

Anuj Mubayi

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Simon A. Levin Mathematical Computational & Modeling Science Center

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Arizona State University

Tempe, AZ 85287

EDUCATION

- Ph.D. in Applied Mathematics in Life and Social Sciences** 2008
- *The Role of Environmental Context in the Dynamics and Control of Alcohol Use*
 - School of Human Evolution and Social Change, Arizona State University, Tempe, Arizona, USA
- M.Sc. in Pure Mathematics** 2000
- Department of Mathematics, Indian Institute of Technology, Kanpur, India
- B.Sc. in Physics and Mathematics** 1997
- Christ Church College, Chhatrapati Shahu Ji Maharaj University, Kanpur, India

RESEARCH INTERESTS

Dr Mubayi is an Applied and Computational Mathematical Scientist whose research program is driven by the quantitative and qualitative modeling of questions of interest to the Public Health or Social Sciences communities. His recent research includes the development of new tools for ameliorating the impact of neglected tropical diseases while increasing our understanding of the mechanisms that drive their prevalence. His work is based on the use of dynamical systems theory, broadly understood to include stochastic process, uncertainty and sensitivity analyses, inverse problem theory, computational social networks, and data science.

PROFESSIONAL EXPERIENCE / APPOINTMENTS AFFILIATIONS

- Affiliated Professor** 2018-present
- T. Denny Sanford School of Social and Family Dynamics, Arizona State University, Tempe, Arizona
- Assistant Professor of Applied Mathematics** 2016-present
- School of Human Evolution and Social Change, Arizona State University, Tempe, Arizona
- Assistant Professor** 2016-present
- Biosocial Complexity Initiative, Arizona State University, Tempe,

Arizona

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- Honors College Faculty** 2015-present
 - [Barrett Honors College](#), Arizona State University, Tempe, Arizona
 - Assistant Professor of Applied Mathematics** 2014-present
 - [Simon A. Levin Mathematical Computational & Modeling Science Center](#), Arizona State University, Tempe, Arizona
 - Co-Director** 2014-present
 - [Mathematical Theoretical Biology Institute](#) (MTBI), NSF REU, Arizona State University, Tempe, Arizona
 - Math Alliance Mentor** 2013-present
 - [The National Alliance for Doctoral Studies in the Mathematical Sciences, Department of Mathematics, Purdue University](#), West Lafayette, Indiana
 - Associate Research Scientist** 2009-present
 - [Prevention Research Center, Pacific Institute of Research and Evaluation](#), Berkeley, California
 - Assistant Professor** 2014-2016
 - [School of Mathematical and Natural Sciences](#), Arizona State University, Glendale, Arizona
 - Adjunct Faculty** 2012-2015
 - [Department of Mathematical Science, Clemson University](#), South Carolina
 - Assistant Professor** 2012-2014
 - [Department of Mathematics, Northeastern Illinois University](#), Chicago, Illinois
 - Adjunct Faculty** 2012-2013
 - Department of Epidemiology & Biostatistics, [Case Western Reserve University](#), Cleveland, Ohio
 - NIH GhREAT (Global Health Research Expanding Advanced Training) Trainee** 2011-2012
 - *Impact of Diagnostic/Program Monitoring Test Selection on Lymphatic Filariasis Elimination in Papua New Guinea*
 - [Center for Global Health & Diseases, School of Medicine, Case Western Reserve University](#)
 - Research Fellow (Bill & Melinda Gates Foundation funded)** 2010-2011
 - *PrEP, Antiretrovirals and Spread of HIV Drug Resistance*
 - [Department of Infectious Disease, Lerner Research Institute, Cleveland Clinic](#), Cleveland, Ohio
 - Norman Hackerman Advanced Research Program Postdoctoral Fellow** 2009-2010
 - *Cross-Immunity & Geographical Invasion in the Transmission of T-*

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- *Cruzi*
 - [Department of Mathematics, University of Texas at Arlington](#), Texas
- NIAAA Research Associate** 2006-2008
- [Department of Mathematics and Statistics](#), Arizona State University, Tempe, Arizona
- Research Associate** 2005-2007
- Department of Mathematics & Statistics, Arizona State University, Tempe, Arizona
- Graduate Teaching Assistant** 2005-2007
- School of Mathematical and Statistical Sciences, Arizona State University, Tempe, Arizona
- Graduate Research Assistant** 2005
- The Mathematical and Theoretical Biology Institute
 - T-7 Division Mathematical Modeling Group, [Los Alamos National Laboratory](#), Los Alamos, New Mexico
- Graduate Visiting Research Scientist** 2004
- Internship
 - T-7 Division Math Modeling & Analysis Group, [Los Alamos National Laboratory](#), Los Alamos, New Mexico
- Project Research Scientist** 2000-2001
- *Selection of sensor and actuator locations for vibrations studies/testing of helicopter fuselage*
 - [Department of Aerospace Engineering](#), Indian Institute of Technology, Kanpur, India
 - [Rotary Wing R&D Centre, Hindustan Aeronautical Limited \(HAL\)](#), Bangalore, India

