DASSAULT SYSTEMES

8th INTERNATIONAL SYMPOSIUM ON THE LIVING HEART AND VIRTUAL TWIN FOR HUMANS

THE ONLY PROGRESS IS HUMAN

DECEMBER 6 – 7, 2022

BROOKLYN, NEW YORK | USA

FINAL PROGRAM

International Symposium on the Living Heart and Virtual Human Twin - December 6-7, 2022

Day 1 - R&D Innovations

Start Time	Title	Speaker	Organization
Dec 6th	**Welcome & Plenary Session - The Promise of the Virtual Human Twin for Healthcare**		
8:30 AM	Registration & Coffee	All	
9:00 AM	Welcome and Introduction	Steve Levine/ Rama Kondru	Dassault Systèmes/ Medidata
9:15 AM	LIU Center of Excellence for Life Sciences and Research	Mohammed Cherkaoui	LIU COE
9:25 AM	Dassault Systemes Vision for Life Sciences and Healthcare Industry	Claire Biot	Dassault Systèmes
9:45 AM	Optimization of prosthetic devices and procedures for treating cardiovascular diseases, and the mechanobiology of thrombosis across the scales	Danny Bluestein	Stony Brook University
10:20 AM	**Break**		
	Virtual Twin for Enabling Medical Innovations		
10:35 AM	Rise of the Virtual Human Twin for Healthcare	Patrick Johnson	Dassault Systèmes
10:55 AM	Uncovering the Mechanism of a Cardiac Conduction Abnormality Following Transcatheter Aortic Valve Replacement Using an Electro-Mechanically Coupled Beating Heart Model	Symon Reza	Stony Brook University
11:10 AM	Patient-Specific CFD/ FSI of Aortic Aneurysm	Alireza Heidari	McGill University
11:25 AM	Development of a Novel Polymeric Transcatheter Aortic Valve Replacement (TAVR) device: Design Optimization and Fatigue Life Prediction with the use of FEA and LHP Model	Brandon Kovarovic	Stony Brook University
11:40 AM	The Living Heart as a Global Tool in Cardiac Ultrasound Training	Bernard Bulwer	The Echoscope Project
11:55 AM	Post-Transcatheter Aortic Valve ReplacementClinical Complications in Bicuspid Aortic Valve: Patient-Specific Clinical Risk Assessment and its Mitigation using Device Design Optimization	Salwa Anam	Stony Brook University
12:10 PM	**Break**		
	Virtual Human Ecosystem		
12:25 PM	Living Heart & Virtual Human Twin Community Update	Steve Levine	Dassault Systèmes
12:40 PM	Origins of Breathing with the Living Lung	Mona Escondari Nuno Robelo	UC Riverside
1:10 PM	Long Island University Center of Excellence & Living Liver Project	Nicolas Gallo	LIU COE
1:20 PM	Day 1 Closing Remarks	Steve Levine	Dassault Systèmes
1:30 PM	**Lunch**	**All**	
2:30 PM	**Breakout Sessions & Networking**		
2:30 PM	3DEXPERIENCE Demos & COE Lab Tours	Abhishek Bali, Sean Farrell, Reda Nacif El Alaoui	LIU COE
3:30 PM	Living Liver Project Meeting	Nicolas Gallo	Dassault Systèmes
3:30 PM	Simulation for Life Sciences	Uday Komaragiri	Dassault Systèmes
5:00 PM	**Adjourn**		

International Symposium on the Living Heart and Virtual Human Twin - December 6-7, 2022

