

AI/AGI Symposium

**CARTA Phase II
NSF CARTA Directors Meeting
Industry Advisory Board (IAB) Meeting**

2024

May 14, 2024

**Rutgers University—New Brunswick
Rutgers Business School
100 Rockafeller Road
Piscataway, NJ 08854
carta.rutgers.edu**

**Center for Accelerated & Real Time Analytics (CARTA)
An NSF-funded Industry-University Cooperative Research Center
(IUCRC)**

JOIN THE AI/AGI ACCELERATION!

CARTA AI/AGI Symposium

JOIN THE AI/AGI ACCELERATION!



Join the dynamic mix of industry, university, and government thought leaders to

Discuss trends and collaborative projects that

Utilize the innovative resources of universities to

Meet the significant data analysis challenges of industry and government.

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HorizMed
Global

Produced by HorizMed Global, Inc.

Simon Schurr, Managing Director | Steve Klein, Managing Director | Miriam Ladin, Communication Director

Schedule **TUESDAY, MAY 14, 2024**

All times are EDT

8:00 - 9:00 AM

REGISTRATION, CONTINENTAL BREAKFAST, MEET & GREET

9:00 – 9:20 AM

WELCOME

- Vicente H. Gracias, MD, Senior Vice Chancellor, RBHS; VP Health Affairs, Rutgers University
- Prof. Lei Lei, PhD, Dean, Rutgers Business School
- Dr. Ann C. Von Lehmen, NSF/CNS Program Director
- Simon Schurr, Managing Director, HorizMed Global

9:20 – 9:30 AM

CARTA PHASE II: ONE CARTA, FOUR SITES OF CAPABILITIES

- Distinguished Prof. Dimitris Metaxas, Director, NSF/IUCRC CARTA
-

9:30 -10:30 AM

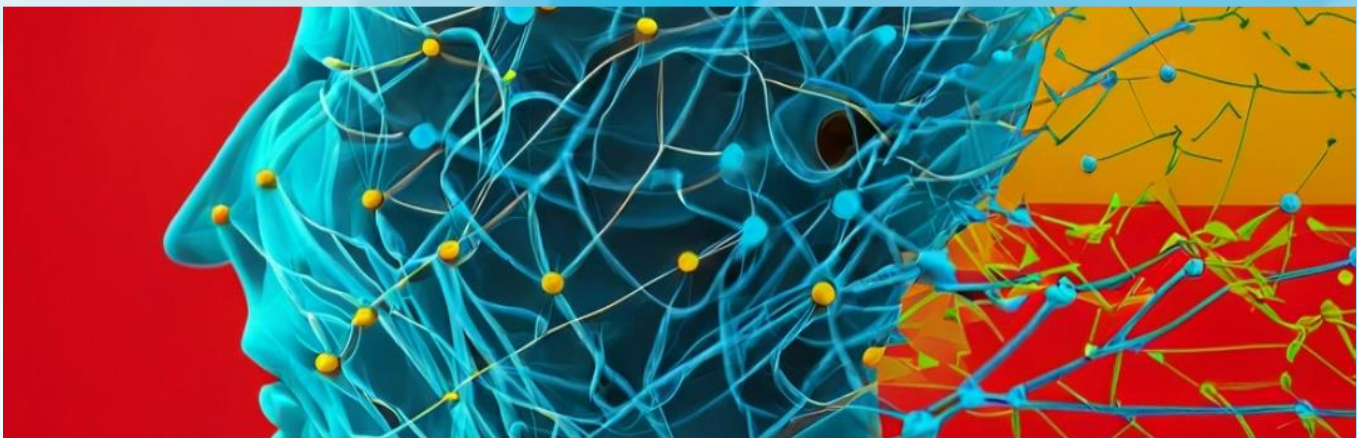
CARTA IAB MEETING: CARTA CAPABILITIES IN AI AND SCALABILITY

SPEAKERS:

- **RUTGERS UNIVERSITY**
 - Prof. Dimitris Metaxas, Director, NSF/IUCRC CARTA
- **UNIVERSITY OF MIAMI**
 - Prof. Mitsunori Ogihara, Site Director; Master of Science in Data Science
 - Prof. Yelena Yesha, Site Co-Director; Chief Innovation Officer, First Knight Foundation Chair, Data Science
- **UNIVERSITY OF MARYLAND BALTIMORE COUNTY**
 - Prof. Karuna P. Joshi, Site Director; Associate Professor of Information Systems
 - Prof. Milton Halem, Sr. Manager; Research Professor
- **ARIZONA STATE UNIVERSITY**
 - Prof. Ming Zhao, Site Director; Associate Professor

