Abhijin Adiga

Contact Information

Network Systems Science and Advanced Computing (NSSAC)
Biocomplexity Institute and Initiative
University of Virginia
https://abhijin.github.io

email: abhijin@virginia.edu
phone: +1 540 204 6679

Current Position

Research Assistant Professor — Oct 2018 – present
Network Systems Science and Advanced Computing (NSSAC)
University of Virginia

Research Interests and Focus

Broadly, my research interests include computational modeling, combinatorics, design and analysis of algorithms, algorithmic game theory, and machine learning. My current focus is on modeling and analyzing epidemiological processes over networks using modern AI tools and novel datasets with application to invasive species, infectious diseases and other socio-technical systems.

Education

PhD: — August 2006 – March 2011
Dept. of Computer Science and Automation
Indian Institute of Science, Bangalore, India

Master of Science (Engg): — August 2001 – August 2003
Dept. of Electrical Engineering,
Indian Institute of Science, Bangalore, India

Bachelor of Engineering: — 1996 – 2000
Bangalore University (B.M.S. College of Engineering)
Telecommunication Engineering

Work Experience

Research Assistant Professor — Jul 2016 – Oct 2018
Senior Research Associate — May 2014 – Jul 2016
Postdoctoral Associate — October 2011 – May 2014
Network Dynamics and Simulation Science Laboratory
Biocomplexity Institute of Virginia Tech

Research Associate — March 2011 – September 2011
Dept. of Computer Science and Automation, IISc

Beceem Communications Pvt Ltd — August 2004 – July 2006
Algorithm design for WiMax (802.16)

Project Associate — October 2003 – April 2004
Project Associate — October 2000 – August 2001
Dept. of Electrical Engineering, IISc

Grants

- USDA NIFA Foundational and Applied Science Program: *Network Models of Food Systems and their Application to Invasive Species Spread*
  Amount: $400,000; Duration: Sep'19–Aug'23
  Role: PI
- USAID IPM Innovation Labs: *Assessment of Invasive Alien Species Distribution in the Chitwan-Annapurna-Landscape (CHAL) Region, Nepal*
  Amount: $150,000; Duration: Jan'19–Nov'21
  Role: CoPI
- USAID Egypt Mission: *Pest Risk Assessment of the Fall Armyworm, Spodoptera frugiperda in Egypt*
  Amount: $18,000; Duration: Oct'17–Dec'17
  Role: Co PI
- USAID IPM Innovation Labs: *A High-resolution Interaction Based Approach to Modeling the Spread of Agricultural Invasive Species*
  Amount: $1,000,000 ($800,000 for Virginia Tech); Duration: Oct'15–Nov'21
  Role: PI

Ongoing and submitted:

- USAID Feed the Future Innovation Lab for Current and Emerging Threats to Crops Catalog of Federal Domestic Assistance, 2021.
- NSF HDR Institute: Data Science for Transportation, Epidemiology and Power (DataSTEP), 2021 (submitted).
- NSF AI Institute: Agricultural AI for Transforming Workforce and Decision Support (AgAID), 2021.

Awards

- "DSFEW Early Career Researchers Travel Fund", KDD 2016.
- "Honorable Mention For Outstanding Novelty of Research Question" award for the paper "Sensitivity of Diffusion Dynamics to Network Uncertainty" in AAAI'13.
- Infosys Fellow: awarded to select PhD candidates in IISc by Infosys Technologies Ltd.
- Secured All India Rank of 34 in GATE 2000 (EC), a national level entrance exam for post graduate studies.
- Ranked 7th in Bangalore University in Telecommunication Engg. (Year 2000).