Day 2 - Regulatory & Clinical Care

Start Time	Title	Speaker	Organization
Dec 7th	**Welcome & Plenary Session - Clinical Perspectives on Virtual Twin**		
8:30 AM	Registration & Coffee	All	
9:00 AM	Day 1 Recap and Day 2 Outlook	Steve Levine	Dassault Systèmes
9:05 AM	Virtual Patient Twins For Pediatric Cardiac Surgery	David Hoganson, MD	Boston Children's Hospital
9:35 AM	The Changing Role of the Cardiac Imager	Partho Sengupta, MD	Robert Wood Johnson Univ. Hospital
10:00 AM	The Living Brain - App for Preparation of Epilepsy Surgery	Nicolas Gazeres	Dassault Systèmes
10:25 AM	**Break**		
	Regulatory Implications of Modeling and Simulation		
10:40 AM	Importance of Regulatory Science Tools	Ed Margerrison	US FDA
11:00 AM	FDA Critical Path Project: The ENRICHMENT In Silico Clincal Trial	Steve Levine/ Kenny Aycock	3DS / US FDA
11:30 AM	Virtual Patients Enhanced AI for Improved Clinical Precision	Afrah Shafquat	DS Medidata
12:00 PM	**Break**		
	Virtual Human Ecosystem		
12:15 PM	Opportunities, Vulnerabilities, and Planning for In Silico Clinical Trials	Steven Kreuzer	Exponent
12:35 PM	Virtual Twin Based Education Centers	Jean Philippe LaGuerre	Dassault Systèmes
12:50 PM	3DEXPERIENCE Labs Startup Incubator	Abhishek Bali/Startups	Dassault Systèmes
1:15 PM	Concluding Thoughts on the Future of the Virtual Human Twin	Steve Levine	Dassault Systèmes
1:30 PM	**Lunch**	All	
3:00 PM	3DEXPERIENCE/LIU COE Demos	Abhishek Bali, Sean Farrell, Reda Nacif El Alaoui	LIU COE
3:00 PM	Living Heart Breakout	Tom Battisti, Jiang Yao, Ashley Stroh	Dassault Systèmes
5:00 PM	**Symposium Adjourns**		

MEET THE PRESENTERS

Salwa Anam, – Stony Brook University

PhD Candidate

Salwa Anam is a PhD student in Professor Danny Bluestein's lab at Stony Brook University. Her expertise lies in patient-specific in-vitro and in-silico modeling of TAVR procedure and assessment of post-TAVR complications in bicuspid aortic valve patients.

Kenneth Aycock – US FDA

Staff Fellow Mechanical Engineer

Specialties: Experimental and Computational Mechanics (DIC, FEA, PIV, & CFD), Nonlinear Materials, Verification and Validation of Computational Models, Medical Devices, High Performance Computing, 3D Rendering & Animation, Mechanical Design, Prototyping

Abhishek Bali – Dassault Systèmes

3DEXPERIENCE Lab North America Manager

Abhishek drives the 3DEXPERIENCE Lab Startup Accelerator and Open Innovation program for North America. The Accelerator is focused on incubating early- to mid-stage startup companies around the space of Product, Life and Nature that can potentially shift the scales of Innovation in their respective industries. Boston Lab was set up in May 2017 in collaboration with MIT's Center for Bits and Atoms and Fab Foundation, and is a vital node for Dassault Systèmes to foster a culture of maker-ship within the community globally.

Tom Battisti – Dassault Systèmes

Senior Director Life Sciences Industry Experience

Tom received his Masters of Science in Mechanical Engineering with a focus in finite element simulation from Worcester Polytechnic Institute in 1991. Tom has held positions at the US Army Research, Development and Engineering Center, EMC Corporation, and with DS. While at HKS, Abaqus, and DS SIMULIA, Tom has held many positions including those in technical support, sales and marketing and alliances. In 2002, Tom founded the alliances organization and was responsible for developing alliances programs and building and managing an ecosystem of over 120 software and technology partners. In 2013, he was named the Senior Director of Brand Initiatives at DS SIMULIA. In this role, Tom was responsible for managing strategic brand initiatives which encompassed all SIMULIA projects in the field of Virtual Human Modeling (VHM) including the Living Heart Project. In 2018 Tom joined the corporate life sciences team and continues to manage collaborative projects with the VHM ecosystem including those with the US FDA for which he is the principal investigator on the Collaborative Research Agreement between the parties.

