali is the University of Texas Ashbel Smith Professor and Distinguished Research Professor in Microbiology, Immunology & Molecular Genetics (MIMG) and Medicine. He obtained a degree in Medicine and Surgery from the University of Milan (1973), and specialties in Allergology and Clinical Immunology as well as Microbiology from the same university. Before joining UT Long School of Medicine as MIMG chair (2013-2019), Dr. Casali was the Donald L Bren Professor of Medicine, Molecular Biology & Biochemistry and founding Director of the Institute for Immunology at University of California Irvine, where he also served as Senior Associate Dean for Research and Graduate Studies, School of Medicine. Prior to that, Dr. Casali was Professor of Pathology and Immunology, director of the Division of Molecular Immunology and Director of the Graduate Program in Immunology at Weill Medical College Cornell University and Memorial-Sloan Kettering in New York City. His work has focused on B lymphocyte immunobiology and molecular genetic mechanisms underpinning the maturation of antibody and autoantibody responses, with emphasis on somatic hypermutation (SHM) and class-switch DNA recombination (CSR), plasma cell differentiation and generation of memory B cells. Dr. Casali's studies have included mechanisms underpinning expression of activation-induced cytidine deaminase (AID), roles of translesion DNA polymerases, such as pol z (Rev3) and pol q, and select miRNAs in SHM/CSR, as well as the critical role of HR Rad52 in CSR to IgD in human and mouse B cells. Dr. Casali is credited with discovering human B1 lymphocytes and their role in production of polyreactive antibodies, a term he coined for natural antibodies reacting with multiple antigens, often of different nature. He identified the molecular genetic makeup of polyreactive antibodies and showed how such antibodies can function as templates for class-switched and somatically hypermutated high affinity antimicrobial antibodies and lupus autoantibodies. Instrumental to these findings was Dr. Casali's pioneering construction of human monoclonal antibody-producing cell lines of predetermined specificity and isotype by Epstein-Barr virus human B cell immortalization and fusion with an immunoglobulin non-secretor cell partner. Recently, Dr. Casali's work has progressed to the study of epigenetic factors in the maturation of antibody responses, with focus on regulation of *Aicda* (AID) and *Prdm1* (Blimp-1) loci expression by NAD^+-dependent Class III Sirt1 HDAC, Tet2 active DNA demethylator, RORa, retinoic acid and short-chain fatty acids in B cell SHM/CSR, plasma cell differentiation and degeneration of memory B cells. To further address the *in vivo* epigenetic control of maturation of human antibody and autoantibody responses, Dr. Casali has perfected the generation of the advanced humanized THX mouse and Lupus THX mouse. His research work has been supported by NIAID, NCI and NIA throughout the last many years during which he has served full terms on multiple immunology NIH study sections and review panels.



Evelien Bunnik, PhD, *Towards a vaccine against severe malaria*

Dr. Bunnik is an Associate Professor in the Department of Microbiology, Immunology & Molecular Genetics at the University of Texas Health Science Center at San Antonio. Dr. Bunnik obtained her Ph.D. from the University of Amsterdam and did a postdoctoral fellowship at the University of California in Riverside. Her main research interest is to unravel the nature and acquisition of B cell responses that protect against malaria in individuals exposed to *Plasmodium falciparum* infections.

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Amitinder Kaur, PhD *Nonhuman primate models for vaccine development*

Amitinder "Miti" Kaur is Professor of Microbiology and Immunology at the Tulane University School of Medicine and Chair of the Division of Immunology at the Tulane National Primate Research Center (TNPRC). She is also Director of the Flow Cytometry and Immunology Core services at TNPRC and Principal Investigator on the NIH/NIAID contract "Cellular Immunology Core Laboratory" that evaluates the immunogenicity of candidate AIDS vaccines in nonhuman primates. The Kaur laboratory studies viral pathogenesis and T cell immunity using nonhuman primate animal models that recapitulate human infections. These include the simian immunodeficiency virus (SIV) infection model to study AIDS pathogenesis and the rhesus cytomegalovirus (CMV) infection model to study immune determinants of protection against congenital infection and understand how CMV shapes the immune system in infancy and in HIV co-infection. The placental transmission model of congenital CMV in rhesus macaques is being used to evaluate tissue immunity at the placental maternal-fetal interface and determine immune correlates of protection that can be applied to the development of a maternal CMV vaccine.

Brian Crucian, *Immune System Dysregulation during Spaceflight*

Brian is an Immunologist at the Johnson Space Center. He received his Ph.D. in immunology from the University of South Florida (Tampa) and received Laboratory Medical Technologist certification at Tampa General Hospital. He joined NASA in 1998 as a contractor Flow Cytometrist and in 2011 transitioned to the Lead Immunologist position. His research focuses on characterizing immune system dysregulation during long-duration spaceflight,and performing parallel studies in ground analog or relevant clinical populations. The data is then integrated to determine crew clinical risk for deep space missions and the requirement for countermeasures. Recently, he has initiated a ground validation of an immune countermeasures protocol at Palmer Station, Antarctica. He has supported NASA flight studies onboard both the Space Shuttle and the International Space Station. He has been deployed to both the Arctic and Antarctica Polar regions to support previous ground immunology investigations, and has participated in over 30 zero-gravity flights onboard NASA's KC-135 and DC-9 aircraft, consisting of >1200 parabolic maneuvers.

Paul Porter, PhD, *Overnight Staining Can Improve Budget, Data, and Workflow*

Paul is the core scientist at Baylor College of Medicine. He attained a PhD in pharmacology and toxicology at the University of Louisville. He then went on to perform a postdoctoral training in Immunology at Baylor College of Medicine. Paul has 25 years of research experience and has published research using molecular, cellular, animal, and clinical studies.

