

ICB&DD Sixteenth Annual Symposium (2022)



The ICB&DD hosted its sixteenth annual symposium on “Metabolism in Health and Disease” on Thursday October 6, 2022. It was enjoyable to have this event back to an “in-person” symposium this year after a two-year hiatus via Zoom due to the Covid-19 Pandemic. The ICB&DD Symposium has a 15-year history since its inauguration dating back to October 12, 2007. The Symposium featured seven Plenary Lecturers. Five of them were highly regarded scientists from outside institutions and two of them representing the Stony Brook University Renaissance School of Medicine. The event was attended by a diverse audience composed of faculty, research staff and students on campus. The Poster Session equally attracted participation from students representing various departments on campus. There were 57 scientific posters

presented at the Poster Session.



Dr. Elizabeth Boon, Professor of Chemistry and Co-Director of the Chemical Biology Training Program, and Chair of the Symposium Organizing Committee welcomed the attendees and introduced Dr. Peter Igarashi, recently appointed Dean of the Stony Brook University Renaissance School of Medicine. Dr. Igarashi’s greetings remarks highlighted the importance of a multi-interdisciplinary entity on campus such as ICB&DD, which attracts the best faculty and physicians to the Stony Brook University community. Furthermore, he reiterated the importance of building bridges in the campus scientific community, which has been a very important aspect of the mission of ICB&DD over the years since its inception. Dr. Boon then introduced Dr. Iwao Ojima, Distinguished Professor of Chemistry and Director of the ICB&DD who gave an overview of the Institute, its history and mission in his welcoming remarks.



Dr. John Haley, Associate Professor of Pathology, introduced the first Plenary Lecturer, **Dr. Fei Chen**, a Professor of the Department of Pathology in the Renaissance School of Medicine at Stony Brook University who gave a lecture titled “Metabolic and Epigenetic Reprogram in Malignant Transformation and Metastasis of the Cancer Cells”. In his lecture Dr. Chen described the importance of understanding the molecular basis of metastasis as a major cause of breast cancer mortality in order to improve therapeutic efficacy.



The second Plenary Lecturer, **Dr. James Versalovic**, was introduced by Dr. Jessica Seeliger, Associate Professor of Pharmacological Sciences. Dr. Versalovic, a Professor in the Department of Pathology and Immunology, at Baylor College of Medicine and Pathologist-in-Chief as well as Chair of the Texas Children’s Department of Pathology, Texas Children’s Hospital gave a lecture titled “Amino Acid Metabolism and the Microbiome: Histamine Signaling as a Bridge between Microbes and Mammals”. Dr. Versalovic explained the focus of his research and how it relates to the search for microbial immunomodulatory agents uncovering microbial metabolites of amino acids that suppressed cytokine production and mucosal inflammation. In particular the importance of microbial/mammalian

communication through shared metabolic pathways in the gastrointestinal tract was emphasized.

The third Plenary Lecturer, **Dr. Jason Locasale**, was introduced by Dr. Luis Martinez, Associate Professor of Pathology. Dr. Locasale, an Associate Professor of the Department of Pharmacology and Cancer Biology at Duke University gave a lecture titled “Methionine Metabolism in Health and Cancer”. Dr. Locasale discussed the concepts he developed about dietary protein and amino acid intake, also introducing methionine metabolism and dietary methionine. He presented data on efforts to understand diet and metabolism and to target metabolism in human cancer.



The fourth Plenary Lecturer, **Dr. Kayvan R. Keshari**, was introduced by Dr. Agnieszka Bialkowska, Associate Professor of Medicine. Dr. Keshari, a Professor and Laboratory Head at Memorial Sloan Kettering Cancer Center gave a lecture titled “Harnessing Biochemistry and Engineering to Visualize Metabolism”. Dr. Keshari described his research, focusing on the interrogation of cancer metabolic processes and development of advance multi-modality imaging. His lecture also exemplified the combination of several approaches, demonstrating the synergy of new probes and platforms to reveal metabolic mechanisms as well as their translation to humans.