MEET THE PRESENTERS

Claire Biot, PhD – Dassault Systèmes

Vice President Life Sciences Industry

Claire Biot was appointed Vice President, Life Sciences Industry, Dassault Systèmes in 2019.

Her multifaceted experience in healthcare-related research, business and government administration supports Dassault Systèmes' aim to drive the life sciences industry's digital transformation. As the industry shifts its focus to personalized medicine and patient-centric experiences, she is responsible for helping companies adopt a new unified approach to scientific innovation by using the 3DEXPERIENCE platform to catalyze the next generation of therapeutics.

Claire Biot began her career as manager of industrial methods at the biopharmaceutical company LFB. Later, she was head of division, health products pricing and reimbursement at the French Ministry of Health. She was then appointed managing director of France's Health products and Technologies Central Agency (AGEPS), a subsidiary of Greater Paris University Hospitals (AP-HP). Here, she oversaw 500 employees and two sites dedicated to the development of its procurement policy and supply chain, as well as the development and manufacturing of drugs for specific hospital unmet needs.

Claire Biot graduated from France's Ecole Polytechnique engineering institute. She later earned a Master of Science degree in life sciences from the Watson School of Biological Sciences in New York, and an engineering degree from the Corps des mines program in Paris. She studied cancer immunotherapy at Institut Pasteur in Paris and graduated with a doctorate in immunology.

Claire Biot has been an active member of several World Health Organization working groups on health products, has co-authored four publications and was granted a patent in the field of immunotherapy. Additionally, Claire Biot sits at Mauna Kea Technologies Board of Directors

DR. Mohammed Cherkaoui

Vice President for Academic Programs and Research -

Long Island University

Mohammed CHERKAOUI is an award-winning professor, author, and internationally recognized researcher, and a pioneering figure in micromechanics, nuclear engineering, nuclear medicine, and drug discovery. Stanford University Report Ranks Vice President and Provost of Academic Affairs Dr. Mohammed CHERKAOUI Among the World's Top 2% Scientists.

Dr. Mohammed CHERKAOUI has authored more than 200 publications including the first-ever micromechanics textbook. His international accolades include a tenured professorship at Georgia Institute ofTechnology, an Endowed Chair and professorship at Mississippi State University, the France Medal from the National Center for Scientific Research, the Obama Award under the Material Genome Initiative, and the Lorraine Award for Excellence in Technology Transfer.

MEET THE PRESENTERS

Danny Bluestein, Ph.D– Stony Brook University

Professor of Biomedical Engineering

Danny Bluestein, Ph.D. is a Professor of Biomedical Engineering at Stony Brook University, NY. He received his bachelor degree in Aeronautical Engineering from the Technion, Israel Institute of Technology, and Ph.D. in biomedical Engineering at Tel Aviv University, Israel. His research interests include the elucidation of physical forces that regulate cellular function in flowing blood, and translation of this knowledge to numerical and experimental strategies aimed at improving the design of blood recirculating devices such as prosthetic heart valves, ventricular assist devices and the total artificial heart, developing multiscale modeling approaches to describe blood clotting, and enhancing clinical diagnostics of cardiovascular diseases by using patient based numerical simulations.

He is the author of 150 peer reviewed scientific articles. He served as an associate editor of the ASME Journal of Medical Devices and currently as associate editor of Frontiers Bioengineering, and of Bioengineering J. He is a member of the editorial board and an associate editor in leading bioengineering journals. He is an active member in the Biomedical Engineering Society, Bioengineering Division of the American Society for Mechanical Engineers where he served as the elected chair of the BED Biofluids technical committee. He is a member of the National Institutes of Health (NIH) Steering Committee of the Multiscale Modeling (MSM) Consortium, the Dassault Systèmes Simulia Living Heart Project, and the International Hemodynamic Society.