News

- Virtual agents of change: How computers are mapping Covid-19's future, Knowable Magazine, 2020.
- Agrilinks article on USAID Invasive Species project; 2020.
- Charlottesville News (CBS19) announcing the USDA FACT project; 2019.
- Virginia Tech provides key intel in U.S. and Egyptian-led battle against a major pest; 2018
- Countries get heads up about leafminer invasion thanks to Virginia Tech (also picked up by Wisconsin Farmer and Agrilinks)
- Virginia Tech awards more than $11 million to help feed people in developing countries
- Virginia Tech Research Team Fights the Spread of Invasive Pests

Selected Talks

1. Boolean Games: Inferring Agents' Goals Using Taxation Queries, International Joint Conference on Artificial Intelligence (IJCAI'20) (virtual), January 2021.
2. A Deep Learning Framework for Invasive Species Mapping using High-Resolution Satellite Imagery, ASPRS 2020 Annual Conference (virtual), June 2020.
3. (**Invited**) Network Dynamical Systems: Theory and Applications, Indian Institute of Technology, Hyderabad, India, November 2019.
4. Modern AI Techniques to Understand the Spatio-temporal Spread of Invasive Alien Plants: Approaches and Challenges, International Plant Protection Congress, Hyderabad, India, November 2019.
5. Modeling the multi-pathway spread of agricultural pests using network science, International Plant Protection Congress, Hyderabad, India, November 2019.
6. Understanding the Role of Seasonal Food Trade Networks in Invasive Species Spread, SIAM Network Science, Snowbird, Utah, May 2019.
7. (**Invited**) How to stop an epidemic? Networked dynamical systems, games and near-optimal algorithms, Indian Institute of Technology, Dharwad, October 2018.
8. (**Invited**) Multi-pathway models to assess the threat of invasive species spread, Indian Agricultural Research Institute, Delhi, October 2018.
9. Multi-pathway models to understand the spread and impact of Tuta absoluta, International Conference on Biological Control (ICBC), September 2018.
10. (**Webinar**) New Approaches to Control the South American Tomato Leaf Miner *Tuta absoluta*, April 2018
11. Monitoring the spread of *Tuta absoluta* using a multi-layered network based modeling framework, *9th International IPM Symposium*, Baltimore, March 2018
12. (**Invited**) Modeling the Spread of Fall Armyworm, *Fall Armyworm Workshop*, Adis Ababa, 2017
13. (**Invited**) Understanding the role of human-mediated pathways in pest spread: Case study of *Tuta absoluta*, *12th Arab Congress of Plant Protection*, Hurghada, 2017
14. Monitoring spread of T. absoluta using a multi-layered network based modeling framework, *Symposium on Global Spread and Management of the South American Tomato Leafminer, Tuta absoluta. International Congress of Entomology*, Orlando, 2016
15. (**Invited**) How to stop an epidemic? Games and near-optimal algorithms, *Dept. of Computer Science and Automation, Indian Institute of Science*, Bangalore, 2014
16. (**Invited**) Sensitivity of Dynamical Properties to Network Uncertainty, *Dept. of Computer Science and Automation, Indian Institute of Science*, Bangalore, 2013

Publications

Journal articles

1. A Adiga, C Barrett, S Eubank, C J Kuhlman, M V Marathe, H Mortveit, S S Ravi, D J Rosenkrantz, R E Stearns, S Swarup, and A K Vullikanti. Validating agent-based models of large networked systems. In *Winter Simulation Conference*, 2019
2. Vanessa Cedeno-Mieles, Zhihao Hu, Yihui Ren, Xinwei Deng, Abhijin Adiga, Christopher Barrett, Noshir Contractor, Saliya Ekanayake, Joshua M Epstein, Brian J Goode, et al. Networked experiments and modeling for producing collective identity in a group of human subjects using an iterative abduction framework. *Social Network Analysis and Mining*, 10(1):1–43, 2020

