

Ján Drgoňa

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🏠 <https://drgona.github.io/>

🔗 <https://github.com/drgona>

in <https://www.linkedin.com/in/drgona/>

📺 https://www.youtube.com/@neuromancer_SciML

🔗 <https://scholar.google.com/citations?user=A-EA2KsAAAAJ>



Summary

I am an incoming associate professor in the Department of Civil and Systems Engineering and the Ralph S. O'Connor Sustainable Energy Institute (ROSEI) at Johns Hopkins University (JHU) and I am currently a staff-level research scientist at the Pacific Northwest National Laboratory (PNNL). My project portfolio is focused on *scientific machine learning* (SciML) for dynamical systems, optimization, and control. I am a lead software developer of the [NeuroMANCER SciML library](#) for solving constrained optimization, physics-informed machine learning, and optimal control problems. Within two years, our library became the most popular open-source repository released by PNNL.

Professional Experience

Johns Hopkins University

[Department of Civil and Systems Engineering](#)

Baltimore, MD, USA

Incoming Associate Professor

January 2025 –

I am part of the [Ralph S. O'Connor Sustainable Energy Institute \(ROSEI\)](#), JHU's focal point for energy-related research and educational programs. ROSEI integrates efforts across the university and brings together extensive energy-related activities focusing on developing an impactful program to address the transformation of the energy sector to help address climate change.

Pacific Northwest National Laboratory

[Physics and Computational Sciences Division](#)

Richland, WA, USA

Data Scientist 4

July 2023 – December 2024

Data Scientist 3

January 2022 – July 2023

Data Scientist 2

May 2020 – December 2021

Postdoctoral Researcher

July 2019 – April 2020

I have developed technology roadmaps in a portfolio of DOE projects focused on SciML, differentiable programming, and data-driven control. I have built and am currently leading a team of 12 research scientists and engineers. I have pioneered novel simulation and [data-driven predictive control](#) methods that are actively being used in a portfolio of DOE-sponsored projects. I led a multi-institutional team of 11 researchers, resulting in [the most cited paper](#) in the domain of advanced building control.

KU Leuven

[Department of Mechanical Engineering](#)

Leuven, Belgium

Postdoctoral Researcher

September 2017 – June 2019

I have designed and deployed a high-fidelity model predictive control (MPC) algorithm in a real-world office building, achieving over [50% energy savings](#).

Education

Slovak University of Technology <i>PhD</i> Institute of Information Engineering, Automation, and Mathematics	Bratislava, Slovakia 2012 – 2017
KU Leuven <i>Visiting PhD</i> Thermal Systems Simulation Group, Department of Mechanical Engineering	Leuven, Belgium 2016 – 2017
Linköping University <i>Visiting MSc</i> Automatic Control, Department of Electrical Engineering	Linköping, Sweden Spring 2012
Slovak University of Technology <i>MSc</i> Institute of Information Engineering, Automation, and Mathematics	Bratislava, Slovakia 2007 – 2012

Awards and Honors

Speaker at the Symposium of the National Academy of Engineering	2024
Pathway to Excellence Performance Award at PNNL	2024
Pathway to Excellence Performance Award at PNNL	2023
Best Paper Award Building and Environment Journal	2023
Most cited article in Annual Reviews in Control published since 2018	2022
Pathway to Excellence Performance Award at PNNL	2021
Best paper award Journal of Building Performance Simulation	2021
Pathway to Excellence Performance Award at PNNL	2020
Best Paper Award at Dynamic Systems and Control Conference (DSCC)	2020
Summa cum laude, PhD, Slovak University of Technology in Bratislava	2017
The National Scholarship Programme of the Slovak Republic	2017
European Union's Erasmus Mundus Scholarship	2016
European Union's Erasmus Mundus Scholarship	2012

Media Appearance

- [New Scientist: DeepMind's AI cuts energy costs for cooling buildings](#)
- [inbuildingtech.com: PNNL highlights use of deep learning to reduce energy use in buildings](#)
- [pnnl.gov: Deep Learning Cuts Costs in Building Control](#)
- [pnnl.gov: New Method for Automated Control Leverages Advances in AI](#)