Prof. Bluestein has received several major honors and awards including the Established Investigator Award from the American Heart Association (AHA) and the Quantum award from the NIH-NIBIB. He was elected as a Fellow of the Biomedical Engineering Society (BMES), a Fellow of the American Institute of Medical and Biological Engineering (AIMBE), and a member of the Natonal Academy of Inventors. He has published 160 peer reviewed papers and book chapters. He is the recipient of the 2021 ASME Savio L-Y Woo Translational Biomechanics Medal. He collaborates with several medical devices corporations and with leading CFD/FEA companies, and founded the Polynova Cardiovascular Inc. startup company. His research has been sponsored by various federal agencies and private foundations including the National Institutes of Health, the National Science Foundation, and the American Heart Association.

MEET THE PRESENTERS

Bernard E. Bulwer, MD, FASE. - Brigham and Women's Hospital

Research Associate in Noninvasive Cardiology

Considered an "outside the box", "visionary and strategic thinker", and a physician "ahead of his time", by leading experts at Harvard, Colombia, and the Cleveland Clinic, and beyond.

... Also called the "Leonardo da Vinci and the Frank Netter of Echocardiography"

Dr. Bulwer's focus is to "educate and equip" today's students and practitioners with the foundation tools for responsible use cardiac ultrasound "echo" stethoscopes - within their scope of training. Such tools are designed to complement medical education, diagnostic medical sonography programs, clinical practice, and global health.

Dr. Bulwer was born in Belize (Central America), with medical and postgraduate training in the West Indies (Jamaica, Trinidad & Tobago), University of London (King's College) and University of Newcastle-upon-Tyne (Freeman Hospital/Royal Victoria Infirmary) in the United Kingdom.

His specialist fellowships in Cardiology are in Noninvasive Cardiology and Echocardiography at the Brigham and Women's Hospital/Harvard Medical School in Boston, under tutelage by pioneering icons in the field - Harvard Professors Bernard Lown, MD, (Nobel Laureate), Eugene Braunwald, MD, and his protege, Professor Scott D. Solomon, MD. They, and others across the globe, have described his unique didactic works and contributions as the very best in the field.

He's been recognized (by the U.S. government) as a "person of extraordinary ability" (at the very top of his field), based on his unique contributions to field of echocardiography education.

He has served as author, co-author, editor, and medical illustrator of a number of textbooks and didactic works in echocardiography. These include:

Co-Editor-Author: Braunwald Heart Disease Companion Textbook: Essential Echocardiography (2018):

Mona Eskandari, PhD – University of California Riverside

Assistant Professor, Mechanical Engineering

Mona Eskandari is an Assistant Professor in the Department of Mechanical Engineering and associated faculty of Bioengineering and the BREATHE Center in the School of Medicine at UC-Riverside. Prior to her postdoctoral fellowship at UC-Berkeley, she received her doctorate and master's degree from Stanford University, and her bachelor's degree from the University of Arizona, where she was also a Nugent medalist. She is a recipient of the prestigious Hellman Faculty Fellowship and holds the honored title of Distinguished Teaching Professor. Additionally, she is a recipient of the renowned K. Patricia Cross Future Leaders of Higher Education Award from the Association of American Colleges and Universities. She has been honored with the University of California Provost's Engineering Faculty Research Fellowship, and was previously named a National Science Foundation Graduate Research Fellow, a DARE Doctoral Fellow, and a Stanford Graduate Science and Engineering Fellow. Her area of expertise is computational modeling and experimental characterization of biological systems, with an emphasis on pulmonary mechanics.

MEET THE PRESENTERS

Nicolas Gallo, PhD – Long Island University

Assistant Professor

Dr. Gallo is an Assistant Professor at the College of Pharmacy of Long Island University with 10 years of experience in medical engineering research and education. Dr. Gallo is working to contribute to the digitalization of healthcare through the development of computational modelling to address current life science issues in our society. He is committed to innovative research by connecting multiple scientific disciplines and driving the digital revolution in Life Science education. His research focuses on multiphysics and multiscale modelling of human systems to understand disease progression and drug metabolism for the purpose of developing adequate patient specific therapeutics and diagnostic technologies. Dr. Gallo holds a PhD from the Biomedical Engineering department of the Illinois Institute of Technology.