3. Anju Sharma Poudel, Bharat Babu Shrestha, Mohan Dev Joshi, Rangaswamy Muniappan, Abhijin Adiga, Srinivasan Venkatramanan, and Pramod Kumar Jha. Predicting the current and future distribution of the invasive weed ageratina adenophora in the chitwan–annapurna landscape, nepal. *Mountain Research and Development*, 40(2):R61, 2020
4. Mateus Ribeiro de Campos, Philippe Béarez, Edwige Amiens-Desneux, Luigi Ponti, Andrew Paul Gutierrez, Antonio Biondi, Abhijin Adiga, and Nicolas Desneux. Thermal biology of tuta absoluta: demographic parameters and facultative diapause. *Journal of Pest Science*, pages 1–14, 2020
5. J McNitt, Y Y Chungbaek, H Mortveit, M Madhav, R C Mateus, D Nicolas, B Thierry, M Rangaswamy, and A Adiga. Assessing the Multi-pathway Threat from an Invasive Agricultural Pest: *Tuta absoluta* in Asia. *Proc. R. Soc. B*, 2019
6. S Maharjan, B B Shrestha, M D Joshi, A Devkota, R Muniappan, A Adiga, and P K Jha. Predicting suitable habitat of an invasive weed *Parthenium hysterophorus* under future climate scenarios in Chitwan Annapurna Landscape, Nepal. *Journal of Mountain Science*, 2019
7. S Venkatramanan, S Wu, B Shi, A Marathe, M Marathe, S Eubank, LP Sah, AP Giri, LA Colavito, KS Nitin, V Sridhar, R Asokan, R Muniappan, G Norton, and A Adiga. Modeling commodity flow in the context of invasive species spread: Study of *Tuta absoluta* in Nepal. *Crop Protection*, 2019
8. Abhijin Adiga, Chris J Kuhlman, Madhav V Marathe, Henning S Mortveit, SS Ravi, and Anil Vullikanti. Graphical dynamical systems and their applications to bio-social systems. *International Journal of Advances in Engineering Sciences and Applied Mathematics*, pages 1–19, 2018
9. Abhijin Adiga, Shuyu Chu, Stephen Eubank, Christopher J Kuhlman, Bryan Lewis, Achla Marathe, Madhav Marathe, Eric K Nordberg, Samarth Swarup, Anil Vullikanti, et al. Disparities in spread and control of influenza in slums of Delhi: findings from an agent-based modelling study. *BMJ Open*, 8(1):e017353, 2018
10. Abhijin Adiga, Jasine Babu, and L Sunil Chandran. Sublinear approximation algorithms for boxicity and related problems. *Discrete Applied Mathematics*, 236:7–22, 2018
11. Mateus R Campos, Antonio Biondi, Abhijin Adiga, Raul NC Guedes, and Nicolas Desneux. From the western palaearctic region to beyond: Tuta absoluta 10 years after invading europe. *Journal of Pest Science*, 90(3):787–796, 2017
12. Abhijin Adiga, Chris J Kuhlman, Madhav V Marathe, SS Ravi, Daniel J Rosenkrantz, and Richard E Stearns. Inferring local transition functions of discrete dynamical systems from observations of system behavior. *Theoretical Computer Science*, 679:126–144, 2017
13. Abhijin Adiga, Hilton Galyean, Chris J Kuhlman, Michael Levet, Henning S Mortveit, and Sichao Wu. Activity in boolean networks. *Natural Computing*, 16(3):427–439, 2017
14. Yao Zhang, Abhijin Adiga, Sudip Saha, Anil Vullikanti, and B Aditya Prakash. Near-optimal algorithms for controlling propagation at group scale on networks. *IEEE Transactions on Knowledge and Data Engineering*, 28(12):3339–3352, 2016
15. Abhijin Adiga, Chris Kuhlman, Henning S Mortveit, and Anil Kumar S Vullikanti. Sensitivity of diffusion dynamics to network uncertainty. *Journal of Artificial Intelligence Research*, 51:207–226, 2014. **(invited: best papers in AAAI'13)**
16. Abhijin Adiga and L. Sunil Chandran. Representing a cubic graph as the intersection graph of axis-parallel boxes in three dimensions. *SIAM Journal on Discrete Mathematics*, 28(3):1515–1539, 2014