MODERATOR:

- Morgan Crafts, CARTA Phase I Board Chair Emeritus; Life Sciences, Defense Mission, and Health Solutions Sector, Peraton
-



Schedule

TUESDAY, MAY 14, 2024

All times are EDT

10:30 – 11:00 AM

NETWORKING BREAK: POSTERS, REFRESHMENTS

11:00 AM – 11:45 AM

EXECUTIVE DISCUSSION: GOVERNMENT-INDUSTRY AI/DATA ANALYTICS PERSPECTIVE

The unprecedented progress we've seen in AI will transform virtually every industry and improve countless lives. But to maximize the opportunity, close cooperation will be required between the private sector, academia, and government. Gov't-Industry perspective on how a collaborative AI/data analytics research ecosystem will meet challenges within the care delivery system, importance of cross-facility info sharing, security/patient safety, improved outcomes, accelerate University research into hospital application, improve patient access to quality care.

SPEAKERS:

- Jose Arrieta, Former CIO and CDO, HHS; Chief Imagineer, Imagineer
 - Paul Tibbits MD, Executive Director, OIT Office of Technical Integration, Dept of Veterans Affairs
 - Christopher White, PhD, President of NEC Laboratories America, USA
-

11:45 AM – 12:30 PM

THE IMPORTANCE OF A STRONG FOUNDATION FOR ROBUST AI TRAINING AND OUTCOMES

Developing trustworthy AI for healthcare brings additional challenges due to the sensitivity of patient data. Learn more about the importance of data standardization, privacy and security, challenges with data interoperability when working across institutions, and the importance of model explainability and reproducibility of results and predictions.

SPEAKERS:

- Heather Dewhirst, Health Innovation Scientist, Oracle Health
- Greg Storm, Co-Founder, TripleBlind

MODERATOR:

- Hans Müller Paul, PhD, Health Innovation Scientist, Oracle Health
-

12:30 – 2:00 PM

LUNCHEON & POSTERS

Schedule **TUESDAY, MAY 14, 2024** *All times are EDT*

2:00 – 2:45 PM

TRANSFORMING HEALTHCARE WITH AI TOOLS

Artificial Intelligence (AI) in medicine, and drug discovery and development is a new frontier. A close partnership between healthcare providers, clinical teams, big pharma, and technology vendors is essential for a positive healthcare outcome for the patient. These panelists support the careful and coordinated development of AI solutions across the biomedical ecosystem.

SPEAKERS:

- Richard Baumgartner, Sr. Dir., Biostatistics at Merck, Biometrics Research
- George Hou, National Account Manager, Department of Veterans Affairs, InterSystems
- Eric Stahlberg, PhD, Director, Cancer Data Science Initiatives, Frederick National Laboratory for Cancer Research
- Xiaoyou Ying, Head of Imaging and Analytics, Sanofi

MODERATOR:

- Paul Tibbits, MD, Executive Director, OIT Office of Technical Integration, Dept of Veterans Affairs
-

2:45 - 3:30 PM

ENABLING HEALTHCARE AT THE EDGE: EXTENDING CARE SECURELY

What does the future of care look like? Remarkable advancements in edge computing are increasingly driving near real-time decision-making in both in-patient and mobile health settings. How do we tackle the challenges of low-bandwidth, connectivity, interoperability, and security in home, rural, or combat environments, while meeting expectations of quality care? Discussion will include data collection at the edge, integration, security of distributed networks, along with an example of exciting AI approaches to rapid care delivery in non-brick and mortar settings.

