Society for Imaging Science and Technology

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Computational Imaging XIX

New York　　Paris　　Tokyo

NOTES ABOUT THIS VIEW OF THE PROGRAM
- Below is the the program in New York time.
- Talks are to be presented live during the times noted and will be recorded. The recordings may be viewed at your convenience, as often as you like, until **30 April 2021.**

MONDAY 18 JANUARY 2021

Software for Computational Imaging: Open Source Tools and Best Practices I

Hosts: Charles Bouman, Purdue University (United States) and Gregery Buzzard, Purdue University (United States)
Session Chair: Brendt Wohlberg, Los Alamos National Laboratory (United States)
10:00 − 11:15

Red Room
10:00
Conference Introduction

10:15　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-051
ODL - A Python based framework for model and deep learning based methods for image reconstruction, *Ozan Öktem[1], Jonas Adler[2], and Holger Kohr[3]; [1]KTH Royal Institute of Technology (Sweden), [2]Google DeepMind (United Kingdom), and [3]Thermo Fisher Scientific (the Netherlands)*

IMPORTANT DATES

	2020
Abstract submission opens	1 June
Final submission deadline	**7 Oct**
Manuscripts due for FastTrack publication	23 Nov
Early Bird registration ends	18 Dec
Early registration ends	31 Dec

	2021
Short Courses begin	11 Jan
Symposium begins	18 Jan
All manuscripts due	8 Feb
Conference Portal Closes	30 April

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10:35　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-052

Computational imaging using Julia, *Jeffrey Fessler, University of Michigan (United States)*

10:55　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-053

Reproducible computational imaging of tomographic data, *Marcus Hanwell, Brookhaven National Laboratory (United States)*

11:15 — 11:45 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

PANEL: Software for Computational Imaging: Open Source Tools and Best Practices

Panel Moderator: Charles Bouman, Purdue University (United States)
Panelists: Lawrence Drummy, Air Force Research Laboratory (United States); Doga Gursoy, Argonne National Laboratory (United States); Dilworth Parkinson, Univ. of California, Berkeley (United States); Singanallur Venkatakrishnan, Oak Ridge National Laboratory (United States); and Brendt Wohlberg, Los Alamos National Laboratory (United States)
11:45 — 12:45

Red Room
Open source software systems such as TensorFlow and SciPy have revolutionized the way that imaging science is done. This will be an interactive session in which both the panel and attendees will discuss how the community can generate and leverage open source tools for lasting impact in computational imaging.

CONFERENCE INTERACTIVE POSTERS, DEMONSTRATIONS, AND BREAK

12:45 — 13:15

see below for location
Posters and/or Demonstrations presented live during this break are related to any of the conferences held today. Zoom links to visit the posters and/or demonstrations are found on the home page of the Symposium Portal. We invite you to visit with the presenters in the designated Zoom or meet with other attendees in Discord.

COIMG-025D

ZOOM A — COIMG DEMO: "Mask recognition in the covered safe entry scanner", *Henry Dietz, University of Kentucky (United States)*

In the COIMG demo, Henry Dietz will augment the oral presentation of the same title, demonstrating recognizing whether a mask is being properly worn.

CVAA-017

ZOOM B — CVAA POSTER: Resolution enhancement in the recovery of underdrawings via style transfer by generative adversarial deep neural networks, *George Cann[1], Anthony Bourached[1], Ryan-Rhys Griffiths[2], and David Stork[3]; [1]University College London (United Kingdom), [2]Cambridge University Press (United Kingdom), and [3]Consultant (United States)*

MOBMU-038D

ZOOM C — MOBMU DEMO: "AI-based real-time monitoring system for a smart energy house, Part II", *Lukasz Rojek[1,2], Saiful Islam[2], Michael Hartmann[2], and Reiner Creutzburg[2,3]; [1]Beuth Hochschule für Technik Berlin, Fachbereich Geoinformation, [2]SRH Berlin University of Applied Sciences, and [3]Technische Hochschule Brandenburg (Germany)*

The MOBMU demo will augment the oral presentation of the same title by Lukasz Rojek et al.