17. Abhijin Adiga, Jasine Babu, and L Sunil Chandran. A constant factor approximation algorithm for boxicity of circular arc graphs. *Discrete Applied Mathematics*, 178:1–18, 2014
18. Sichao Wu, Abhijin Adiga, and Henning S Mortveit. Limit cycle structure for dynamic bi-threshold systems. *Theoretical Computer Science*, 559:34–41, 2014
19. Abhijin Adiga, L.Sunil Chandran, and Naveen Sivadasan. Lower bounds for boxicity. *Combinatorica*, pages 1–25, 2014
20. Abhijin Adiga, L Sunil Chandran, and Rogers Mathew. Cubicity, degeneracy, and crossing number. *European Journal of Combinatorics*, 35:2–12, 2014
21. Abhijin Adiga, Diptendu Bhowmick, and L Sunil Chandran. Boxicity and poset dimension. *SIAM Journal on Discrete Mathematics*, 25:1687, 2011
22. Abhijin Adiga, Diptendu Bhowmick, and L Sunil Chandran. The hardness of approximating the boxicity, cubicity and threshold dimension of a graph. *Discrete Applied Mathematics*, 158(16):1719–1726, 2010
23. Abhijin Adiga and L Sunil Chandran. Cubicity of interval graphs and the claw number. *Journal of Graph Theory*, 65(4):323–333, 2010
24. Abhijin Adiga. Cubicity of threshold graphs. *Discrete Mathematics*, 309(8):2535–2537, 2009

Refereed conference proceedings

1. Abhijin Adiga, Sarit Kraus, Oleg Maksimov, and S. S. Ravi. Boolean games: Inferring agents' goals using taxation queries. In Christian Bessiere, editor, *Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence, IJCAI-20*, pages 1585–1591. International Joint Conferences on Artificial Intelligence Organization, 7 2020. Main track
2. Abhijin Adiga, Chris J. Kuhlman, Madhav V. Marathe, S. S. Ravi, Daniel J. Rosenkrantz, Richard E. Stearns, and A. Vullikanti. Bounds and complexity results for learning coalition-based interaction functions in networked social systems. In *Thirty fourth AAAI Conference on Artificial Intelligence*, 2020
3. A Adiga, C Barrett, S Eubank, C J Kuhlman, M V Marathe, H Mortveit, S S Ravi, D J Rosenkrantz, R E Stearns, S Swarup, and A K Vullikanti. Validating agent-based models of large networked systems. In *Winter Simulation Conference*, 2019
4. Zhihao Hu, Xinwei Deng, Abhijin Adiga, Gizem Korkmaz, Chris J. Kuhlman, Machi Dustin, Madhav V. Marathe, S. S. Ravi, Yihui Ren, Vanessa Cedeno-Mieles, Saliya Ekanayake, Brian J. Goode, Naren Ramakrishnan, Parang Sarif, and Nathan Self. On the modeling and agent-based simulation of a cooperative group anagram games. In *Winter Simulation Conference*, 2019
5. Abhijin Adiga, Chris J Kuhlman, Madhav V Marathe, SS Ravi, and Anil Vullikanti. PAC learnability of node functions in networked dynamical systems. In *International Conference on Machine Learning (ICML)*, 2019
6. Vanessa Cedeno-Mieles, Zhihao Hu, Xinwei Deng, Yihui Ren, Abhijin , Adiga, Christopher Barrett, Saliya Ekanayake, Gizem Korkmaz, Chris J. Kuhlman, Dustin Machi, Madhav V. Marathe, S. S. Ravi, Brian J. Goode, Naren Ramakrishnan, Parang Saraf, and Nathan Self. Mechanistic and data-driven agent-based models to explain human behavior in online networked group anagram games. In *The 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, 2019

