

List of Posters

No	Title	Authors	Affiliation
1	A soft computing approach for estimating the specific heat capacity of molten salt-based nanofluids	Muhammed A. Hassan ¹ , Debjyoti Banerjee ²	¹ Cairo University ² Texas A&M University
2	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
3	Neural network flame closure for a turbulent combustor with unsteady pressure	Zeinab Shadram ¹ , Tuan Nguyen ² , Athanasios Sideris ¹ , William Sirignano ¹	¹ University of California Irvine ² Sandia National Laboratories
4	Subgrid-scale parametrization of unresolved scales in forced Burgers equation using generative adversarial networks (GAN)	Jeric Alcala, Ilya Timofeyev	University of Houston
5	Oil production analysis by machine learning methods	Darkhan Akhmed-Zaki Timur Imankulov, Yedil Nurakhov, Yerzhan Kenzhebek	Al-Farabi Kazakh National University
6	Multi-fidelity learning with heterogeneous domains	Soumalya Sarkar, Michael Joly, Paris Perdikaris	University of Pennsylvania
7	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
8	Data-driven modeling for fluid dynamics: Turbulence closure model order reduction and super resolution	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
9	PDE discovery using convolutional LSTM	Kazem Meidani, Amir Barati Farimani	Carnegie Mellon University

List of Posters

No	Title	Authors	Affiliation
10	Machine learning potential for phonon transport in perfect Si and Si with vacancies	Ruiqiang Guo, Hasan Babaei, Amirreza Hashemi, Sangyeop Lee	University of Pittsburgh
11	Machine learning enabled study of phonon transport from first principles	Sangyeop Lee, Ruiqiang Guo	University of Pittsburgh
12	Predicting time dependent solutions to the viscous Burger's equation using Gaussian process regression	Francis Ogoke ¹ , Michael Glinsky ² , Amir Barati Farimani ¹	¹ Carnegie Mellon University ² Sandia National Laboratories
13	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
14	Learn a low-rank arbitrary Lagrangian Eulerian frame to reduce the dimensionality of convection dominated nonlinear flows	Rambod Mojjani Maciej Balajewicz	University of Illinois at Urbana-Champaign
15	KiNet: A deep neural network representation of chemical kinetics	Weiqi Ji, Sili Deng	Massachusetts Institute of Technology
16	Time-dependent POD (tPOD): Real-time reduced order modeling	Michael Donello, Hessam Babae	University of Pittsburgh
17	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
18	Machine learning for turbulence in supernovae	Platon Karpov Chengkun Huang Ghanshyam Pilania Stan Woosley Chris Fryer	Los Alamos National Laboratory
19	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

List of Posters

No	Title	Authors	Affiliation
20	Neural network potential for lattice dynamics calculations and thermal conductivity prediction	Jie Gong, Hyun-Young Kim, Alan McGaughey	Carnegie Mellon University
21	Prospect of data-driven red blood cell micro mechanical models for computational simulations	Amir Saadat Eric Shaqfeh	Stanford University
22	Real-time reduced order modeling for chemical kinetics	Arash Nouri, Hessam Babaei, Peyman Givi	University of Pittsburgh
23	Predicting droplet traffic in microfluidic networks using machine learning	Masoud Norouzi, Siva Vanapalli, Mark Vaughn	Texas Tech University
24	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
25	Data-driven (super-) parametrization with deep learning: Experimentation with the multi-scale Lorenz' 96 system and transfer learning	Ashesh Chattopadhyay Adam Subel Pedram Hassanzadeh	Rice University
26	Spatio-temporal predictions of IC engine flow field using ResNet and bi-RNN models	David Hung	Univ of Michigan-Shanghai Jiao Tong Univ Joint Institute
27	Embedded tensor basis neural networks for RANS simulation of 3D flows	Andrew J. Banko David S. Ching John K. Eaton	Stanford University Sandia National Laboratories Stanford University
28	Tensor basis neural networks for scalar flux modeling	Pedro M. Milani Julia Ling John K. Eaton	Stanford University Citrine Informatics Stanford University
29	Machine learning for segmentation of echocardiography	Taeouk Kim Mohammadali Hedayat Marek Belohlavek Iman Borazjani	Texas A&M University
30	A phase shift DNN for solving PDEs with oscillatory solutions	Wei Cai Xiaoguang Li Lizuo Liu	Southern Methodist University
31	Optimal sensor location and early detection of lean blowout in a realistic gas turbine combustor using machine learning	Veeraraghava Hasti, Abhishek Navarkar, Jay P. Gore	Purdue University