Alireza Heidari

Senior Scientist

Dr Heidari is a senior scientist in the Department of Mechanical Engineering at McGill University. He received his Ph.D. in Structural Mechanics from the Patrice Lumumba University in Moscow in 2014 and obtained Russian Candidate of Science from Moscow State University of Railway Engineering. He was visiting researcher at Technical University of Berlin in Germany in 2013 and an assistant professor at Tehran University until 2016. The focus of his current research is on computation modeling of cardiovascular soft tissue and shakedown analysis. He is a research member of the Living heart Project.

David Hoganson, MD – Boston Children's Hospital

Assistant, Department of Cardiac Surgery; Director, Computational 3D Visualization Program; Instructor of Surgery, Harvard Medical School

Dr. Hoganson is an Assistant in Cardiac Surgery, Department of Cardiac Surgery at Boston Children's Hospital, and is an Instructor of Surgery at Harvard Medical School. His clinical focus is on neonates and children with congenital heart disease. He has co-lead development of patient specific 3D modeling and computational flow modeling of complex cardiac disease for improved pre-operative planning and intraoperative guidance. His lab also focuses on development of medical devices to improve the safety and effectiveness of cardiac surgery. Dr. Hoganson has a background in engineering and industry experience developing cardiovascular medical devices prior to medical school. He graduated from the Temple University School of Medicine in 2004 and completed his general surgery residency and CT fellowship at the Washington University in St. Louis, and completed a congenital cardiac surgery fellowship at the Boston Children's Hospital in 2016.

MEET THE PRESENTERS

.

Patrick Johnson – Dassault Systèmes

Senior Vice President, Corporate Science & Research

Patrick Johnson is SVP Corporate Science & Research at Dassault Systèmes. His mission is to define the scientific bases of the company's solutions, invent new disruptive technologies for the Industry Renaissance and animate the group's global research ecosystem.

After joining in 1996, he held various positions in R&D, from Product Lifecycle Management infrastructure to virtual product design solutions for the CATIA flagship brand. In 2001, he became head of the artificial intelligence department and played an instrumental role with new engineering practices currently now adopted in multiple sectors, such as smart morphing templates, and industrial processes capitalization & reuse automation.

As Head of Corporate Research in 2004, he launched the development of original technologies for all brands, and significantly grew the global innovation ecosystem of public/private partnerships with prestigious research bodies. In addition, he launched a strategic diversification for 3DS, following a very large European research program (BioIntelligence), resulting in a suite of collaborative applications for the life sciences sector, and the creation of the BIOVIA brand with a worldwide R&D lab in modeling, simulation, big data for life sciences.

A graduate of ENSAE, Mr. Johnson is based at 3DS Headquarters near Paris. He is or has been a member of the National Academy of Technology as well as of the scientific boards of INRIA, and International Society of Computational Biology.

Dr. Rama Kondru Dassault Systemes Medidata

CEO

Dr. Rama Kondru was named co-CEO of Medidata in July 2021. An innovative and inspiring leader with over 20 years of experience in pharma, medical devices, data science, and academia, Dr. Kondru previously served as 3DS Medidata EVP, Chief Technology Officer and Head of Product overseeing the R&D organization with a focus on patient centricity, engineering excellence and analytics. In 2020, Dr. Kondru was named a top 100 life sciences leader by PharmaVOICE.

Dr. Kondru joined 3DS Medidata in 2019 from Janssen Americas, a Johnson and Johnson company, where he held a global commercial technology role as Senior Vice President and CIO for Janssen Pharmaceuticals - Americas, and, before that, a CIO role overseeing R&D and Innovation in the J&J Medical Devices group. He had also served as Global Head of Data Sciences and Advanced Analytics at J&J.

Prior to Janssen, Dr. Kondru held leadership and scientific roles at UCB Pharma and Hoffmann-La Roche.

Dr. Kondru is well recognized in the industry, having received multiple innovation awards and been named author on over 25 patents and 30 peer-reviewed scientific publications. He has an undergraduate degree from the Indian Institute of Technology, Mumbai, and a Ph.D. in computational sciences from the University of Pittsburgh. He completed post-doctoral research at the University of Pittsburgh Medical School and served as an adjunct professor at Duke University.