Facial Recognition and Processing

Session Chair: Henry Dietz, University of Kentucky (United States)
13:15 − 14:15

Red Room
13:15   COIMG-023
Extreme face inpainting with sketch-guided conditional GAN, *Nilesh Pandey and Andreas Savakis, Rochester Institute of Technology (United States)*

13:55   COIMG-025
Mask recognition in the covered safe entry scanner, *Henry Dietz, University of Kentucky (United States)*

14:15 − 18:00 Break in program to accommodate time zones.

KEYNOTE: Software for Computational Imaging: Open Source Tools and Best Practices

Session Chair: Brendt Wohlberg, Los Alamos National Laboratory (United States)
18:00 — 19:15

Red Room

18:00
Conference Introduction

18:15   COIMG-032
KEYNOTE: Developing open source scientific software (in Python), *Stéfan van der Walt, University of California, Berkeley (United States)*

Keynote speaker Stéfan van der Walt is a senior research data scientist at the Berkeley Institute for Data Science (BIDS), where he leads the Software Working Group, and focuses on advancing science at the intersection of domains and computation. He is the founder of scikit-image and co-author of Elegant SciPy. van der Walt has been developing scientific open source software for more than a decade, focusing mainly on Python packages such as NumPy & SciPy. Until May 2014, van der Walt was a lecturer in applied mathematics at Stellenbosch University in the Vision and Learning Group. Most of his software can be found on GitHub, including most of his Python for science lectures. His publications are listed on Google Scholar.

18:55   COIMG-033
TomoPy: A Python framework for tomographic imaging, *Doga Gursoy, Argonne National Laboratory (United States)*

Quanta Image Sensing

Session Chair: Stanley Chan, Purdue University (United States)
19:45 — 20:45

Red Room
19:45   COIMG-046
Dynamic low-light imaging with Quanta Image Sensors, *Yiheng Chi[1], Abhiram Gnanasambandam[1], Vladlen Koltun[2], and Stanley Chan[1]; [1]Purdue University and [2]Intel Labs (United States)*

20:05　　　　　　　　　　　　　　　　　　　　　　　　　**COIMG-047**

Image classification in the dark using Quanta Image Sensors, *Abhiram Gnanasambandam and Stanley Chan, Purdue University (United States)*

20:25　　　　　　　　　　　　　　　　　　　　　　　　　**COIMG-048**

Addressing bottlenecks in algorithms with tensor Kronecker product structure, *Charles Colley[1], Huda Nassar[2], and David Gleich[1]; [1]Purdue University and [2]Stanford University (United States)*

TUESDAY 19 JANUARY 2021

PLENARY: Deep Internal Learning—Deep Learning with Zero Examples

Session Chair: Charles Bouman, Purdue University (United States)
10:00 — 11:10

Plenary Room
Deep internal learning—Deep learning with zero examples
Michal Irani, Professor in the Department of Computer Science and Applied Mathematics at the Weizmann Institute of Science (Israel)

Michal Irani is a professor at the Weizmann Institute of Science. Her research interests include computer vision, AI, and deep learning. Irani's prizes and honors include the Maria Petrou Prize (2016), the Helmholtz "Test of Time Award" (2017), the Landau Prize in AI (2019), and the Rothschild Prize in Mathematics and Computer Science (2020). She also received the ECCV Best Paper Awards (2000 and 2002), and the Marr Prize Honorable Mention (2001 and 2005).

11:10 — 11:40 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

In Situ Sensing and Analysis for Autonomous Materials Research

Session Chair: Gregery Buzzard, Purdue University (United States)
11:40 — 13:00

Red Room

11:40 COIMG-082

Super-resolution for paired electron microscopic images, *Yu Ding, Texas A&M University College Station (United States)*

12:00 COIMG-083

Integrating machine learning and three-dimensional chemical imaging to extract latent features in material structures, *Baishakhi Mazumder, University at Buffalo (United States)*

12:20 COIMG-084

Data-driven approaches for high-throughput experiment and analyses, *Samantha Daly and Zhe Chen, University of California, Santa Barbara (United States)*

12:40 COIMG-085

Automated analysis of transmission electron microscopy images using machine learning methods, *James Horwath[1], Rémi Megrét[2], Dmitri Zakharov[3], and Eric Stach[1]; [1]University of Pennsylvania (United States), [2]University of Puerto Rico, Río Piedras (Puerto Rico), and [3]Brookhaven National Laboratory (United States)*

COIMG Wine and Cheese Social

Hosts: Charles Bouman and Gregery Buzzard, Purdue University, and Begum Gulsoy, Northwestern University (United States)

13:00 — 14:30

See Gather link in notes

The link is https://gather.town/app/85l5TbzDEereE2xf/COIMG-social

The password is computationalimaging

14:30 — 18:00 Break in program to accommodate time zones.