Open-Source Code - Lead Developer

- **NeuroMANCER: Neural Modules with Adaptive Nonlinear Constraints and Efficient Regularizations:** Scientific Machine Learning Library in Pytorch.
<https://github.com/pnnl/neuromancer>
- **SLiM: Structured Linear Maps** - Stable learning and structured inductive priors in physics-informed machine learning applications in PyTorch.
<https://github.com/pnnl/slim>

Publications

 [Google Scholar](#)

Journals

1. Ziyao Yang, Amol Gaidhane, **Ján Drgoňa**, Vikas Chandan, Mahantesh Halappanavar, Frank Liu, Yu Cao,
[Physics-constrained graph modeling for building thermal dynamics](#),
Energy and AI, 2024.
2. **Ján Drgoňa**, Aaron Tuor, Draguna Vrabie,
[Learning Constrained Parametric Differentiable Predictive Control Policies With Guarantees](#),
IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2024.
3. Hari Prasanna Das, Yu-Wen Lin, Utkarsha Agwan, Lucas Spangher, Alex Devonport, Yu Yang, **Ján Drgoňa**, Adrian Chong, Stefano Schiavon, Costas J Spanos,
[Machine Learning for Smart and Energy-Efficient Buildings](#),
Journal of Environmental Data Science, 2024.
4. Zoltan Nagy, Gregor Henze, Sourav Dey, Javier Arroyo, Lieve Helsen, Xiangyu Zhang, Bingqing Chen, Kadir Amasyali, Kuldeep Kurte, Ahmed Zamzam, Helia Zandi, **Ján Drgoňa**, et al.,
[Ten questions concerning reinforcement learning for building energy management](#),
Building and Environment, Volume 241, 2023, 110435, ISSN 0360-1323.
5. Christian Møldrup Legaard, Thomas Schranz, Gerald Schweiger, **Ján Drgoňa**, et al.,
[Constructing Neural Network-Based Models for Simulating Dynamical Systems](#),
ACM Computing Surveys, 55, 11, Article 236, 2023.
6. James Koch, Zhao Chen, Aaron Tuor, **Ján Drgoňa**, Draguna Vrabie,
[Structural inference of networked dynamical systems with universal differential equations](#),
Chaos: An Interdisciplinary Journal of Nonlinear Science, 1 February 2023; 33 (2): 023103.
7. **Ján Drgoňa**, Aaron Tuor, Soumya Vasisht and Draguna Vrabie,
[Dissipative Deep Neural Dynamical Systems](#),
IEEE Open Journal of Control Systems, vol. 1, pp. 100-112, 2022.
8. **Ján Drgoňa**, Karol Kiš, Aaron Tuor, Draguna Vrabie, Martin Klaučo,
[Differentiable predictive control: Deep learning alternative to explicit model predictive control for unknown nonlinear systems](#),
Journal of Process Control, Volume 116, 2022, Pages 80-92.
9. ★ Bing Dong, Romana Markovic, Salvatore Carlucci, Yapan Liu, Andreas Wagner, Antonio Liguori, Christoph van Treeck, Dmitry Oleynikov, Elie Azar, Gianmarco Fajilla, **Ján Drgoňa**, et al.,
[A guideline to document occupant behavior models for advanced building controls](#),
Building and Environment, Volume 219, 2022, 109195, ISSN 0360-1323. **best paper award**
10. ★ David Blum, Javier Arroyo, Sen Huang, **Ján Drgoňa**, et al.
[Building optimization testing framework \(BOPTTEST\) for simulation-based benchmarking of control strategies in buildings](#),
Journal of Building Performance Simulation, 14:5, 586-610, 2021. **best paper award**
11. **Ján Drgoňa**, Aaron R Tuor, Vikas Chandan, Draguna L Vrabie,
[Physics-constrained deep learning of multi-zone building thermal dynamics](#),
Energy and Buildings, Volume 243, 2021, 110992, ISSN 0378-7788.
12. Iago Cupeiro Figueroa, Massimo Cimmino, **Ján Drgoňa**, Lieve Helsen,
[Fluid temperature predictions of geothermal borefields using load estimations via state observers](#),
Journal of Building Performance Simulation, 14 (1), 1-19, 2021.