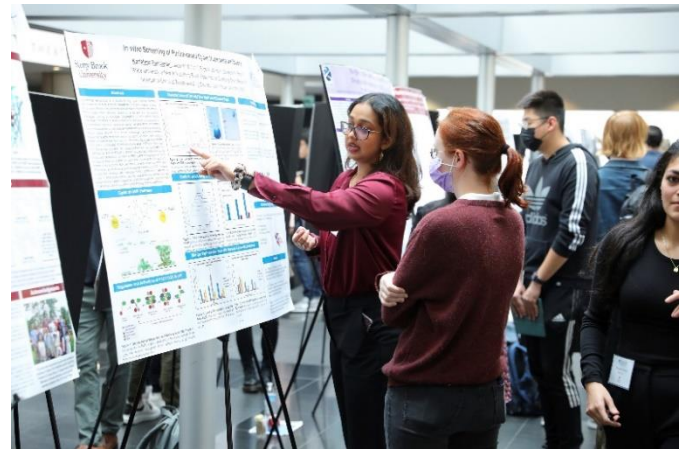
The fifth Plenary Lecturer, **Dr. Lydia Finley**, was introduced by Dr. Dongyan Tan, Assistant Professor of Pharmacological Sciences. Dr. Finley, an Associate Professor of Weill Cornell Medical College and Associate Member of the Cell Biology Program at the Memorial Sloan Kettering Cancer Center gave a lecture titled “Metabolic Regulation of Cell Fate Decisions”. Dr. Finley’s research laboratory has discovered genetic and environmental factors that drive metabolic regulation of chromatin modifications and gene expression programs that control cell fate. In her presentation, she discussed her latest work on how cell-type specific metabolic profiles are established and the functional consequences of changes in metabolic wiring upon cell fate transitions.





The sixth Plenary Lecturer, Dr. **Adrianus van der Velden**, was introduced by Dr. David Thanassi, Professor and Chair of Microbiology and Immunology. Dr. van der Velden, an Associate Professor in the Department of Microbiology and Immunology in the Renaissance School of Medicine at Stony Brook University gave a lecture titled “On the Competition for Resources at the Host-Pathogen Interface”. Dr. van der Velden described his research focused on host-pathogen interactions, with an emphasis on the immunology of infection. He talked about much of his recent work on the role of inflammatory monocytes in immunity and host defense against the bacterial trigger, *Salmonella*.

The seventh and final Plenary Lecturer, **Dr. Paul Cohen**, was introduced by Dr. Miguel García-Díaz, Professor of Pharmacological Sciences. Dr. Cohen, the Albert Resnick, MD Associate Professor and Head of the Laboratory of Molecular Metabolism at The Rockefeller University who gave a lecture entitled “The Role of Adipose Tissue in the Pathogenesis and Treatment of Obesity-Associated Diseases”. Dr. Cohen’s research focuses on understanding the molecular links between obesity and associated diseases with a particular emphasis on diabetes, cardiovascular disease and cancer. In his presentation he discussed about his studies on the cell biology of white, brown and beige fat and included translational studies in humans. By employing novel imaging and biochemical methods as part of a systems-based approach to investigate three interconnected areas of fat tissue, he is aiming at providing new therapeutic opportunities to address a crucial and unmet need threatening human health.





Fifty seven posters were presented in two poster sessions during the symposium and three posters were selected for Outstanding Poster Awards and presentation in the final session of the symposium. Dr. David Montrose, Chair of the Poster Session, presented the awards to **Yu-Ching Chen**, a graduate student in the laboratory of Dr. Nicole Sampson, for his poster titled “Deletion of Mycobacterium Tuberculosis melH Epoxide Hydrolase b Interrupts the Electron Transport Chain and Causes Triacylglycerol Accumulation”, **Jinal A. Patel**, a graduate student in the laboratory of Dr. Hyungjin Kim for his poster titled “Loss of Replisome Integrity by Inducible TIMELESS Degradation Synergizes with ATR Inhibition to Trigger Replication Catastrophe”, and **Nivea Pereira de Sa**, a postdoctoral research associate in Dr. Maurizio del Poeta’s laboratory, for her poster titled “Structural Basis for Pharmacological Inhibition of Aspergillus Fumigatus Sterylglucosidase A”. Each of the winners was awarded a check in the amount of \$250, an award certificate and all of them were invited to attend the Symposium dinner with the Plenary Lecturers and ICB&DD faculty.





The Sixteenth ICB&DD Annual Symposium culminated with a wonderful dinner at the Zodiac Gallery of the Charles B. Wang Center. Among the attendees were Dr. Peter Tonge, Chair of the Department of Chemistry, Nicole Sampson, Dean of the College of Arts and Sciences. The chair of the symposium organizing committee, Dr. Elizabeth Boon as well as Peter Tonge, and Nicole Sampson expressed their appreciation for the outstanding lectures presented at the symposium. They all acknowledged the significance of the ICB&DD and the collaborative efforts among academia and industry. They also commended Dr. Ojima for his successful leadership, the ICB&DD operation and a sixteen year-long cutting-edge Symposiums. The ICB&DD

symposium is widely recognized for being the leading event on campus that gives the opportunity to the scientific community from East, West and South campus to come together and promote the exchange of innovative ideas among speakers, faculty, staff, and students. Dr. Ojima presented Appreciation Plaques to Symposium Chairs, John Haley (2017), Jingfang Ju (2020), Carlos Simmerling (2021) and Elizabeth Boon (2022), as well as to Ms. Roxanne Brockner for her 15 years of Excellence in Service.



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