Imaging through Turbulent & Scattering Mediums I

Session Chair: Casey Pellizzari, United States Air Force Academy (United States)

18:00 − 19:15

Red Room

18:00
Conference Introduction

18:15   COIMG-076
Learning deep speckle correlation with an interpretable deep neural network, *Lei Tian, Boston University (United States)*

18:35   COIMG-077
Image reconstruction of static and dynamic scenes through anisoplanatic turbulence, *Zhiyuan Mao, Nicholas Chimitt, and Stanley Chan, Purdue University (United States)*

18:55   COIMG-078
Simulating anisoplanatic turbulence by sampling inter-modal and spatially correlated Zernike coefficients, *Nicholas Chimitt and Stanley Chan, Purdue University (United States)*

Imaging through Turbulent & Scattering Mediums II

Session Chair: Casey Pellizzari, United States Air Force Academy (United States)
19:45 − 20:45

Red Room

19:45   COIMG-079
LUCID: Multi-frame blind deconvolution accelerated with graphical processing units, *Michael Werth[1], Brandoch Calef[1], Kevin Roe[1], and Amanda Conti[2]; [1]Boeing Defense Space and Security and [2]Air Force Research Laboratory (United States)*

20:05   COIMG-080
Recovering atmospheric image motion in the extreme faint limit, *Michael Hart, HartSCI LLC (United States)*

20:25   COIMG-081
Long range tracking with computational 2.5-D imagery, *Jason Schmidt[1], Mitchell Grose[1], Yakov Diskin[1], Joseph Riley[1], Matthias Banet[2], and James Fienup[2]; [1]MZA Associates Corporation and [2]University of Rochester (United States)*

WEDNESDAY 20 JANUARY 2021

11:15 — 11:45 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

11:15 — 11:45 Women-in-Engineering Speed Networking (Morning) - take a break from technical sessions to make new connections and greet old friends. Look for the ZOOM link in Discord #announcements.

14:15 — 18:00 Break in program to accommodate time zones.

Imaging through Turbulent & Scattering Mediums III

Session Chair: Casey Pellizzari, United States Air Force Academy (United States)
19:45 — 20:45

Red Room
19:45 COIMG-125
Single-shot 3D holographic particle localization using deep priors trained on simulated data, *Waleed Tahir[1], Simon Gilbert[1], Hao Wang[1], Jiabei Zhu[1], Ulugbek Kamilov[2], and Lei Tian[1]; [1]Boston University and [2]Washington University in St. Louis (United States)*

20:05 COIMG-126
Experiments on active imaging through fog, *Samuel Thurman[1], Andrew Bratcher[1], Bruce Tiemann[1], Dawson Chung[1], Samuel Park[2], James Lindle[3], Abbie Watnik[2], and Paul Lebow[4]; [1]Lockheed Martin Coherent Technologies, [2]U.S. Naval Research Laboratory, [3]DCS Corporation, and [4]Alaire Technologies Inc. (United States)*

20:25 COIMG-127
Revealing subcellular structures with live-cell and 3D fluorescence nanoscopy, *Fang Huang, Purdue University (United States)*

THURSDAY 21 JANUARY 2021

PLENARY: The Development of Integral Color Image Sensors and Cameras

Session Chair: Jonathan B. Phillips, Google Inc. (United States)
10:00 — 11:10

Plenary Room

The development of integral color image sensors and cameras
Kenneth A. Parulski, Expert Consultant: Mobile Imaging (United States)

Kenneth Parulski is an expert consultant to mobile imaging companies and leads the development of ISO standards for digital photography. He joined Kodak in 1980 after graduating from MIT and retired in 2012 as research fellow and chief scientist in Kodak's digital photography division. His work has been recognized with a Technical Emmy and other major awards. Parulski is a SMPTE fellow and an inventor on more than 225 US patents.