SPEAKERS:

- Phil Newman, CEO, ViiMed
- Jason Turner, Entanglement
- Stanley Chang, Head of Development, AIONco

MODERATOR:

- Jose Arrieta, Former CIO and CDO, HHS; Chief Imagineer, Imagineer
-

Schedule **TUESDAY, MAY 14, 2024** *All times are EDT*

3:30 – 4:00 PM

NETWORKING BREAK: POSTERS, REFRESHMENTS

4:00 – 4:45 PM

CARTA PROJECT BRAINSTORMS: INDUSTRY – UNIVERSITY – GOVERNMENT ECOSYSTEM

Discussion to include:

- Collaborative Project Areas
- Continuity/Next Steps
- Joint Possible Megaproject

SPEAKERS:

- John Rusnak, Vice President, Leidos
- Moshe Ishai, MBA, Co-founder & COO, HolistiCyber
- Prof. Dimitris Metaxas, CARTA Director

MODERATOR:

- Prof. Yelena Yesha, U. of Miami
-

4:45 – 5:00 PM

LESSONS LEARNED AND THE YEAR AHEAD

SPEAKER:

- Prof. Dimitris Metaxas, CARTA Director
-

SYMPOSIUM ADJOURNMENT



Registration Details

Space is limited. Reserve your spot now to JOIN THE AI/AGI ACCELERATION.

ABOUT NSF-CARTA

CARTA is an NSF-funded Industry, University Cooperative Research Center (IUCRC) and produces collaborative novel science research projects in AI/GenAI/AGI Accelerated Real Time Analytics, focused on healthcare, digital twins, dynamic multimodal decision making, security, edge computing, and climate insights:

- Delivering cutting-edge research capabilities to address data analytics challenges,
- Leveraging NSF and membership funding to lower the cost of research,
- Creating competitive advantages and pre-certification testbed for commercial applications and
- Providing access to highly qualified PhD next generation leaders.

REGISTER

Register **HERE**

HOTELS

The following hotels are each approximately 10-minute drive to Rutgers Business School. Please contact the hotel directly via website or phone to secure your reservation.

[Hyatt Regency New Brunswick](#)

Two Albany Street, New Brunswick, NJ 08901
Tel: +1 732 873 1234

[The Heldrich Hotel & Conference Center](#)

10 Livingston Ave, New Brunswick, NJ 08901
Tel: 732-729-4670

[Hilton East Brunswick Hotel & Conference Ctr.](#)

3 Tower Center Boulevard
East Brunswick, NJ 08816
Tel: 732-828-2000

[Home2Suites by Hilton](#)

19 NJ-18
New Brunswick, NJ 08901
Tel: 848-237-4504

[Rutgers University Inn & Conference Center](#)

178 Ryders Lane New Brunswick, NJ 08901
Tel: 732-932-9144
Email: rutgersinn@docs.rutgers.edu

CARTA DIRECTORS

Dimitris Metaxas, PhD

Dimitris Metaxas is a Distinguished Professor in the Dept. of CS at Rutgers Univ. He is the [NSF IUCRC CARTA Phase II Director](#) and Director of the Rutgers Center for Computational Biomedicine, Imaging and Modeling ([CBIM](#)) and has been running NSF IUCRCs since 2010. His research focuses on novel AI, machine learning, computer vision methods and medical image analysis methods. He has been developing novel AI methods for image and text generation using Generative Adversarial Methods and Diffusion models, large foundation models (LLMs, VLMs), human explainable AI, semi-supervised and unsupervised learning methods and has applied them to many problems in computer vision and biomedical applications. His research has been supported by NSF, NIH, AFOSR, DARPA, HSARPA and ONR. He is a co-organizer of the Dynamic Data Driven Application Systems (DDDAS) Conference in 2024, a General Chair of IEEE/CVF Computer Vision and Pattern Recognition (CVPR) in 2026, and of the Information Processing in Medical Imaging IPMI in 2025. He is a Fellow of the American Institute of Medical and Biological Engineers, Fellow of IEEE and Fellow of the MICCAI Society.



Dr. Metaxas got his Diploma with highest honors from the Technical University of Athens Greece in 1986, his MSc from the Univ. of Maryland in 1988, and his PhD from the Univ. of Toronto in 1992. From 1992 to 2002 he was a tenured Prof. at UPENN with early tenure, and since 2002 joined Rutgers Univ and founded CBIM. He has over 800 published articles, has graduated over 67 PhD students, has pioneered several methods in AI, computer vision, computer graphics (water scenes in Move “Ants” in 1998 based on software developed by his student Nick Foster) and medical image analysis, and has received numerous awards at top conferences. He has 10 patents.