MEET THE PRESENTERS

Uday Komaragiri

Global Industry Strategy & Portfolio Lead - Life Sciences

Accomplished and results-driven Client Solution, Strategy and Development Leader with broad based expertise in client relationship management, marketing, digital transformation, cloud strategies, and innovation in the B2B software applications industry

Brandon Kovarovic:

PhD student

PhD student in Biomedical Engineering at Stony Brook University. I am applying my knowledge of mechanical engineering and biomechanics to biomedical problems. I am currently working in the Biofluids Research Group at Stony Brook studying the behavior and simulation of blood flow and its individual components.

Steven Kreuzer, PhD, PE – Exponent, Inc.

Managing Engineer

Dr. Kreuzer specializes in structural mechanics utilizing both finite element modeling and custom mechanical tests. He has extensive experience with analysis and testing of cardiovascular medical devices including stents and catheters, as well as musculoskeletal implants. Prior to joining Exponent, Dr. Kreuzer studied myocyte protein mechanics using molecular dynamics and cellular fluid/structural interactions in maturing and remodeling orthopedic tissues including cartilage and cortical bone.

Jean-Philippe Laguerre, PhD – Dassault Systèmes

Director, Education NAM – 3DExperience / PLM

JP Laguerre is a business executive leader with more than 20 years of experience in international consultative, strategic and enterprise Sales, and in managing enterprise accounts and strategic corporate initiatives.

JP is Director for Education in North America with Dassault Systèmes (DS), the 3DEXPERIENCE Company that provides end-to-end software, content and services, designed to support companies' innovation processes. In his role, he manages activities and relationships with academic institutions across North America to transform engineering education. He develops strategic partnerships to establish and manage Centers of Excellence engaged in various industries and focused on impactful research activities. He also works with Dassault Systèmes commercial customers to orchestrate and execute outreach programs focusing on Sciences, Technology, Engineering and Math (STEM).

Formerly, JP Laguerre had management responsibilities with DS commercial customers in various industries where he has managed executive relationships, has led sales engagement and managed engineering and project execution.

He joined Dassault Systemes in 1996 in Tokyo, Japan as an expert for the manufacturing solutions working with OEM and suppliers in the aerospace and automotive industries. He then transferred to California in the same capacity for North America.

Born in France, he holds a Master's degree in Electrical Engineering from The Polytech Group. He is also a graduate from UCLA Anderson.

JP Laguerre is on multiple boards with a common goal to transform STEM/STEAM education to be accessible to all, exciting and effective at all levels. He has been serving as a judge for engineering competitions and undergraduate senior design projects. He facilitated the creation of a FIRST Robotics team in Boyle Heights (East Los Angeles) volunteering his time with the i.am.angel Foundation to TRANS4M Lives in underserved communities.

MEET THE PRESENTERS

Steve Levine, PhD – Dassault Systèmes

Executive Director Living Heart Project & Sr. Director, Virtual Human Modeling

Dr. Steve Levine is Sr. Director of Life Science and the Executive Director of the Living Heart Project at Dassault Systèmes. Steve is responsible for leading the DS strategy for digital healthcare, including the 3DEXPERIENCE Twin, which uses advanced AI and VR to create functioning 3D human models. He is also responsible for incubating a startup community within the 3DEXPERIENCE Labs at DS and creating a marketplace of digital healthcare services.

Dr. Levine holds a Ph.D. in Materials Science from Rutgers University and was elected as a Fellow in the American Institute for Medical and Biological Engineering (AIMBE). He also has nearly 30 years of experience driving innovation in technology, beginning his career in health tech at the San Diego based startup Biosym that went public as Accelrys in 2004 and acquired by Dassault Systèmes in 2014.

Mathieu Le Provost, PhD – Long Island University

I am an Assistant Professor in the Department of Computer Science at Long Island University. I am working with a multidisciplinary team of faculties and engineers to build Digital Twins for human organs.