11:10 — 11:40 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

AI-driven Imaging Instruments I

Session Chair: Doga Gursoy, Argonne National Laboratory Advanced Photon Source (United States)
11:40 — 13:00

Red Room

11:40   COIMG-145
The physical search engine: AI for explorative 3D imaging, *Joost Batenburg, University of Leiden (the Netherlands)*

12:00   COIMG-146
Data versus physical models in computational optical imaging, *Demetri Psaltis, Ecole Polytechnique Federale de Lausanne (Switzerland)*

12:20   COIMG-147
Deep learning and image restoration: A match made in heaven or hell?, *Sabine Süsstrunk, Ecole Polytechnique Federale de Lausanne (Switzerland)*

12:40   COIMG-148
Self-supervised deep learning for ptychography without reference data, *Selin Aslan, Zhengchun Liu, Tekin Bicer, and Doga Gursoy, Argonne National Laboratory (United States)*

Imaging through Turbulent & Scattering Mediums IV

Session Chair: Casey Pellizzari, United States Air Force Academy (United States)
13:30 − 14:30

Red Room
13:30
Conference Introduction

13:35   COIMG-351
Reconstruction problems in medical and optical imaging: Evaluating filters for suppression for Gibbs Ringing, *Yue Wang, University College Dublin (Ireland)*

13:50   COIMG-165
Imaging through deep turbulence using digital holography experiments, *Mark Spencer[1] and Casey Pellizzari[2]; [1]Air Force Research Laboratory Directed Energy Directorate and [2]United States Air Force Academy (United States)*

14:10   COIMG-166
Robustness of Fourier ptychographic imaging to variation of system parameters, *Moritz Siegel[1,2], Lukas Traxler[1], and Laurin Ginner[1]; [1]AIT Austrian Institute of Technology GmbH and [2]Technische Universitat Wien (Austria)*

14:30 − 18:00 Break in program to accommodate time zones.

AI-driven Imaging Instruments II

Session Chair: Singanallur Venkatakrishnan, Oak Ridge National Laboratory (United States)
18:00 − 19:15

Red Room
18:00
Conference Introduction

18:35   COIMG-150
Modeling brain structure and organization across many spatial scales, *Eva Dyer, Georgia Institute of Technology (United States)*

18:55   COIMG-347

Stability analysis of data and image domain learning-based reconstruction approaches, *Muhammad Usman Ghani and W. Clem Karl, Boston University (United States)*

KEYNOTE: AI-driven Imaging Instruments

Session Chair: Gregery Buzzard, Purdue University (United States)
19:45 — 20:25

Red Room

COIMG-169

KEYNOTE: Deep networks from first principles, *Yi Ma, University of California at Berkeley (United States)*

Keynote speaker Yi Ma received his BS in automation and applied mathematics from Tsinghua University, China (1995), an MS in EECS (1997), an MA in Mathematics (2000), and a PhD in EECS (2000) all from UC Berkeley. He was on the faculty of ECE Department of the University of Illinois at Urbana-Champaign from 2000 to 2011. He was the manager of the Visual Computing Group and a principal researcher of Microsoft Research in Asia from 2009 to 2013. He was then a founding professor and the executive dean of the School of Information Science and Technology of ShanghaiTech University from 2014 to 2017. He joined the faculty of EECS of UC Berkeley in 2018.

MONDAY 25 JANUARY 2021

PLENARY: Making Invisible Visible

Session Chair: Jonathan B. Phillips, Google Inc. (United States)
10:00 — 11:10

Plenary Room
Making invisible visible

Ramesh Raskar, Associate Professor, MIT Media Lab (United States)

Ramesh Raskar is an associate professor at MIT Media Lab and directs the Camera Culture research group. His focus is on AI and imaging for health and sustainability. They span research in physical (e.g., sensors, health-tech), digital (e.g., automated and privacy-aware machine learning), and global (e.g., geomaps, autonomous mobility) domains. He received the Lemelson Award (2016), ACM SIGGRAPH Achievement Award (2017), DARPA Young Faculty Award (2009), Alfred P. Sloan Research Fellowship (2009), TR100 Award from MIT Technology Review (2004), and Global Indus Technovator Award (2003). He has worked on special research projects at Google [X] and Facebook and co-founded/advised several companies.