HONORS AND AWARDS

- NSF Panel Reviewer** 2016
- FONDECYT 2015 Initiation into Research Reviewer**, 2015
- An initiative of the 2015 Chilean National Science and Technology Commission
 - CONICYT - Chile
- Research Society on Alcoholism (RSA) Junior Investigator Award** 2009
- [National Institute on Alcohol Abuse and Alcoholism](#) (NIAAA)
 - 32nd Annual RSA Scientific Meeting, San Diego, California
- Society for Mathematical Biology Scholarship** 2005
- 6th ECMTB and SMB 2005
 - [Dresden University of Technology](#), Dresden, Germany

SELECTED GRANTS

Current External Funding

- PI (20%):** Workshop Proposal (#19w5218) 2019
- Workshop at Banff International Research Station (BIRS) in Banff, Alberta.
 - “Challenges in Mathematical and Computational Modeling of Complex Systems of Substance Use, Use Disorders, and Related Problems” (CO-PI Towers, Mair, Castillo-Chavez, Gruenewald, Waller)
 - 42 participants will be supported
- CO-PI (50%) NSF DMS-1757968 (\$300,000)** 2018-2021
- “REU Site: Mathematical and Theoretical Biology Institute (MTBI)” (PI Castillo-Chavez)
- CO-I (15%) NSF-CISE Division of Advanced Cyber-infrastructure (ACI) (\$200,000)** 2016-2018
- “Collaborative Research: Petascale Simulation of Viral Infection Propagation Through Air Travel” (PI Scotch)
- CO-PI (40%) NSF-OIA-1261211 (\$179,936)** 2013-2017
- “International Research Experience for Students (IRES): Population Dynamics and Complex Systems: Challenges and Opportunities” (PI Castillo-Chavez)
 - Description: Provides opportunities for young Americans, over three years, to create or expand a research portfolio working with mathematical scientists doing research in ecology of infectious diseases, genomics and vector-borne disease dynamics in Colombia.

Past Research Funding

- CO-I (10%) NSF ACI – 1525061 (\$200,000)** 2015-2017
- “Simulation-Based Policy Analysis to Reduce Ebola Transmission Risk in Air Travel” (PI Srinivasan)
- SITE-PI (25%) NIH P20CA165588-03 (\$1.2M)** 2011-2014
- The Robert H. Lurie Comprehensive Cancer Center of Northwestern University (RHLCCC-NU) and Northeastern Illinois University (NEIU)
 - “NU-NEIU Guild for Health Behavior Oncology Research & Science” (PI Simon, and Gidea)
 - Description: NU NEIGHBORS is a strategic collaboration with the ultimate goal of reducing and eliminating cancer disparities, which are prominent in Chicago.
- CO-PI (50%) NSF Division of Mathematical Sciences- 1020880 (\$200,000)** 2010-2014
- Mathematical Biology and Population & Community Ecology Programs
 - “Cross-immunity & geographical invasion in sylvatic T. Cruzi transmission” (PI Kribs)
 - Description: A multi-level spatially explicit modeling approach is used to increase our understanding of the interactions between sylvatic transmission cycles of native (to US) and non-native

strains of *T. Cruzi* (responsible for Chagas disease in humans).

- PI (20%) NIMBioS Workshop** 2015
- National Institute for Mathematical & Biological Synthesis's 3 days International Workshop, University of Tennessee, Knoxville
 - "Challenges in Modeling Complexity of Malaria-Leishmaniasis Co-Infection in Resource-Limited Regions" (CO-PI Agosto, Kribs, Muturi, Siddiqui, Castillo-Chavez)
 - Supported travel & local support for 35 international participants
- PI (50%) AIM Workshop** 2014
- American Institute of Mathematics' 5 days International Workshop, Palo Alto, California
 - "Neglected Tropical Diseases" (CO-PI Medlock)
 - Supported travel & local for 30 international participants

Survey Carried Out

- PI Mental Health Crisis: Precursors To Stress And Burnout (\$200)** 2018
- Arizona State University Campus, Tempe, Arizona
 - Funded by Start up Grant
- PI Health Risk Behaviors: Alcohol Drinking & Cigarette Smoking (\$500)** 2017
- Arizona State University Campus, Tempe, Arizona
 - Funded by Start up Grant
- PI High School Drop-out (\$100)** 2013
- NEIU campus-Chicago Public School System
 - Funded by NEIU