13. **Ján Drgoňa**, Damien Picard, Lieve Helsen,
[Cloud-based implementation of white-box model predictive control for a GEOTABS office building: A field test demonstration](#),
Journal of Process Control, Volume 88, April 2020, Pages 63-77.
14. ★ **Ján Drgoňa**, Javier Arroyo, Iago Cupeiro Figueroa, David Blum, Krzysztof Arendt, Donghun Kim, Enric Perarnau Ollé, Juraj Oravec, Michael Wetter, Draguna L Vrabie, Lieve Helsen,
[All you need to know about model predictive control for buildings](#),
Annual Reviews in Control, Volume 50, 2020, Pages 190-232. **highly cited paper award**
15. **Ján Drgoňa**, Damien Picard, Michal Kvasnica, Lieve Helsen,
[Approximate model predictive building control via machine learning](#),
Applied Energy, Volume 218, 15 May 2018, Pages 199-216.
16. **Ján Drgoňa**, Martin Klaučo, Filip Janeček, Michal Kvasnica,
[Optimal control of a laboratory binary distillation column via regionless explicit MPC](#),
Computers & Chemical Engineering, Volume 96, 4 January 2017, Pages 139-148.
17. Damien Picard, **Ján Drgoňa**, Michal Kvasnica, Lieve Helsen,
[Impact of the controller model complexity on model predictive control performance for buildings](#),
Energy and Buildings, Volume 152, 1 October 2017, Pages 739-751.
18. M Klaučo, R Valo, **Ján Drgoňa**,
[Reflux control of a laboratory distillation column via MPC-based reference governor](#),
Acta Chimica Slovaca, 10 (2), 139, 2017.

Conferences

1. Marco Bornstein, Nawaf Nazir, **Ján Drgoňa**, Soumya Kundu, and Veronica Adetola,
[Finding MIDDLE Ground: Scalable and Secure Distributed Learning](#),
Proceedings of the 33rd ACM International Conference on Information and Knowledge Management, 2024.
2. Yu Wang, Yuxuan Yin, Karthik Somayaji Nanjangud Suryanarayana, **Ján Drgoňa**, Malachi Schram, Mahantesh Halappanavar, Frank Liu, Peng Li,
[Semi-Supervised Learning of Dynamical Systems with Neural Ordinary Differential Equations: A Teacher-Student Model Approach](#),
Proceedings of the AAAI Conference on Artificial Intelligence, 2024.
3. Truong X. Nghiem, **Ján Drgoňa**, Colin Jones, Zoltan Nagy, Roland Schwan, Biswadip Dey, Ankush Chakrabarty, Stefano Di Cairano, Joel A. Paulson, Andrea Carron, Melanie N. Zeilinger, Wenceslao Shaw Cortez, Draguna Vrabie,
[Physics-Informed Machine Learning for Modeling and Control of Dynamical Systems](#),
American Control Conference (ACC), San Diego, CA, USA, 2023, pp. 3735-3750.
4. D. Soudbakhsh. A. M. Annaswamy, Y. Wang, S. L. Brunton, J. Gaudio, H. Hussain, D. Vrabie, **Ján Drgoňa**, D. Filev,
[Data-Driven Control: Theory and Applications](#),
American Control Conference (ACC), San Diego, CA, USA, 2023, pp. 1922-1939.
5. S. Abhyankar, **Ján Drgoňa**, A. Tuor and A. August,
[Neuro-physical dynamic load modeling using differentiable parametric optimization](#),
IEEE Power & Energy Society General Meeting (PESGM), Orlando, FL, USA, 2023, pp. 1-5.
6. Yu Wang, **Ján Drgoňa**, Jiaxin Zhang, Karthik Somayaji NS, Frank Y Liu, Malachi Schram, Peng Li,
[AutoNF: automated architecture optimization of normalizing flows with unconstrained continuous relaxation admitting optimal discrete solution](#),
Proceedings of the AAAI Conference on Artificial Intelligence, 37(8), 10244-10252, 2023.