<p style="text-align:center">11:10 — 11:40 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.</p>

Image Modeling for Inverse Problems

Session Chair: Charles Bouman, Purdue University (United States)
11:40 — 13:00

Red Room

11:40 COIMG-202
Deep probabilistic imaging: Uncertainty quantification and multi-modal solution characterization for computational imaging, *He Sun and Katherine Bouman, California Institute of Technology (United States)*

12:00 COIMG-200
One size fits all: Can we train one denoiser for all noise levels?, *Abhiram Gnanasambandam and Stanley Chan, Purdue University (United States)*

12:20 COIMG-201
Model-based Bayesian deep learning architecture for linear inverse problems in computational imaging, *Canberk Ekmekci and Mujdat Cetin, University of Rochester (United States)*

12:40 COIMG-199
Plug-and-play and equilibrium methods demystified, *Gregery Buzzard[1], Charles Bouman[1], and Brendt Wohlberg[2]; [1]Purdue University and [2]Los Alamos National Laboratory (United States)*

Computational Imaging for Materials Applications I

Session Chair: Mary Comer, Purdue University (United States)
13:30 − 14:30

Red Room

13:30   COIMG-187
Self-supervised curriculum learning for fiber tracking in composite materials, *Hongkai Yu, Cleveland State University (United States)*

13:50   COIMG-188
3D fiber detection using deep center regression and geometric clustering, *Camilo Aguilar Herrera[1] and Mary Comer[2]; [1]INRIA, Sophia Antipolis (France) and [2]Purdue University (United States)*

14:10   COIMG-189
Stochastic plug-and-play algorithms for solving image reconstruction problems for analyzing microscope imagery, *Vincent Monardo[1], Sean Donegan[2], Marc De Graf[1], and Yuejie Chi[1]; [1]Carnegie Mellon University and [2]Air Force Research Laboratory, Wright-Patterson AFB (United States)*

14:30 − 18:00 Break in program to accommodate time zones.

Computational Imaging for Materials Applications II

Session Chair: Emine Gulsoy, Northwestern University ()
18:00 − 19:15

Red Room

18:00
Conference Introduction

18:15   COIMG-190
Multi-resolution data fusion for transmission electron microscopy, *Emma Reid[1], Gregery Buzzard[1], Lawrence Drummy[2], and Charles Bouman[1]; [1]Purdue University and [2]Air Force Research Laboratory (United States)*

18:35   COIMG-191
Physics-regularization in machine learning, *Stephen Niezgoda, The Ohio State University (United States)*

18:55   COIMG-192

GANs for synthetic microstructure generation, *Megna Shah, Austin Gerlt, Jeffrey Simmons, and Eric Payton, Air Force Research Laboratory (United States)*

Computational Imaging for Materials Applications III

Session Chair: Jeffrey Simmons, Air Force Research Laboratory (United States)
19:45 − 20:45

Red Room

19:45   COIMG-193

Computer vision and machine learning for image data in materials science, *Elizabeth Holm, Ryan Cohn, Nan Gao, Katelyn Jones, Bo Lei, and Srujana Yarasi, Carnegie Mellon University (United States)*

20:05   COIMG-194

JIST-first: Evaluating the utility of Mueller matrix imaging for diffuse material classification, *Meredith Kupinski and Lisa Li, The University of Arizona (United States)*

20:25   COIMG-195

JIST-first: Limitations of CNNs for approximating the ideal observer despite quantity of training data or depth of network, *Khalid Omer, Luca Caucci, and Meredith Kupinski, The University of Arizona (United States)*

TUESDAY 26 JANUARY 2021

11:15 − 11:45 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

14:15 − 18:00 Break in program to accommodate time zones.

CT Imaging

Session Chair: Selin Aslan, Argonne National Laboratory (United States)

18:00 − 19:15

18:00
Conference Introduction

18:15   COIMG-228
Modular X-ray CT reconstruction with coded exposure, *Soumendu Majee[1], Selin Aslan[2], Charles Bouman[1], and Doga Gursoy[2]; [1]Purdue University and [2]Argonne National Laboratory (United States)*

18:35   COIMG-229
Enhanced material estimation with multi-spectral CT, *Sandamali Devadithya and David Castañón, Boston University (United States)*

18:55   COIMG-230
Sparse view CT with total variation priors in cylindrical coordinates, *Maliha Hossain[1], Charles Bouman[1], Marc Klasky[2], and Brendt Wohlberg[2]; [1]Purdue University and [2]Los Alamos National Laboratory (United States)*

Physics-informed Reconstruction I

Session Chair: Katherine Bouman, California Institute of Technology (United States)
19:45 − 20:45

