

# Spencer H. Bryngelson

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## 1 Basic information

- Title: Senior Postdoctoral Scholar
- Institution: California Institute of Technology
- Address: 1200 E. California Blvd., Pasadena, CA 91125 MC104-44
- Email: [spencer@caltech.edu](mailto:spencer@caltech.edu)
- Website: <https://bryngelson-research.com>

## 2 Education

- University of Illinois at Urbana–Champaign
  - (2017) Doctor of Philosophy, Theoretical & Applied Mechanics
  - (2015) Master of Science, Theoretical & Applied Mechanics
  - (2015) Graduate Certificate, Computational Science & Engineering
- University of Michigan–Dearborn
  - (2013) Bachelor of Science, Mechanical Engineering
  - (2013) Bachelor of Science, Engineering Mathematics

## 3 Research positions

- (2018–Present) Senior Postdoctoral Scholar, California Institute of Technology, with Tim Colonius
- (2019) Visiting Researcher, Massachusetts Institute of Technology, with Themis Sapsis
- (2017–8) Postdoctor Researcher, XPACC, with Carlos Pantano, Dan Bodony, Jon Freund
- (2013–7) Graduate Research Fellow, University of Illinois at Urbana–Champaign, with Jon Freund
- (2012–3) Undergraduate Research Assistant, University of Michigan–Dearborn, with Eric Ratts

## 4 Teaching

- (2015) Fundamentals of Fluid Dynamics, University of Illinois at Urbana–Champaign
- (2013) Design and Analysis of Machine Elements, University of Michigan–Dearborn
- (2012) Probability, Statistics, and Reliability in Design, University of Michigan–Dearborn
- (2012) Statics and Mechanics of Materials, University of Michigan–Dearborn

## 5 Students

### 5.1 Current

- Jean-Sebastien Spratt, California Institute of Technology
- Ben Stevens, California Institute of Technology
- Qifan Wang, California Institute of Technology
- Alexis Charalampopoulos, Massachusetts Institute of Technology
- Esteban Cisneros, University of Illinois at Urbana–Champaign

### 5.2 Past

- David Mittelstein, California Institute of Technology, Ph.D. (2020)
- Theresa Trummler, TU Munich, Ph.D. (2020)
- Franz O’Meally, Johns Hopkins University, B.S. (2020)

## 6 Awards

- (2017) Stanley Weiss Outstanding Dissertation Award, University of Illinois at Urbana–Champaign
- (2016) Hassan Aref Award (research in fluid mechanics), University of Illinois at Urbana–Champaign
- (2015) Alumni Teaching Fellowship, University of Illinois at Urbana–Champaign
- (2010–2013) Dean’s List, University of Michigan–Dearborn
- (2011) Pi Tau Sigma (honor society, member), University of Michigan–Dearborn

## 7 Grants

### 7.1 Funded grants

- (2019-20) co-PI: XSEDE CTS120005, \$1.35M dollar valuation, 9M CPU Hours

### 7.2 Grants supported

- (2019-21) NIH 2P01-DK04881, with T. Colonius
- (2018-21) ONR MURI N0014-17-1-2676, with T. Colonius
- (2018-21) ONR BRC N0014-17-1-2625, with T. Colonius
- (2017-18) DOE PSAAP DE-NA0002374, with J. B. Freund and W. Gropp
- (2013-17) NSF CBET 13-36972, with J. B. Freund

## 8 Professional activity

### 8.1 Referee

- AIAA Journal
- Fluids
- International Journal of Multiphase Flow
- Journal of Fluid Mechanics
- Journal of Computational Physics
- Theoretical and Computational Fluid Dynamics

### 8.2 Affiliations

- American Physical Society
- Society of Industrial and Applied Mathematics

### 8.3 Service

- (2021) Organizer, Mini-symposium, “Machine learning for multiphase flows”, IACM Conference on Mechanistic Machine Learning and Digital Twins for Computational Science, Engineering & Technology
- (2015-16) Judge, Illinois State-wide Math Competition
- (2014) Organizer, Science Night, Illinois Middle Schools

## 9 Publications

### 9.1 Journal papers

- [J8] Ricca, F., Russo, A., Greco, S., Leone, N., Artikis, A., Friedrich, G., Fodor, P., Kimmig, A., Lisi, F., Maratea, M., Mileo, A., Riguzzi, F., (2021). “Proceedings 36th International Conference on Logic Programming (Technical Communications)”. *Electronic Proceedings in Theoretical Computer Science* **325** (). ISSN: 2075-2180. URL: <http://arxiv.org/abs/2009.09158> (visited on 04/04/2021).