7. Shimiao Li, **Ján Drgoňa**, Shrirang Abhyankar, and Larry Pileggi, [Power Grid Behavioral Patterns and Risks of Generalization in Applied Machine Learning](#), *14th ACM International Conference on Future Energy Systems (e-Energy '23 Companion)*, Association for Computing Machinery, New York, NY, USA, 106–114.
8. Sayak Mukherjee, **Ján Drgoňa**, Aaron Tuor, Mahantesh Halappanavar, Draguna Vrabie, [Neural Lyapunov Differentiable Predictive Control](#), *IEEE 61st Conference on Decision and Control (CDC)*, Cancun, Mexico, 2022, pp. 2097-2104.
9. Wenceslao Shaw Cortez, **Ján Drgoňa**, Aaron Tuor, Mahantesh Halappanavar, Draguna Vrabie, [Differentiable Predictive Control with Safety Guarantees: A Control Barrier Function Approach](#), *IEEE 61st Conference on Decision and Control (CDC)*, Cancun, Mexico, 2022, pp. 932-938.
10. Wenceslao Shaw Cortez, Soumya Vasisht, Aaron Tuor, **Ján Drgoňa**, Draguna Vrabie, [Domain-aware Control-oriented Neural Models for Autonomous Underwater Vehicles](#), *12th IFAC Symposium on Nonlinear Control Systems*, IFAC-PapersOnLine, Volume 56, Issue 1, 2023, Pages 228-233.
11. S Sinha, SP Nandanoori, **Ján Drgoňa**, and D. Vrabie, [Data-driven Stabilization of Discrete-time Control-affine Nonlinear Systems: A Koopman Operator Approach](#), *European Control Conference (ECC)*, London, United Kingdom, 2022, pp. 552-559.
12. **Ján Drgoňa**, Sayak Mukherjee, Aaron Tuor, Mahantesh Halappanavar, Draguna Vrabie, [Learning Stochastic Parametric Differentiable Predictive Control Policies](#), *IFAC Symposium on Robust Control Design (ROCOND)*, Volume 55, Issue 25, Pages 121-126, ISSN 2405-8963, 2022.
13. Ethan King, **Ján Drgoňa**, Aaron Tuor, Shrirang Abhyankar, Craig Bakker, Arnab Bhattacharya, Draguna Vrabie, [Koopman-based Differentiable Predictive Control for the Dynamics-Aware Economic Dispatch Problem](#), *American Control Conference (ACC)*, Atlanta, GA, USA, 2022.
14. Aowabin Rahman, **Ján Drgoňa**, Aaron Tuor, Jan Strube, [Neural Ordinary Differential Equations for Nonlinear System Identification](#), *American Control Conference (ACC)*, Atlanta, GA, USA, 2022, pp. 2194-2201.
15. **Ján Drgoňa**, Sayak Mukherjee, Jiaxin Zhang, Frank Liu, Mahantesh Halappanavar, [On the Stochastic Stability of Deep Markov Models](#), *Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
16. Thomas Schranz, Johannes Exenberger, Christian Møldrup Legaard, **Ján Drgoňa**, Gerald Schweiger, [Energy Prediction under Changed Demand Conditions: Robust Machine Learning Models and Input Feature Combinations](#), *Proceedings of Building Simulation (BS)*, 17th International Conference of the International Building Performance Simulation Association, 2021.
17. Elliott Skomski, **Ján Drgoňa**, Aaron Tuor, [Automating Discovery of Physics-Informed Neural State Space Models via Learning and Evolution](#), *3rd Learning for Dynamics and Control (L4DC)*, PMLR 144:980-991, 2021.
18. Elliott Skomski, Soumya Vasisht, Colby Wight, Aaron Tuor, **Ján Drgoňa**, Draguna Vrabie, [Constrained block nonlinear neural dynamical models](#), *American Control Conference (ACC)*, New Orleans, LA, USA, 2021, pp. 3993-4000.
19. **Ján Drgoňa**, Aaron Tuor, Elliott Skomski, Soumya Vasisht, Draguna Vrabie, [Deep learning explicit differentiable predictive control laws for buildings](#),

IFAC Nonlinear Model Predictive Control (NMPC) Conference, IFAC-PapersOnLine, Volume 54, Issue 6, 2021, Pages 14-19, ISSN 2405-8963.