19:45   COIMG-249
Diffusion imaging by Fourier transform fluorescence recovery after photobleaching, *Andreas Geiger, Randy Akrofi, and Garth Simpson, Purdue University (United States)*

20:05   COIMG-250
Large-scale holographic 3D particle localization based on the multi-slice beam propagation model, *Hao Wang, Waleed Tahir, Jiabei Zhu, and Lei Tian, Boston University (United States)*

20:25   COIMG-251
Imaging fluid-dynamics by stochastic model fitting, *Aviad Levis[1], Daeyoung Lee[2], Charles Gammie[2], and Katherine Bouman[1]; [1]California Institute of Technology and [2]University of Illinois Urbana-Champaign (United States)*

WEDNESDAY 27 JANUARY 2021

PLENARY: Revealing the Invisible to Machines with Neuromorphic Vision Systems: Technology and Applications Overview

Session Chair: Radka Tezaur, Intel Corporation (United States)
10:00 — 11:10

Plenary Room
Revealing the invisible to machines with neuromorphic vision systems: Technology and applications overview
Luca Verre, CEO and Co-Founder at Prophesee (France)

Luca Verre is co-founder and CEO of Prophesee, the inventor of the world's most advanced neuromorphic vision systems. Verre is a World Economic Forum technology pioneer. His experience includes project and product management, marketing, and business development roles at Schneider Electric. Prior to Schneider Electric, Verre worked as a research assistant in photonics at the Imperial College of London. Verre holds a MSc in physics, electronic and industrial engineering from Politecnico di Milano and Ecole Centrale and an MBA from Institut Européen d'Administration des Affaires, INSEAD.

11:10 — 11:40 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

13:00 — 13:30 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

14:30 — 18:00 Break in program to accommodate time zones.

Physics-informed Reconstruction II

Session Chair: Zachary Levine, National Institute of Standards and Technology (United States)
18:00 — 19:15

Red Room

18:00
Conference Introduction

18:15　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-288
Leveraging multi-agent consensus equilibrium for quantum chemistry, *James Ulcickas[1], Ziyi Cao[2], Jiayue Rong[2], Charles Bouman[2], Lyudmila Slipchenko[2], Gregery Buzzard[2], and Garth Simpson[2]; [1]Northrop Grumman Corporation and [2]Purdue University (United States)*

18:35　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-289
Physics-embedded deep learning for intensity diffraction tomography under multiple scattering, *Alex Matlock and Lei Tian, Boston University (United States)*

18:55　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-290
Deep learning approach for dynamic sparse sampling in mass spectrometry imaging, *David Helminiak[1], Hang Hu[2], Julia Laskin[2], and Dong Hye Ye[1]; [1]Marquette University and [2]Purdue University (United States)*

19:15 — 19:45 SESSION BREAK: Join speakers in the EI2021 Discord Voice Channel corresponding to the color of the room in which the session occurs or join an Open Discord Channel of your choice. After a plenary, join the Plenary Discord Voice Channel.

19:15 — 19:45 Women-in-Engineering Speed Networking (Evening) - take a break from technical sessions to make new connections and greet old friends. Look for the ZOOM link in Discord #announcements.

Physics-informed Reconstruction III

Session Chair: Garth Simpson, Purdue University (United States)
19:45 — 20:45

Red Room

19:45　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-291
Testing the goodness of model fit in tunable diode laser absorption tomography, *Zeeshan Nadir[1], Kristin Rice[2], Michael Brown[2], and Charles Bouman[3]; [1]Samsung Research America, [2]Air Force Research Labs, and [3]Purdue University (United States)*

20:05　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　COIMG-292
X-ray computed tomography using partially coherent Fresnel diffraction with application to an optical fiber, *Zachary Levine, National Institute of Standards and Technology (United States)*

20:25   **COIMG-293**

Reducing motion artifact in sequential-scan dual-energy CT imaging by incorporating deformable registration within joint statistical image reconstruction, *Tao Ge[1], Rui Liao[1], David Politte[2], Maria Medrano[1], Jeffrey Williamson[1], Bruce Whiting[3], Tianyu Zhao[2], and Joseph O'Sullivan[1]; [1]Washington University in St. Louis, [2]Washington University School of Medicine, and [3]University of Pittsburgh (United States)*

Stay Connected!