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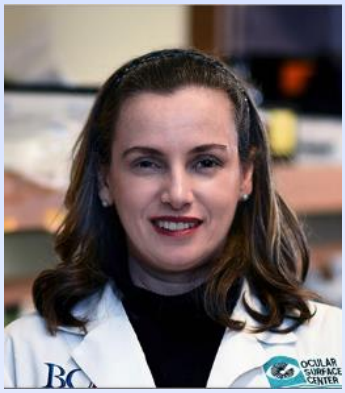

Cintia S de Paiva, MD, PhD, *Doing more with less in challenging tissues.*

Dr. de Paiva is a Professor of Ophthalmology at Baylor College of Medicine in Houston, Texas. She received her M.D. degree from the State University of Campinas-UNICAMP in Sao Paulo, Brazil, and her Ph.D. from the University of Sao Paulo, Ribeirao Preto. Her research interests include Dry Eye, ocular surface diseases, animal models of Sjögren syndrome, microbiome, and aging. The primary objectives of her research are to investigate the pathogenesis of dry eye-related diseases with the ultimate goal of improving the diagnosis, prognosis, and therapy of dry eye. Her laboratory focuses on epithelial immune interactions, emphasizing the effects of gut microbiome and aging on the ocular surface and lacrimal gland.

Dr. de Paiva is an active member of the cornea community and the Association for Research in Vision and Ophthalmology (ARVO). She was elected as a Cornea Program Member, a committee she served from 2017-2020. In addition, she is part of the ARVO Diversity Initiatives Committee (2020-2023) and the next Co-chair of the ARVO Women's Leadership Program. Dr. de Paiva was also elected as Co-Chair of the Gordon Cornea Research Conference and Chair of the 2027 Gordon Research Conference. She is an editorial board member of several journals and a standing member of the NIH study session (2020-2023). Dr. de Paiva is the current Editor-in-Chief of The Ocular Surface. As a mentor, Dr. de Paiva is part of the National Research Mentoring Network, SCOARE. She is a faculty mentor at the Office of Faculty Development at Baylor College of Medicine

Kaitlin K Scholand, *Doing more with less in challenging tissues.*

Katie is a fifth year PhD candidate at Rice University in Dr. Cintia de Paiva's lab. Her thesis involves the investigation of pathogenic CD4+ T cells in the role of autoimmune-related dry eye disease. Her interests include autoimmunity, Sjögren disease, age-related dry eye, and identifying therapeutics to combat autoimmune inflammation. Previously, she was an undergraduate intern at Sandia National Laboratories, where she worked on several projects, including the development of assays to diagnose Hoof Mouth disease in cows. She has won the Samuel Wu Award for Graduate Student Research, the Gene Anderson Award for Best Paper presented at the OU Vision 16th Annual Graduate Student and Postdoctoral Fellow Vision Workshop, and the Evans-Atwell Welch award for first-year students in recognition of academic excellence at Rice University. She graduated Summa Cum Laude from the University of New Mexico in May of 2020 and is an accredited biochemist by the American Society of Biochemistry and Molecular Biology.

Emerging Scientist Speaker Biographies

Andres Nevarez, *A Morpholome-Centric Approach Using Advanced Imaging Cytometry to Delineate the Relationship Between Genotype and Morphotype*

Andres Nevarez is a postdoctoral fellow at MD Anderson Cancer Center in Dr. Nicholas Navin's laboratory. Andres completed his doctoral degree at UC San Diego, where he was a HHMI Gilliam, and NASEM Ford Fellow. He was bitten by the imaging cytometry bug at the Sanford Burnham Prebys Cytometry Core. Andres used various imaging modalities paired with genomic engineering and deep learning to understand how genomic ripples in the system manifest in the morpholome. Currently, Andres is focused on integrating the morpholome, with other omic technologies to understand how the progression of healthy to diseased to advanced disease stage. He will be sharing some of his data and thoughts with us about the new imaging cytometers and how they allow us to understand the morpholome.

Alyssa Fears, *Brick By (Not So Boring) Brick: Development of a 41-color Spectral Flow Cytometry Panel for Non-Human Primate Tissues*

Alyssa Fears received her PhD in Biomedical Science (2021) and Master's of Public Health and Tropical Medicine (2016) from Tulane University in New Orleans, LA. She is currently a Research Scientist at the Galveston National Laboratory (UTMB) focusing on early disease biomarker discovery for high-consequence pathogens in non-human primate models. Non-human primate work in a high containment setting necessitates multiplexing as much as possible, as samples are precious and storage space is incredibly limited. Striving to get the most out of every sample, Alyssa has found a passion for designing and deciphering large datasets including bead-based immunoassays and high-parameter spectral flow cytometry. She joined ISAC as a new member in 2024 and has since joined the Biosafety Committee as an Observer.

Jamie Tijerina, *Submicron Sorting in a Shared Resource Laboratory (SRL) Setting*

Jamie is a PhD student in the laboratory of Dr. Alexander Chase in the Earth Sciences department at Southern Methodist University in Dallas, TX. Her research explores interactions between the environment and human activity, investigating them in the contexts of health outcomes and environmental economics. Jamie began her career in flow cytometry in 2010 at the Cytomics and Cell Sorting Shared Resource Laboratory at the University of Pennsylvania. She most recently served as a Scientific Researcher in the Flow Cytometry and Cell Sorting Facility at California Institute of Technology (Caltech), where she specialized in non-traditional sorting, including bacterial and submicron sorting. She earned her Bachelor of Science in Biological Sciences and MBA from Drexel University in Philadelphia, PA.