Yelena Yesha, PhD

At the University of Miami, Dr. Yelena Yesha is the Knight Foundation Endowed Chair of Data Science and AI at the Frost Institute for Data Science and Computing (IDSC). At IDSC, Dr. Yesha is also the Director for the Machine Learning and AI program, as well as Innovation Officer and Head of International Relations. In her Innovation role, Dr. Yesha assists faculty in engaging government and industrial partners to collaborate with the University and consults with faculty on developing research ideas into innovations.

Dr. Yesha was the Founding Director of the [National Science Foundation Center for Accelerated Real Time Analytics](#) (CARTA), an NSF-funded Industry/University Cooperative Research Center (IUCRC) that aims to develop long-term partnerships among industry, academia, and government. CARTA partners with Rutgers University New Brunswick, North Carolina State University, the University of Maryland Baltimore County (UMBC), Tel Aviv University, and the [University of Miami](#).



Mitsu Ogihara, PhD

Dr. Mitsu Ogihara is a professor of Computer Science at the University of Miami, Director of an interdisciplinary Master of Science in Data Science with the College of Arts and Sciences, and the Director of Education and Workforce Development at the Institute for Data Science and Computing. Dr. Ogihara has more than 200 research papers and is the Editor-in-Chief of the journal Theory of Computing Systems.



Karuna P. Joshi, PhD

Dr. Karuna P. Joshi is an Associate Professor of Information Systems at UMBC and UMBC Director [CARTA](#). She also directs the Knowledge Analytics Cognitive and Cloud ([KnACC](#)) Lab. Her research focus is in the areas of Data Science, Cloud Computing, Data Security and Privacy, and Healthcare IT systems. She has published over 90 papers, and her research is supported by ONR, NSF, DoD, GE Research, and Cisco. She teaches courses in Big Data, Database Systems Design, and Software Engineering. She received her MS and Ph.D. in Computer Science from UMBC, where she was twice awarded the IBM Ph.D. Fellowship, and her Bachelors in Computer Engineering from the University of Mumbai, India. Dr. Joshi also has extensive experience working in the industry, primarily as an IT Program/Project Manager at the International Monetary Fund. Website: <https://karuna.informationssystemsm.umbc.edu/>



Milton Halem, PhD

Dr. Milton Halem is a research professor in the UMBC Computer Science and Electrical Engineering department. He also holds an Emeritus position as Chief Information Research Scientist to the Director of the Earth Sciences Directorate at the NASA Goddard Space Flight Center. Prior to retiring in 2002, Dr. Halem served in the joint capacity as Assistant Director for Information Sciences and Chief Information Officer for the NASA Goddard Space Flight Center. Dr. Halem provided the strategic information science and technology focus and oversight for the entire mission critical programs and projects at the Center. He is most noted for his groundbreaking research in simulation studies of space observing systems and for development of four dimensional data assimilation for weather and climate prediction. Over the years, his achievements have earned him numerous awards including the NASA Medal for Exceptional Scientific Achievement, the NASA Medal for Outstanding Leadership, and NASA's highest award; the NASA Distinguished Service Medal in 1996. Dr. Halem is also a noted screen printmaker of Art from Space.



Ming Zhao, PhD

Dr. Ming Zhao is an associate professor of the Arizona State University (ASU) School of Computing and Augmented Intelligence (SCAI), where he directs the research laboratory for Virtualized Infrastructures, Systems, and Applications (VISA). His research is in the areas of experimental computer systems, including distributed/cloud, big-data, and high-performance systems as well as operating systems and storage in general. He is also interested in the interdisciplinary studies that bridge computer systems research with other domains. His work has been funded by the National Science Foundation (NSF), Department of Homeland Security, Department of Defense, Department of Energy, and industry companies, and his research outcomes have been adopted by several production systems in industry.



Zhao is a recipient of the NSF Faculty Early Career Development (CAREER) award, the Air Force Summer Faculty Fellowship, the VMware Faculty Award, and the Best Paper Award of the IEEE International Conference on Autonomic Computing. He received his bachelor's and master's degrees from Tsinghua University, and his doctorate from University of Florida.



RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY

ASU Arizona State
University



MIAMI



UMBC

SPEAKERS – in progress

Paul Tibbits, MD

Executive Director, OIT Office of Technical Integration at Dept of Veterans Affairs

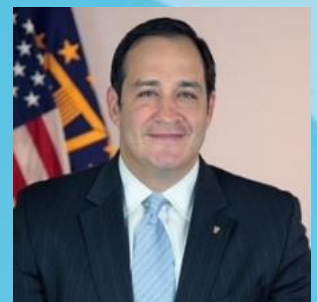
Dr. Paul Tibbits has more than 35 years' experience leading change management, process re-engineering, and IT initiatives that support federal healthcare programs. He developed and implemented two worldwide medical record systems in the Department of Defense (DOD), restructured IT management, and regularly represented IT projects to senior government and private sector executives and Congress. Among them was the first and largest change management program in support of DOD's first and largest medical IT program. In December 2006, Dr. Tibbits began his career with the Department of Veterans Affairs where he served as deputy CIO for enterprise development; deputy CIO for architecture, strategy, and design; and program executive officer for the Financial Management Business Transformation program, prior to his current position. He currently serves as executive director for the OIT Office of Technical Integration. Dr. Tibbits is board-certified in internal medicine and cardiology and is a Fellow of the American College of Cardiology. Dr. Tibbits is a veteran, having served 26 years in the U.S. Navy, and was qualified in undersea medicine. He was a member of the Navy Acquisition Corps and was a Defense Acquisition Workforce Improvement Act trained acquisition professional.



Jose Arrieta

Chief Imagineer at Imagineer

Jose Arrieta is the former Chief Information Officer and Chief Data Officer of HHS. He is a respected leader in applying emerging technologies, especially blockchain, artificial intelligence/machine learning and robotic process automation, to Federal business processes and mission critical program challenges. He currently serves at the University of Virginia and Johns Hopkins University as an Adjunct Professor focused on AI, Blockchain, Business Management, and Public Procurement. He has pushed for a broader policy view in the USG of AI, blockchain in technology and created government-wide communities (e.g. ACT IAC Blockchain Working Group) focused on identifying blockchain use cases and best practices. Jose led the creation of HHS PROTECT, the largest public health surveillance capability in the history of the United States, among other significant programs to aid the COVID 19 vaccination efforts.



Morgan Crafts

Program Manager, Life Sciences, Defense Mission, and Health Solutions Sector, Peraton

Morgan Crafts is a former Director of Technology, Health IT in Northrop Grumman Information Systems. He has been the CARTA Phase I Board Chair Emeritus. Crafts brings extensive leadership experience to Peraton, where they drive innovation and strategic growth initiatives.



Richard Baumgartner, PhD

Sr. Dir., Biostatistics at Merck, Biometrics Research

Dr. Baumgartner is a Senior Director with the Biometrics Research Department, Biostatistics and Research Decision Sciences (BARDS) at Merck and Co., Inc. in Rahway, NJ. During his time at Merck, he has supported early clinical and preclinical studies with imaging components, including functional Magnetic Resonance Imaging (fMRI), dynamic contrast-enhanced MRI (DCE-MRI), and Positron Emission Tomography (PET) imaging, in the fields of neuroscience, inflammation, and cardiovascular therapeutics. He is currently involved also in several projects in the field of Artificial Intelligence and Machine Learning (AIML). Previously, he held the position of Associate Research Officer at the Institute for Biodiagnostics, National Research Council Canada in Winnipeg, Canada, where he worked on the development of methods for exploratory analysis of fMRI. At the Institute for Biodiagnostics, he also worked on metabolomic applications to develop diagnostic biomarkers for the prediction of pathogenic fungi and breast cancer. Richard holds a PhD in Electrical Engineering from the University of Technology Vienna, Austria.

**Stanley Chang**

Head of Development, AIONco

Heather Dewhirst

Health Innovation Scientist, Oracle Health

Heather Dewhirst is a Health Innovation Scientist at Oracle Health, with extensive experience in healthcare workflows and interoperability. She brings a background in frontline clinical practice, academic training, and experience in Informatics from Mayo Clinic as a Nuclear Medicine Technologist and Radiology Systems Analyst. Heather's focus is on integrating healthcare data from disparate sources to improve measurement of holistic health, and she's passionate about driving optimization through healthcare system integration.