PEER REVIEW PUBLICATIONS

Journals

[Lead author listed first, Senior author(s) listed last (S), (£) Undergrad student authors, (¥) Graduate student authors]
 [Find Journal Impact Factor after symbol #, and Author Participation Percentage with % symbol]

2017

30. Bechir Amdouni (¥), Marlio Paredes, Christopher Kribs, **Anuj Mubayi** (S). "[Why do students quit school? Implications from a dynamical modelling study.](#)" *Proc. Royal Society A* 473, no. 2197 (2017): 20160204. [#2.146 50%]

29. Asma Azizi (¥), Karen Ríos-Soto, **Anuj Mubayi** (S), James M. Hyman (S). "[A risk-based model for predicting the impact of using condoms on the spread of sexually transmitted infections.](#)" *Infectious Disease Modelling* 2, no. 1 (2017): 100-112. [30%]

28. Swati Debroy, Olivia Prosper, Austin Mishoe (£), **Anuj Mubayi** (S). "[Challenges in Modeling Complexity of Neglected Tropical Diseases: Assessment of Visceral Leishmaniasis Dynamics in Resource Limited Settings.](#)" *Emerging Themes in Epidemiology* 14.10: (2017). [#3.75, 40%]

27. Victor Moreno (¥), Baltazar Espinoza (¥), Kamal Barley (¥), Marlio Paredes, Derdei Bichara, **Anuj Mubayi (S)**, Carlos Castillo-Chavez (S). "[The role of mobility and health disparities on the transmission dynamics of Tuberculosis.](#)" *Theoretical Biology and Medical Modeling* 14, no. 1 (2017): 3. [#1.460, **20%**]

26. Sirish Namilae, Ashok Srinivasan, **Anuj Mubayi**, Mathew Scotch, Robert Pahle. "[Self-Propelled Pedestrian Dynamics Model: Application to Passenger Movement and Infection Propagation in Airplanes.](#)" *Physica A: Statistical Mechanics and its Applications* 465 (2017): 248-260. [#2.243, **15%**]

25. Sirish Namilae, Pierrot Derjany, **Anuj Mubayi**, Mathew Scotch, Ashok Srinivasan. "[Multiscale model for pedestrian and infection dynamics during air travel.](#)" *Physical Review E* 95, no.5 (2017): 052320. [#2.366, **15%**]

24. Juan Ospina, Doracelly Hincapie-Palacio, Jesús Ochoa, Adriana Molina, Guillermo Rúa, Dubán Pájaro, Marcela Arrubla, Rita Almanza, Marlio Paredes, **Anuj Mubayi (S)**. "[Stratifying the potential local transmission of Zika in municipalities of Antioquia, Colombia.](#)" *Tropical Medicine & International Health* (2017). [#2.850, **25%**]

2016

23. Fred Brauer, Carlos Castillo-Chavez, **Anuj Mubayi**, Sherry Towers. "[Some models for epidemics of vector-transmitted diseases.](#)" *Infectious Disease Modeling* 1, no. 1 (2016): 79-87. [**15%**]

22. Sherry Towers, Fred Brauer, Carlos Castillo-Chavez, Andrew K.I. Falconar, **Anuj Mubayi**, Claudia M.E. Romero-Vivas. "[Estimation of the reproduction number of the 2015 Zika virus outbreak in Barranquilla, Colombia, and a first estimate of the relative role of sexual transmission.](#)" *Epidemics* 17 (2016): 50-55. [#2.290, **10%**]

21. Sirish Namilae, Ashok Srinivasan, C. D. Sudheer, **Anuj Mubayi**, Robert Pahle, Mathew Scotch. "[A59-Self-Propelled Pedestrian Dynamics Model for Studying Infectious Disease Propagation during Air-Travel.](#)" *Journal of Transport & Health* 3, no. 2 (2016): S40. [#1.718, **20%**]

2015

20. Kamuela E.Yong, **Anuj Mubayi (S)**, Christopher M. Kribs (S). "[Agent-based mathematical modeling as a tool for estimating *Trypanosoma Cruzi* vector-host contact rates.](#)" *Acta Tropica* 151 (2015): 21-31. [#2.218, **35%**]

19. Kaushik K. Gorahava (¥), Jay M. Rosenberger, **Anuj Mubayi (S)**. "[Optimizing insecticide allocation strategies based on houses and livestock shelters for Visceral Leishmaniasis control in Bihar, India.](#)" *The American Journal of Tropical Medicine and Hygiene* 93, no. 1 (2015): 114-122. [#2.549, **50%**]

18. Sherry Towers, Andres Gomez-Lievano (¥), Maryam Khan (¥), **Anuj Mubayi**, Carlos Castillo-Chavez (S). "[Contagion in mass killings and school shootings.](#)" *PLoS One* 10, no. 7 (2015): e0117259. [#2.806, **15%**]