Ed Margerrison – U.S. Food & Drug Adminstration

Director, Office of Science and Engineering Labs, Center for Devices and Radiological Health

Ed is the Director for the Office of Science and Engineering Laboratories at the Center for Devices and Radiological Health, US FDA. The Office is responsible for providing technical expertise and analyses in support of the regulatory processes within CDRH. In addition, the c300 scientists and engineers engage in representing the Agency on International standards organizations, provide scientific guidance for policy, and "futureproof" the Center for technologies making their way into novel medical devices.

Previously, he was President and CEO of Ortho Regenerative Technologies, a biotech startup based in Montreal, developing novel biomaterial approaches to surgical soft tissue repair. During this appointment, Ed steered the company to listing on the Canadian stock exchange, and started the regulatory process for the technology with the Center for Biologics at FDA.

He has also held senior positions at Zimmer Biomet (Vice President of Biologics), where he was primarily responsible for the cartilage repair business, resulting in the division becoming Zimmer's Business Unit of the Year for 2014, and other positions in both the pharmaceutical (Akela Pharma) and Orthopedics (Smith & Nephew) industries.

Reda Nacif El Alaoui, Ph.D.:

RICHARD L. CONOLLY COLLEGE OF LIBERAL ARTS & SCIENCES, Department of Computer Science, Digital Engineering and Artificial Intelligence

MEET THE PRESENTERS

Symon Reza – Stony Brook University

PhD Candidate

Symon Reza completed his bachelor's degree in Mechanical Engineering from the National Institute of Technology in India, and went on to obtain a master's degree in Mechanical Engineering from Northern Arizona University. He is now a Biomedical Engineering PhD Candidate at Stony Brook University where he is able to apply his interests in Computational Fluid Dynamics, Finite Element Analysis, and Fluid-Structure Interaction to his research focus which is analyzing the risk of post TAVR cardiac conduction abnormality (CCA) using computational modeling of TAVR procedure in patient specific anatomies and Living Human Heart Model (LHHM).

Partho P. Sengupta, MD, MBBS, FACC - Rutgers Robert Wood Johnson Medical School and University Hospital

Dr. Partho P. Sengupta, MD, MBBS, FACC, is the Henry Rutgers Professor and the Chief of Division of Cardiology at Rutgers Robert Wood Johnson Medical School and the Robert Wood Johnson University Hospital. Dr Sengupta completed his clinical residency and cardiology fellowship from Mayo Clinic Rochester and Arizona in 2007 and 2010 respectively. He has over 250 peer-reviewed publications. He is an Associate Editor for the Journal of American College of Cardiology for Cardiovascular Imaging, has served as a Board of Director for the American Society of Echocardiography (ASE) and as the Chair of the ASE Telehealth and New Technology Taskforce. Prior to his role at Rutgers, he served as Abnash C Jain Chair and Professor of Cardiology, Chief of Division of Cardiology and Director of Cardiac Imaging at West Virginia University, Morgantown.

He has won several excellence awards with the most recent being the ASE's Rich Popp Award for Excellence in Teaching in 2020. Other significant awards include the AACIO Young Investigator Award in 2010, Mayo Brother's Distinguished Fellowship Award in 2009, Mayo Clinic Research Award in 2007, ASE's Young Investigator Award in 2004,among others.

With his futuristic ideas, investigative skills and international work, Dr. Sengupta is widely acclaimed by major media outlets. He delivered ASE's first-ever presentation using hologram technology at the ASE's 24th Annual Scientific Sessions in 2018. He was nominated by the American Medical Association for the "Inspiration in Medicine" talk,2017. In 2016, he was invited as stage speaker for TEDMED where he presented on "Using

Holography to Reshape Cardiology". He also received the ASE's 14th Feigenbaum Lectureship for his significant contributions to research in the field of echocardiography in 2013.