7. Yihui Ren, Vanessa Cedeno-Mieles, Zhihao Hu, Xinwei Deng, Abhijin Adiga, Christopher Barrett, Saliya Ekanayake, Brian J. Goode, Gizem Korkmaz, Chris J. Kuhlman, Dustin Machi, Madhav V. Marathe, Naren Ramakrishnan, S. S. Ravi, Parang Saraf, and Nathan Self. Generative modeling of human behavior and social interactions using abductive analysis. In *The 2018 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, 2018
8. Abhijin Adiga, Chris J. Kuhlman, Madhav V. Marathe, S. S. Ravi, Daniel J. Rosenkrantz, and Richard E. Stearns. Learning the behavior of a dynamical system via a "20 questions" approach. In *Thirty second AAAI Conference on Artificial Intelligence*, 2018
9. Abhijin Adiga, Daniel Friedman, and Sharath Raghvendra. A k-median based online algorithm for the stochastic k-server problem. In *The 15th Workshop on Approximation and Online Algorithms (WAOA)*, 2017
10. S. Venkatramanan, S. Wu, B. Shi, A. Marathe, M. Marathe, S. Eubank, L. P. Sah, A. P. Giri, L. A. Colavito, K. S. Nitin, V. Sridhar, R. Asokan, R. Muniappan, G. Norton, and A. Adiga. Towards robust models of food flows and their role in invasive species spread. In *IEEE International Conference on Big Data (Big Data)*, pages 435–444, Dec 2017
11. Abhijin Adiga, S Venkataramanan, and Anil Vullikanti. To delay or not: temporal vaccination games on networks. INFOCOM, 2016
12. Abhijin Adiga and Anil Vullikanti. Temporal vaccination games under resource constraints. In *Thirtieth AAAI Conference on Artificial Intelligence*, 2016
13. Abhijin Adiga, Shuyu Chu, Achla Marathe, and Vullikanti S. Anil Kumar. Can social distancing compensate for the unvaccinated? In *The Computational Social Science Society of the Americas*, Santa Fe, NM, October 29 - November 1, 2015, 2015
14. Yao Zhang, Abhijin Adiga, Anil Vullikanti, and B Aditya Prakash. Controlling propagation at group scale on networks. In *Data Mining (ICDM), 2015 IEEE International Conference on*, pages 619–628. IEEE, 2015
15. A Adiga, C J Kuhlman, M V Marathe, S S Ravi, Daniel J Rosenkrantz, and Richard E Stearns. Complexity of inferring local transition functions of discrete dynamical systems. In *Implementation and Application of Automata: 20th International Conference, CIAA 2015, Umeå, Sweden, August 18-21, 2015, Proceedings*, volume 9223, page 21. Springer, 2015
16. Abhijin Adiga, Hilton Galyean, Chris J Kuhlman, Michael Levet, Henning S Mortveit, and Sichao Wu. Network structure and activity in Boolean networks. In *Cellular Automata and Discrete Complex Systems* (*Automata*), pages 210–223. Springer, 2015
17. Abhijin Adiga, Chris J Kuhlman, Henning S Mortveit, and Sichao Wu. Effect of graph structure on the limit sets of threshold dynamical systems. In *Cellular Automata and Discrete Complex Systems* (*Automata*), pages 59–70. Springer, 2015
18. Sudip Saha, Abhijin Adiga, B. Aditya Prakash, and Anil Kumar S Vullikanti. Approximation algorithms for reducing the spectral radius to control epidemic spread. In *Proc. 15th SIAM International Conference on Data Mining* (*SDM*), 2015
19. Sudip Saha, Abhijin Adiga, and Anil Kumar S Vullikanti. Equilibria in epidemic containment games. In *Twenty-Eighth AAAI Conference on Artificial Intelligence* (*AAAI*), 2014