20. ★ **Ján Drgoňa**, L. Helsen, D. L. Vrabie,
[Cutting the Deployment Costs of Physics-Based MPC in Buildings by Simulation-Based Imitation Learning](#),
Dynamic Systems and Control Conference, 84270, V001T09A001, 2020. **best paper award**
21. I. C. Figueroa, **Ján Drgoňa**, L. Helsen,
[State estimators applied to a linear white-box geothermal borefield controller model](#)
Proceedings of Building Simulation (BS), 16th Conference of IBPSA, 2019.
22. **Ján Drgoňa**, L. Helsen,
[Different Problem Classes And Solution Techniques For Model Predictive Building Control](#),
Proceedings of the REHVA Annual Meeting Conference, Low Carbon Technologies in HVAC, 2018.
23. Iago Cupeiro Figueroa, **Ján Drgoňa**, Mohammad Abdollahpouri, Damien Picard, Lieve Helsen,
[State Observer for Optimal Control using White-box Building Models](#),
International High Performance Buildings Conference, 2018.
24. D. Ingole, **Ján Drgoňa**, M. Kalúz, M. Klaučo, M. Bakošová, M. Kvasnica,
[Model predictive control of a combined electrolyzer-fuel cell educational pilot plant](#),
21st International Conference on Process Control (PC), 149-154, 2017.
25. D. Ingole, **Ján Drgoňa**, M. Kvasnica,
[Offset-free hybrid model predictive control of bispectral index in anesthesia](#),
21st International Conference on Process Control (PC), 422-427, 2017.
26. **Ján Drgoňa**, Z. Takáč, M. Hornák, R. Valo, M. Kvasnica,
[Fuzzy control of a laboratory binary distillation column](#),
21st International Conference on Process Control (PC), 120-125, 2017.
27. **Ján Drgoňa**, F. Janeček, M. Klaučo, M. Kvasnica,
[Regionless explicit MPC of a distillation column](#),
European Control Conference (ECC), Aalborg, Denmark, pp. 1568-1573, 2016.
28. A. Sharma, **Ján Drgoňa**, D. Ingole, J. Holaza, R. Valo, S. Koniar, M. Kvasnica,
[Teaching classical and advanced control of binary distillation Column](#),
11th IFAC Symposium on Advances in Control Education ACE, pp. 348-353, 2016.
29. **Ján Drgoňa**, Martin Klaučo, Michal Kvasnica,
[MPC-based reference governors for thermostatically controlled residential buildings](#),
54th IEEE conference on decision and control (CDC), Osaka, Japan, 2015, pp. 1334-1339.
30. **Ján Drgoňa**, M. Klaučo, R. Valo, J. Bendžala, M. Fikar,
[Model Identification and Predictive Control of a Laboratory Binary Distillation Column](#),
20th International Conference on Process Control (PC), pp. 357-362, 2015.
31. M. Klaučo, **Ján Drgoňa**, M. Kvasnica, S. Di Cairano,
[Building Temperature Control by Simple MPC-like Feedback Laws Learned from Closed-Loop Data](#),
19th IFAC World Congress, Cape Town (South Africa), 581-586, 2014.
32. M. Kvasnica, A. Szűcs, M. Fikar, **Ján Drgoňa**,
[Explicit MPC of LPV Systems in the Controllable Canonical Form](#),
European Control Conference (ECC), 1035-1040, 2013.
33. **Ján Drgoňa**, Michal Kvasnica, Martin Klaučo, Miroslav Fikar,
[Explicit Stochastic MPC Approach to Building Temperature Control](#),

IEEE Conference on Decision and Control (CDC), Firenze, Italy, 2013, pp. 6440-6445.

34. **Ján Drgoňa**, M Kvasnica,
[Comparison of MPC Strategies for Building Control](#),
19th International Conference on Process Control (PC), 401–406, 2013.