- [J7] Spooner, J., Russo, A., Broda, D. K., Specia, L., (n.d.). “WG Using Answer Set Grammars to Learn Explanations for Winograd Schemas” (), 145.
- [J6] Furelos-Blanco, D., Law, M., Jonsson, A., Broda, K., Russo, A., (Mar. 10, 2021). “Induction and Exploitation of Subgoal Automata for Reinforcement Learning”. *Journal of Artificial Intelligence Research* **70**, 1031–1116. ISSN: 1076-9757. URL: <https://www.jair.org/index.php/jair/article/view/12372> (visited on 04/04/2021).
- [J5] Koschate-Reis, M., Naserianhanzaei, E., Dickens, L., Stuart, A., Russo, A., Levine, M., (Feb. 11, 2021). “ASIA: Automated Social Identity Assessment Using Linguistic Style”. ISSN: 1554-351X. URL: <https://ore.exeter.ac.uk/repository/handle/10871/124775> (visited on 04/04/2021).
- [J9] Aspis, Y., Broda, K., Russo, A., Lobo, J., (July 9, 2020). “Stable and Supported Semantics in Continuous Vector Spaces”. *Proceedings of the International Conference on Principles of Knowledge Representation and Reasoning* **17** 1, 59–68. ISSN: 2334-1033. URL: <https://proceedings.kr.org/2020/7/> (visited on 04/04/2021).
- [J3] Casale, G., Artač, M., Heuvel, W.-J., Hoorn, A., Jakovits, P., Leymann, F., Long, M., Papanikolaou, V., Presenza, D., Russo, A., Srirama, S. N., Tamburri, D. A., Wurster, M., Zhu, L., (Aug. 1, 2020). “RADON: Rational Decomposition and Orchestration for Serverless Computing”. *SICS Software-Intensive Cyber-Physical Systems* **35** 1, 77–87. ISSN: 2524-8529. URL: <https://doi.org/10.1007/s00450-019-00413-w> (visited on 04/04/2021).
- [J2] Gomoluch, P., Alrajeh, D., Russo, A., Bucchiarone, A., (June 1, 2020). “Learning Neural Search Policies for Classical Planning”. *Proceedings of the International Conference on Automated Planning and Scheduling* **30**, 522–530. ISSN: 2334-0843. URL: <https://ojs.aaai.org/index.php/ICAPS/article/view/6748> (visited on 04/04/2021).
- [J1] Ricca, F., Russo, A., (Sept. 2020). “Introduction to the 36th International Conference on Logic Programming Special Issue I”. *Theory and Practice of Logic Programming* **20** 5, 587–592. ISSN: 1471-0684, 1475-3081. URL: <https://www.cambridge.org/core/journals/theory-and-practice-of-logic-programming/article/introduction-to-the-36th-international-conference-on-logic-programming-special-issue-i/EBBDEE348A3124334B9C367CD1DEE549> (visited on 04/04/2021).

## 9.2 Refereed proceedings

- [C0] Verma, D. C., Bertino, E., Russo, A., Calo, S., Singla, A., (Apr. 21, 2020). “Policy-Based Ensembles for Multi Domain Operations”. *Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications II*. Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications II. Vol. 11413. International Society for Optics and Photonics, 114130A. URL: <https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11413/114130A/Policy-based-ensembles-for-multi-domain-operations/10.1117/12.2558727.short> (visited on 04/04/2021).

# Talks

## 10.1 Conference talks

- [T2] Abu Jabal, A., Bertino, E., Lobo, J., Law, M., Russo, A., Calo, S., Verma, D., (2020). “Polisma - A Framework for Learning Attribute-Based Access Control Policies”. *Computer Security – ESORICS 2020*. Ed. by Liqun Chen, Ninghui Li, Kaitai Liang, and Steve Schneider. Lecture Notes in Computer Science. Cham: Springer International Publishing, 523–544. ISBN: 978-3-030-58951-6.