20. Abhijin Adiga, Madhav Marathe, Henning Mortveit, Sichao Wu, and Samarth Swarup. Modeling urban transportation in the aftermath of a nuclear disaster: The role of human behavioral responses. In *The Conference on Agent-Based Modeling in Transportation Planning and Operations*, 2013
21. Abhijin Adiga, Anil Kumar S Vullikanti, and Dante Wiggins. Subgraph enumeration in dynamic graphs. In *Data Mining (ICDM), IEEE 13th International Conference on*, pages 11–20. IEEE, 2013
22. Abhijin Adiga and Anil Kumar S Vullikanti. How robust is the core of a network? In *Machine Learning and Knowledge Discovery in Databases (ECML/PKDD)*, pages 541–556. Springer Berlin Heidelberg, 2013
23. Abhijin Adiga, Chris Kuhlman, Henning S Mortveit, and Anil Kumar S Vullikanti. Sensitivity of diffusion dynamics to network uncertainty. In *Twenty-Seventh AAAI Conference on Artificial Intelligence (AAAI)*, 2013. **(invited to Journal of Artificial Intelligence Research)**
24. Abhijin Adiga and L. Sunil Chandran. Representing a cubic graph as the intersection graph of axis-parallel boxes in three dimensions. In *Symposium on Computational Geometry (SoCG)*, pages 387–396, 2012
25. Abhijin Adiga, Jasine Babu, and L Sunil Chandran. Polynomial time and parameterized approximation algorithms for boxicity. In *Parameterized and Exact Computation*, pages 135–146. Springer, 2012
26. Abhijin Adiga, L. Sunil Chandran, and Rogers Mathew. Cubicity, degeneracy, and crossing number. In *IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*, pages 176–190, 2011
27. Abhijin Adiga, Jasine Babu, and L Chandran. A constant factor approximation algorithm for boxicity of circular arc graphs. *Algorithms and Data Structures (WADS)*, pages 13–24, 2011
28. Abhijin Adiga, Rajesh Chitnis, and Saket Saurabh. Parameterized algorithms for boxicity. *Algorithms and Computation (ISAAC)*, pages 366–377, 2010
29. Abhijin Adiga, Diptendu Bhowmick, and L Chandran. Boxicity and poset dimension. *Computing and Combinatorics (COCOON)*, pages 3–12, 2010
30. Abhijin Adiga and L Sunil Chandran. Cubicity of interval graphs and the claw number. *Electronic Notes in Discrete Mathematics (EuroComb)*, 34:471–475, 2009
31. Abhijin Adiga, KR Ramakrishnan, and BS Adiga. A design and implementation of orthonormal symmetric wavelet transform using PRCC filter banks. In *Acoustics, Speech, and Signal Processing (ICASSP), IEEE International Conference on*, volume 6, pages VI–513. IEEE, 2003

Workshop/Extended abstract

1. Abhijin Adiga, Sarit Kraus, Oleg Maksimov, and S. S. Ravi. Boolean games: Inferring agents' goals using taxation queries. In *Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence*, pages 1585–1591, 2020
2. Abhijin Adiga, Chris J Kuhlman, Madhav V Marathe, SS Ravi, Daniel J Rosenkrantz, and Richard E Stearns. Inferring dynamical systems through active queries. In *SIAM Network Science*, 2019
3. Abhijin Adiga, S Venkatramanan, S Wu, M Marathe, S Eubank, L P Sah, A P Giri, L A Colavito, and R Muniappan. Understanding the role of seasonal food trade networks in invasive species spread. In *SIAM Network Science*, 2019