Workshops

1. Jiaxin Zhang, Frank Liu, **Ján Drgoňa**, Sayak Mukherjee, Mahantesh Halappanavar,
[Variational Generative Flows for Reconstruction Uncertainty Estimation](#),
ICML workshop on Uncertainty and Robustness in Deep Learning, 2021.
2. Aaron Tuor, **Ján Drgoňa**, Draguna Vrabie,
[Constrained neural ordinary differential equations with stability guarantees](#),
Integration of Deep Neural Models and Differential Equations, ICLR, arXiv:2004.10883, 2020.
3. **Ján Drgoňa**, I Cupeiro Figueroa, L Helsen,
State estimation of control-oriented white-box models for buildings,
Intelligent Building Operations Workshop (IBO), Location: Colorado, Boulder, USA
4. **Ján Drgoňa**, L Helsen, D Vrabie,
Deep Learning-based Model Predictive Building Control,
Intelligent Building Operations Workshop (IBO), Location: Colorado, Boulder, USA
5. **Ján Drgoňa**, Lieve Helsen, Draguna Vrabie,
[Stripping off the implementation complexity of physics-based model predictive control for buildings via deep learning](#),
NeurIPS workshop on Tackling Climate Change with Machine Learning, 2019

Preprints

1. Bo Tang, Elias B. Khalil, **Ján Drgoňa**,
[Learning to Optimize for Mixed-Integer Non-linear Programming](#),
arXiv:2410.11061, 2024.
2. Ethan King, James Kotary, Ferdinando Fioretto, **Ján Drgoňa**,
[Metric Learning to Accelerate Convergence of Operator Splitting Methods for Differentiable Parametric Programming](#),
arXiv:2404.00882, 2024.
3. James Koch, Madelyn Shapiro, Himanshu Sharma, Draguna Vrabie, **Ján Drgoňa**,
[Neural Differential Algebraic Equations](#) ,
arXiv:2403.12938, 2024.
4. John Viljoen, Wenceslao Shaw Cortez, **Ján Drgoňa**, Sebastian East, Masayoshi Tomizuka, Draguna Vrabie,
[Differentiable Predictive Control for Robotics: A Data-Driven Predictive Safety Filter Approach](#),
arXiv:2409.13817, 2024.
5. Renukanandan Tumu, Wenceslao Shaw Cortez, **Ján Drgoňa**, Draguna Vrabie, Sonja Glavaski
[Differentiable Predictive Control for Large-Scale Urban Road Networks](#) ,
arXiv:2406.10433, 2024.
6. Wenceslao Shaw Cortez, **Ján Drgoňa**, Draguna Vrabie, Mahantesh Halappanavar,
[Robust Differentiable Predictive Control with Safety Guarantees: A Predictive Safety Filter Approach](#)
arXiv:2311.08496, 2023.
7. Karthik Somayaji NS, Yu Wang, Malachi Schram, **Ján Drgoňa**, Mahantesh Halappanavar, Frank

Liu, Peng Li,
[Extreme Risk Mitigation in Reinforcement Learning using Extreme Value Theory](#),
arXiv:2308.13011, 2023

Invited Talks

2024

1. Seventh Workshop on Autonomous Energy Systems organized by NREL in Golden, Colorado
2. Johns Hopkins University in Baltimore, Maryland
3. Mechanical Engineering Department at the University of Washington in Seattle
4. University of Wisconsin-Madison
5. American Control Conference (ACC) in Toronto, Canada
6. [Fourth Symposium on Machine Learning and Dynamical Systems](#), Fields Institute, Toronto, Canada
7. [Physics-informed Machine Learning Meets Engineering Seminar](#), Alan Turing Institute, online
8. Old Dominion University, online
9. PNNL's Mathematics For Artificial Reasoning in Science workshop held at the University of Washington in Seattle
10. [INFORMS Optimization Society \(IOS\) conference](#), Rice University, Huston, Texas
11. [58th Conference on Information Sciences and Systems](#) held at Princeton, NJ

2023

1. Brown University Engineering Research Center, Providence, Rhode Island
2. Northeastern University College of Engineering, Boston, Massachusetts
3. [CRUNCH seminar at the Brown University](#), online
4. RTX Physics Informed Machine Learning (PIML) Workshop, online
5. INFORMS Annual meeting, Phoenix, Arizona
6. [DataLearning at Imperial College London](#), online
7. [EDGE Symposium at GE Research in Niskayuna, NY](#)
8. Intelligent Buildings Operations (IBO) Workshop, Boulder, Colorado
9. [Sixth Workshop on Autonomous Energy Systems](#), Golden, Colorado
10. [Workshop on Online Optimization Methods for Data-driven Feedback Control](#), American Control Conference (ACC), San Diego, California
11. [17th U.S. National Congress on Computational Mechanics \(USNCCM\)](#), Albuquerque, New Mexico
12. [AIRES 4: Machine Learning For Robust Digital Twins](#), Oak Ridge National Laboratory, Tennessee
13. [2023 Grid Science Winter School and Conference](#), Santa Fe, New Mexico,