Moshe Ishai, MBA

Co-founder & COO, HolistiCyber

Moshe is a world class expert in cybersecurity. He serves as a senior advisor to several National Cyber CERT nation level committees. Moshe has over 25 years of broad experience and knowledge in cybersecurity and information systems. He has played a major role in helping global clients in the financial, technology, telecommunications and defense sectors successfully implement cybersecurity defense strategies. Before co-founding HolistiCyber, Moshe served as the CEO of COMSEC – the first and largest information security and cybersecurity consulting group in Israel. Moshe worked for the Israeli DoD, Chaired nation state cyber security committees, was a senior advisor of the Israeli National Cyber Bureau, and Israel's National Cyber Authority.

**Hans Müller Paul, PhD**

Health Innovation Scientist, Oracle

Hans currently works at Oracle Health, in the Digital Health and AI/ML Innovation space. He advises internal and external stakeholders on AI/ML model development and implementation strategy, modernization of existing product, and digital transformation. He also leads the patient safety efforts for the Health Innovation team at Oracle, presents at conferences and produces content for thought leadership on the use of AI/ML and emerging technologies at the forefront of healthcare.

**Phil Newman**

CEO, ViiMed

Phil founded ViiMed in 2008, He is responsible for company's and product's vision and direction. Over a decade ago, Phil created the first no-code platform for healthcare. He designed the company's government and commercial marketplace strategies, becoming the first no-code platform for healthcare organizations to build a marketplace of workflow-driven care delivery solutions. In 2017, Phil identified an important market need to take ViiMed's no-code platform to the edge, enabling a high-fidelity data movement capability that complements its no-code platform. Today, ViiMed is extending enterprise applications to the edge, empowering these solutions to operate in a disconnected state. Phil authored and secured a patent for asynchronous video communication and authored a patent on no-code care delivery at the edge. Currently, Phil is breaking ground with industry large partners to solution the first AI-enabled no-code layer that will drive even greater innovations to the edge.



Eric Stahlberg, PhD

Director, Cancer Data Science Initiatives, Frederick National Laboratory for Cancer Research

Dr. Eric Stahlberg directs cancer data science initiatives at the Frederick National Laboratory. He has been instrumental in establishing the Frederick National Laboratory's HPC initiative and in assembling collaborative teams across multiple, complex organizations to advance predictive oncology. Stahlberg has played a leadership role in many key partnerships, including forming the collaboration between the National Cancer Institute and the Department of Energy where the agencies are accelerating progress in precision oncology and computing. He has led program efforts establishing foundations for digital twin applications in cancer, and now advancing personalized medicine for all individuals through virtual human models and digital twin approaches. He co-organizes the annual Computational Approaches for Cancer at SC and HPC Applications of Precision Medicine workshops at ISC. Most recently, he spearheaded the first Virtual Human Global Summit in October 2023. Website: <https://frederick.cancer.gov>

**Greg Storm**

Co-Founder, TripleBlind

Greg Storm is a seasoned entrepreneur and executive with over two decades of experience in consultancy, academia, and business operations. Currently, he serves as the Co-Founder and Chief Operating Officer at TripleBlind, where he oversees internal operations, product innovation, and team growth. Previously, Greg held leadership roles at Zoloz, where he directed a research team, and Accenture, where he managed the North American Utility Industry Finance and Performance Management Practice. Alongside his corporate endeavors, Greg has been actively involved in academic pursuits, having obtained a PhD in entrepreneurship and innovation, published research articles, and served as an adjunct professor. His diverse background spans industries, disciplines, and sectors, including nonprofit work and entrepreneurial ventures focused on education and healthy food options.

**Jason Turner**

CEO, Entanglement, Inc.

Jason Turner is the CEO of Entanglement, Inc., a deep tech AI company fusing next-gen computing and quantum-inspired algorithms to solve previously unsolvable problems. Jason is an investor and digital media pioneer with over 20 years of HPC experience. He has helped shape the U.S. national quantum narrative and is a founding member of the U.S. Government's QED-C, Quantum Industry Coalition, NSF's Center for Quantum Technologies, and co-organized the first international Quantum AI workshop in the U.S. Jason has advised the White House on workforce development policy and is the CEO of Sensate Holdings, LLC, a private holding company.