4. Madhurima Nath, Srinivasan Venkatramanan, Bryan Kaperick, Stephen Eubank, Madhav V Marathe, Achla Marathe, and Abhijin Adiga. Using network reliability to understand international food trade dynamics. In *International Workshop on Complex Networks and their Applications*, pages 524–535. Springer, Cham, 2018
5. Abhijin Adiga, Chris J Kuhlman, Madhav V Marathe, SS Ravi, Daniel J Rosenkrantz, and Richard E Stearns. Using active queries to learn local stochastic behaviors in social networks. In *International Workshop on Complex Networks and their Applications*, pages 246–257. Springer, Cham, 2018
6. Abhijin Adiga, C Kuhlman, M Marathe, SS Ravi, D Rosenkrantz, and D Stearns. Inferring users' choice functions in networked social systems through active queries. In *The 7th International Workshop on Computational Social Choice (COMSOC-2018)*, 2018
7. Sichao Wu, Henning Mortveit, Abhijin Adiga, and Srinivasan Venkatramanan. GENEUS & application in pest diffusion. In *Workshop on Uncertainty Quantification and Data-Driven Modeling*, 2017
8. Srinivasan Venkatramanan, Sichao Wu, Bowen Shi, Achla Marathe, Stephen Eubank, Madhav Marathe, and Abhijin Adiga. Hybrid Models for Ecological and Anthropogenic Drivers of Pest Invasion: Case Study of Tuta absoluta in Nepal. In *nternational Conference on Biodiversity, Climate Change Assessment and Impacts in Livelihood*, 2017
9. V. Sridhar, K. S. Nitin, R. Asokan, and A. Adiga. Use of CLIMEX to Identify the Potential Areas for Spread of Tuta absoluta under Climate Change. In *nternational Conference on Biodiversity, Climate Change Assessment and Impacts in Livelihood*, 2017
10. Srinivasan Venkatramanan, Abhijin Adiga, Achla Marathe, Stephen Eubank, and Madhav Marathe. Towards an integrated network-based approach to modeling the dynamics of invasive plant pests. In *Poster at KDD'2016 Workshop on Data Science for Food, Energy and Water (DS-FEW)*, 2016
11. Abhijin Adiga, Achla Marathe, Madhav V. Marathe, and Vullikanti S. Anil Kumar. Behavioral modeling for epidemic planning and response. In *The Computational Social Science Society of the Americas*, 2015
12. Abhijin Adiga, Richard Beckman, Keith Bisset, et al. Synthetic populations for epidemic modeling. 2015. IC2S2
13. Abhijin Adiga, Henning S Mortveit, and Sichao Wu. Route stability in large-scale transportation models. In *Workshop on Multiagent Interaction Networks, AAMAS*. 2012

Reports

1. E. A. Heinrichs, Jaspreet Sidhu, R. Muniappan, Amer Fayad, Abhijin Adiga, Achla Marathe, Joseph McNitt, and Srinivasan Venkatramanan. Pest risk assessment of the Fall Armyworm, *Spodoptera frugiperda* in Egypt. Technical report, Feed the Future Innovation Lab for Integrated Pest Management, USAID, 2018

STUDENTS CURRENT/PAST

PhD

Sichao Wu (Thesis adviser: Henning Mortveit)

Masters

Sanchit Sinha (Spring'21)
Manisha Sudhir (Spring'20–Spring'21) (Co-adviser with Anil Vullikanti)
Aniruddha Dave (Fall'20)

Daniel Perez Lazarte (Fall'19, Spring'20)
Joseph McNitt (Thesis adviser: Henning Mortveit)

Undergraduates
Johnny Yang (Fall'20, Spring'21), Surbhi Singh (Fall'19–Spring'20), Ethan Choo (Summer'19), Katie Liu (Summer'19), Bryan Kaperick (Spring'16–Spring'17), and Amleshwar Kumar (Intern: Fall'16)

High school
Manu Amundsen (Spring'21)

Memberships

- IEEE member

Professional Service

Guest editor
Journal of Indian Institute of Science (2021)

Senior Technical Program Committee member
IJCAI (2021)

Technical Program Committee member
AIKE (2018–2021), INFOCOM (2019), CSoNet (2016), CONECCT (2015), SDM-Networks (2015), SIAMNS (2015)

Grant Review
USDA (Spring'20 and Fall'20) (Grant review panelist)
NSF (2018) (Grant review panelist)
National Fund for Scientific and Technological Development (FONDECYT), Chile

Reviewer
Applied Network Science (2021, 2020, 2019), Journal of Pest Science (2020, 2018), International Journal of epidemiology (2019), Pest Management Science (2019), Journal of Parallel and Distributed Computing (2019), Australasian Journal of Combinatorics (2018, 2015), FPSAC (2017), ACM Transactions on Algorithms (2017), Journal of Royal Society Interface (2017), INFOCOM (2016, 2015), Order (2015), Algorithmica (2014), Journal of Autonomous Agents and Multi-Agent Systems (2013), Information Processing Letters (2012), Graphs and Combinatorics (2011), CATS (2011)

Miscellaneous

- Student and postdoc hiring committee in NSSAC 2018-present
- Student and postdoc hiring committee in NDSSL 2017-2018
- Member of graduate students admission team in NDSSL for the Fall'16 admissions
- Organized NDSSL graduate seminar series for the academic year 2013-2014