2022

1. [IEEE 8th World Forum on Internet of Things \(WFIoT\)](#), online
2. Applied Mathematics Department at the University of Arizona, Tucson
3. [Third Symposium on Machine Learning and Dynamical Systems](#) at Fields Institute, Toronto
4. [Data-driven Physical Simulations \(DDPS\) seminar](#) at Lawrence Livermore National Laboratory, online
5. [Workshop on Scientific Machine Learning: Foundations and Applications](#), Iowa State University, Ames, Iowa
6. [The Sixth Annual Sandia Machine Learning and Deep Learning \(MLDL\) Workshop](#), online
7. [SIAM Conference on Mathematics of Data Science \(MDS22\)](#), online
8. [The Fifth Autonomous Energy Systems Workshop](#) NREL, Golden, Colorado
9. PARC XEROX company, online
10. Pennsylvania State University
11. Duke University, online

Community Service

Climate Change AI

Core team member

December 2020 – August 2023

Global non-profit organization that catalyzes impactful work at the intersection of climate change and machine learning. I served as a data lead, and co-organized two workshops on *Tackling Climate Change with Machine Learning* at NeurIPS 2021, and 2022, respectively.

Member of Professional Organisations

- Institute of Electrical and Electronics Engineers (IEEE)
- Association for Computing Machinery (ACM)

Event Organization

- [NeurIPS 2021 Workshop Tackling Climate Change with Machine Learning](#)
- [2nd ACM Workshop on Reinforcement Learning for energy management in buildings and cities \(RLEM'21\) at ACM BuildSys 2021](#)
- [1st ACM International Workshop on Big Data and Machine Learning for Smart Buildings and Cities \(ACM BALANCES\) 2021](#)
- [NeurIPS 2022 Workshop Tackling Climate Change with Machine Learning](#)
- [3rd ACM Workshop on Reinforcement Learning for energy management in buildings and cities \(RLEM'22\) at ACM BuildSys 2022](#)
- [NeurIPS 2022 Competition Track, The CityLearn Challenge 2022](#)
- [Proceedings of AAAI 2022 Fall Symposium: The Role of AI in Responding to Climate Challenges](#)
- [Workshop on Differentiable Programming for Modeling and Control of Dynamical Systems, American Control Conference \(ACC\) 2023](#)
- [Workshop on Differentiable Programming for Modeling and Control of Dynamical Systems at the Modeling, Estimation, and Control Conference \(MECC\) 2023](#)
- [Publicity chair at the BuildSys '23 - The 10th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation](#)
- [AAAI Workshop on Learnable Optimization \(LEANOPT\) 2024](#)

Journals Reviews

- Automatica
- IEEE Control Systems Letters
- IEEE Transactions on Control Systems Technology
- IEEE Transactions on Industrial Informatics
- Control Engineering Practice
- Journal of Process Control
- Energy and Buildings
- Applied Energy
- Journal of Control Automation and Electrical Systems
- Electric Power Systems Research

Technical Program Committee Member

- [The ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation \(ACM BuildSys\)](#)
- [International Conference on Learning Representations \(ICLR\)](#)
- [Neural Information Processing Systems \(NeurIPS\)](#)
- [The Annual AAAI Conference on Artificial Intelligence](#)
- [Conference on Decision and Control \(CDC\)](#)
- [American Control Conference \(ACC\)](#)

- European Control Conference (ECC)
- IFAC World Congress
- Modeling, Estimation, and Control Conference (MECC)
- IEEE Conference on Control Technology and Applications (CCTA)
- International Conference on Process Control (PC)
- International Conference on Control and Fault-Tolerant Systems (SYSTOL)
- International Conference on Control, Decision and Information Technologies (CoDIT)
- Mediterranean Conference on Control and Automation (MED)
- Building Simulation Conference (BS)