Afrah Shafquat – Medidata AI

Senior Data Scientist

Senior Data Scientist at Medidata Solutions where I work on developing machine learning models to generate insights from clinical trial data. Past experience in ML includes my work as an Insight Data Science Fellow for Maslo.AI, Postdoctoral Associate at Weill Cornell Medicine, and Data Science Consultant at Slalom Consulting

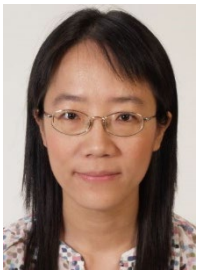
I have a PhD in Computational Biology (2020) from Cornell University where my dissertation focused on inferring errors in disease diagnoses using Bayesian hierarchical models under the mentorship of Professor Jason Mezey. Prior to Cornell, I graduated from MIT with an S.B. in Biological Engineering (2013).

MEET THE PRESENTERS

Ashley Stroh – Dassault Systèmes

Solution Consultant

Ashley Stroh is an intern at Dassault Systèmes on the Living Heart Project for the past year. Her work has been primarily on developing methodologies for heart models in order to make them easier to use and more realistic. She has developed experience using the CATIA and the 3DExperience platform to do so. She has worked on developing a baseline full adult heart, a pediatric heart, a left heart submodel, and a few disease state models. In addition to this work, she is a junior at Wichita State University in Kansas, studying Biomedical Engineering. "Working on the Living Heart Project has been such a great opportunity for me."



Jiang Yao, PhD – Dassault Systèmes

Life Sciences Industry Solution Technical Senior Manager

Jiang Yao received a bachelor's degree in Mechanical Engineering from Tsinghua University in 1999. She graduated from University of Rochester with a PhD in Computational Biomechanics in 2006, where she developed a finite element model for the knee joint to study the effect of knee injuries. She performed postdoctoral researches in computational simulation of cardiac morphogenesis in chick embryo and material modeling of plaque tissues using intravascular elastography. She lectured linear and nonlinear finite elements for undergraduate and graduate students at the University of Rochester in 2010. She joined Dassault Systèmes in 2011 as a technical specialist supporting Virtual Human Modeling activities and deliverables on human modeling and simulations. She developed musculoskeletal models for the upper and lower extremities, material databases and finite element models for various human organs and tissues (hand, foot, skin, bone etc.). She is the main developer for the Living Heart Human Model (LHHM) since 2017. Her major contribution on the LHHM is the addition of valves and coronaries, and implementation of the advanced electrophysiological model that enables LHHM to investigate cardiac toxicity of drugs.

LONG ISLAND UNIVERSITY
1 University Pl • Brooklyn, NY 11201

Brooklyn Campus Map

1. **Metcalfe Hall**
   - Public Safety
   - Canteen
2. **Student Union Building**
   - Enrollment Services - Third Floor
3. **Pratt Building**
   - Admissions - First Floor
   - Peets Café - First Floor
   - LIU Promise - Third Floor
   - Honors College - Third Floor
   - Roc Nation - Sixth Floor
4. **Humanities Building (H Building)**
   - Kumble Theatre - First Floor
5. **Bookstore**
6. **Conolly Residence Hall**
   - Shark Bite Café - First Floor
   - Esports Arena - First Floor
7. **Conolly Lawn**
8. **Cyber Café**
9. **Breezeway**
10. **Library Learning Center (LLC)**
    - Career Bar - Third Floor
    - Browse - Third Floor
    - Library - Third Floor
    - Learning Center - Fourth Floor
11. **LIU Pharmacy**
12. **Pharmacy Wet Lab**
13. **Shark Nation Courtyard**
14. **Health Sciences Center (HS Building)**
15. **Steinberg Wellness Center**
    - Natatorium - Lower Level (C)
    - Fitness Center - First Floor
    - Arena - Third Floor
16. **LIU Permit Parking**
17. **Athletic Fields**
18. **490 Fulton Residence Hall**

Key:
Bus Stop | Citi Bike | Subway

#3DEXPERIENCE

3DS.COM

DASSAULT SYSTEMES | The 3DEXPERIENCE® Company