Christopher White, PhD

President, NEC Laboratories America, USA

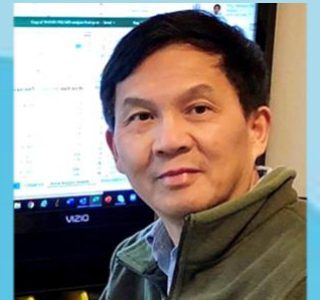
Christopher White has served as the President at NEC Laboratories America, Inc. since March 2020, where he leads a team of world-class researchers focusing on diverse topics from sensing to networking to machine learning-based understanding. Chris has extensive expertise in scientific computing, hierarchical simulation techniques, quantum chemistry, optical networks, optical devices, and acoustic scattering. His research interests include the development of computational models and methods for the simulation and control of interesting physical and digital systems. This has included work in areas ranging from linear scaling quantum chemistry simulations to the design of new optical devices, to the global control of transparent optical mesh networks and to understanding and facilitating the propagation of ideas in organizations. In addition to the management of a team of world-class researchers, his current work focuses on the creation of assisted thinking tools that leverage structural similarity in data with the goal of augmenting human intelligence.



Xiaoyou Ying, PhD

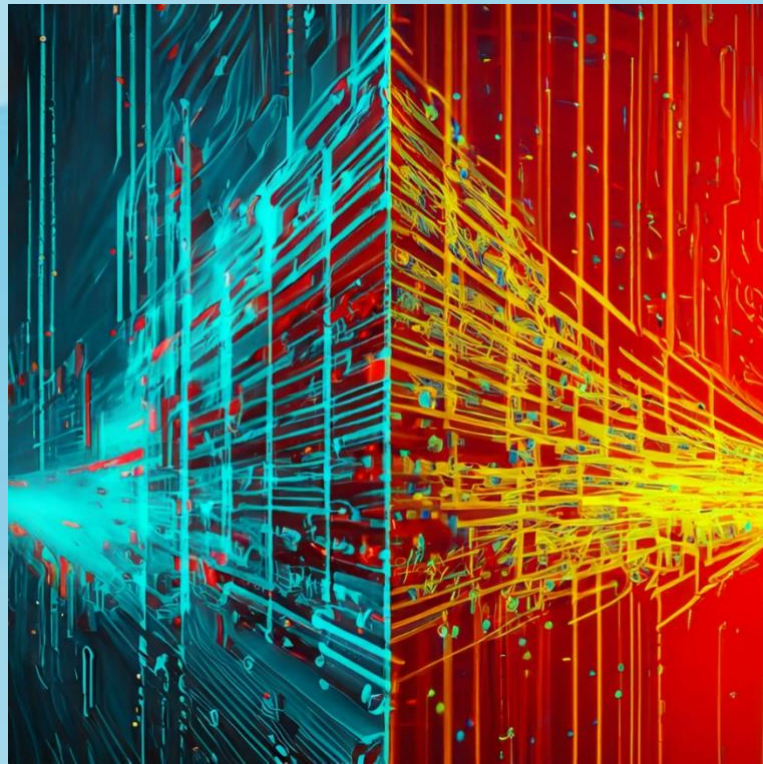
Head of Bioimaging US, Translational In vivo Models, Global Research Platform, Sanofi R&D, Sanofi

Xiaoyou Ying is a pathophysiological and bioimaging scientist in Sanofi R&D, where he leads the US Bioimaging Group, Translational Models Research Platform. Dr. Ying holds degrees from science school (PhD, Biophysics), medical school (MSc, Microvascular Medicine / Biomedical Engineering) and engineering school (BEng, Biomedical Engineering). Before joining the biopharmaceutical industry, Dr. Ying was a faculty member at Columbia University (1995-2000), where he also completed his postdoctoral training in lung biology/pathophysiology (1992-1995). He was a Researcher in the Neurosurgical Research Unit, Oulu University, Finland (1990-92), and a Lecturer and Director of Biomedical Engineering Laboratory, the Microcirculation Institute, CAMS/PUMC, China (1984-1990). Dr. Ying was participating in the ex-CDDA activities as a co-Chair of the IAB (2011-2013). Dr. Ying's research experiences include multi-organ pathophysiological research, neuroimaging, digital imaging based cellular and molecular analyses, high-content-analysis, digital pathology, telepathology, bioimaging informatics, preclinical and translational imaging biomarkers/strategies for drug discovery & development.



SEE YOU AT THE EDGE
AND IN REALTIME DATA ANALYTICS!

NEXT CARTA EVENT:
University of Miami, Date TBD



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