

List of Posters

Title	Authors	Affiliation
A soft computing approach for estimating the specific heat capacity of molten salt-based nanofluids	Ahmed Abdelhalim ¹ , Debjyoti Banerjee ²	¹ Cairo University. ² Texas A&M University
A framework for reduced-order modeling of turbulent reacting flows	Opeoluwa Owoyele ¹ , Tarek Echehki ² , Pinaki Pal ²	¹ Argonne National Laboratory, ² North Carolina State University
Neural network flame closure model for liquid propellant rocket engine	Zeinab Shadram	University of California Irvine
Subgrid-scale parametrization of unresolved scales in forced Burgers equation using generative adversarial networks (GAN)	Jeric Alcala, Ilya Timofeyev	University of Houston
Oil production analysis by machine learning methods	Darkhan Akhmed-Zaki Timur Imankulov, Yedil Nurakhov, Yerzhan Kenzhebek	al-Farabi Kazakh National University
Multi-fidelity learning with heterogeneous domains	Soumalya Sarkar, Michael Joly, Paris Perdikaris	University of Pennsylvania
In-situ coupled OpenFOAM and TensorFlow: Generic data science for CFD	Romit Maulik ¹ , Himanshu Sharma ¹ , Saumil Patel ² , Bethany Lusch ¹ , Elise Jennings ¹	¹ Argonne Leadership Computing Facility Argonne National Laboratory ² Computational Physics Division Argonne National Laboratory
Data-driven modeling for fluid dynamics: Turbulence closure model order reduction and superresolution	Suraj Pawar ¹ , Shady Ahmed ¹ , Harsha Vaddireddy ¹ , Romit Maulik ² , Omer San ¹ , Adil Rasheed ³	¹ Oklahoma State University ² Argonne National Laboratory ³ Norwegian University of Science and Technology
PDE discovery using convolutional LSTM	Kazem Meidani Amir Barati	Carnegie Mellon University
Machine learning potential for phonon transport in perfect Si and Si with vacancies	Ruiqiang Guo, Hasan Babaei, Amirreza Hashemi, Sangyeop Lee	University of Pittsburgh

List of Posters

Title	Authors	Affiliation
Machine learning enabled study of phonon transport from first principles	Sangyeop Lee, Ruiqiang Guo	University of Pittsburgh
Predicting time dependent solutions to the viscous Burger's equation using Gaussian process regression	Francis Ogoke ¹ , Michael Glinsky ² , Amir Barati ¹	¹ Carnegie Mellon University ² Sandia National Laboratories
Data-driven prediction of a multi-scale Lorenz 96 chaotic system using deep learning methods: Reservoir computing ANN and RNN-LSTM	Pedram Hassanzadeh Ashesh Chattopadhyay Devika Subramanian	Rice University
Learn a low-rank arbitrary Lagrangian Eulerian frame to reduce the dimensionality of convection dominated nonlinear flows	Rambod Mojgani Maciej Balajewicz	University of Illinois at Urbana-Champaign
KiNet: A deep neural network representation of chemical kinetics	WeiQi Ji, Sili Deng	Massachusetts Institute of Technology
Physics embedded neural networks for spatio-temporal turbulence	Arvind Mohan ¹ , Nicholas Lubbers ¹ , Daniel Livescu ¹ , Misha Chertkov ²	¹ Los Alamos National Laboratory ² University of Arizona
Machine learning for turbulence in supernovae	Platon Karpov Chengkun Huang Ghanshyam Pilonia Stan Woosley Chris Fryer	Los Alamos National Laboratory
Deep learning for transport in heterogeneous media: forward and inverse problems	Haiyi Wu, Wen-Zhen Fang, Hongwei Zhang, Qinjun Kang, Guoqing Hu, Wen-Quan Tao, Rui Qiao	Virginia Polytechnic Institute and State University
Neural network potential for lattice dynamics calculations and thermal conductivity prediction	Jie Gong, Hyun-Young Kim, Alan McGaughey	Carnegie Mellon University
Prospect of data-driven red blood cell micro mechanical models for computational simulations	Amir Saadat Eric Shafqeh	Stanford University

List of Posters

Title	Authors	Affiliation
Real-time reduced order modeling for chemical kinetics	Arash Nouri, Hessam Babaee, Peyman Givi	University of Pittsburgh
Predicting droplet traffic in microfluidic networks using machine learning	Masoud Norouzi, Siva Vanapalli, Mark Vaughn	Texas Tech University
Time-dependent POD (tPOD): Real-time reduced order modeling	Michael Donello, Hessam Babaee	University of Pittsburgh
Data-driven classification and modeling of combustion regimes in a detonation wave	Supraj Prakash ¹ , Shivam Barwey ¹ , Malik Hassanaly ² , Venkat Raman ¹	¹ University of Michigan ² National Renewable Energy Laboratory