2013

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17. **Anuj Mubayi**, Priscilla Greenwood. "[Contextual interventions for controlling alcohol drinking](#)," *Mathematical Population Studies: An International Journal of Mathematical Demography* 20 (2013): 1-27. [#0.286, **70%**]
16. Abhishek Pandey (¥), **Anuj Mubayi (S)**, Jan Medlock (S). "[Comparing vector-host and SIR models for Dengue transmission](#)," *Mathematical Biosciences* 246, no. 2 (2013): 252-259. [#1.246, **40%**]
15. Melissa A Simon, Emily Malin, Moira Stuart, Marian Gidea, **Anuj Mubayi**, Brian Hitsman, Christina Ciecierski, David Victorson, Jennifer Banas, Tracy Luedke, Shaan Trotter, Tammi Dobbins, David Cella. "[NU NEIGHBORS' partnership: collaborating with a minority serving institution of higher education to reduce cancer health disparities](#)," *The Robert H. Lurie Comprehensive Cancer Center's Winter Journal* XVI, no. 1 (2013): 20-23. [**10%**]
14. Ridouan Bani (¥), Rasheed Hameed (¥), Steve Szymanowski (¥), Priscilla Greenwood, Christopher Kribs-Zaleta, **Anuj Mubayi (S)**. "[Influence of environmental factors on college alcohol drinking patterns](#)," *Mathematical Biosciences and Engineering* 10, no. 5-6 (2013): 1281-1300. [#1.035, **50%**]
13. Sherry Towers, Gerardo Chowell, Rasheed Hameed (¥), Matthew Jastrebski (£), Maryam Khan (£), Jonathan Meeks (¥), **Anuj Mubayi (S)**, George Harris (¥). "[Climate change and influenza: the likelihood of early and severe influenza seasons following warmer than average winters](#)," *PLoS Currents Influenza*, Jan (2013): 1-8. [#4.05, **15%**]
12. Ume Abbas, Robert Glaubius, **Anuj Mubayi**, Greg Hood, John Mellors. "[Antiretroviral therapy and pre-exposure prophylaxis: combined impact on HIV transmission and drug resistance in South Africa](#)," *Journal of Infectious Diseases* (2013): jit150. [#6.273, **25%**]
- 2012**
11. Christopher Kribs-Zaleta, **Anuj Mubayi**. "[The role of adaptations in two-strain competition for sylvatic Trypanosoma Cruzi transmission](#)," *Journal of Biological Dynamics* 6, no. 2 (2012): 813-835. [#1.279, **40%**]
10. Tufail Malik, Paul Salceanu, **Anuj Mubayi**, Abdessamad Tridane, Mudassar Imran. "[West Nile dynamics: virus transmission between domestic and wild bird populations through vectors](#)," *Canadian Applied Mathematics Quarterly*, Winter, 20, no. 4 (2012): 535. [**40%**]
- 2011**
9. **Anuj Mubayi**, Priscilla Greenwood, Xiaohong Wang, Carlos Castillo-Chavez, Dennis M. Gorman, Paul Gruenewald, Robert F. Saltz. "[Types of drinkers and drinking settings: application of a mathematical model](#)," *Addiction* 106, no. 4 (2011): 749-758. [#5.789, **70%**]
8. Daniel M. Romero, Christopher M. Kribs-Zaleta, **Anuj Mubayi**, Clara Orbe (£). "[An epidemiological approach to the spread of political third parties](#)," *Discrete and Continuous Dynamical Systems, Series B* 15, no. 3 (2011): 707-738. [#1.520, **30%**]
- 2010**
7. **Anuj Mubayi**, Carlos Castillo-Chavez, Gerardo Chowell, Christopher Kribs-Zaleta, Narendra Kumar, Niyamat Ali Siddiqui, Pradeep Das. "[Transmission dynamics and underreporting of Kala-azar in Indian state of Bihar](#)," *Journal of Theoretical Biology* 262, no. 1 (2010): 177-185. [#2.113, **70%**]

6. **Anuj Mubayi**, Christopher Kribs Zaleta, Maia Martcheva, Carlos Castillo-Chavez. "[A cost-based comparison of quarantine strategies for new emerging diseases](#)," *Mathematical Biosciences and Engineering* 7, no. 3 (2010): 687-717. [#1.035, **60%**]
5. **Anuj Mubayi**, Priscilla Greenwood, Carlos Castillo-Chavez, Paul Gruenewald, Dennis M. Gorman. "[The impact of relative residence times on the distribution of heavy drinkers in highly distinct environments](#)," *Socio-Economic Planning Sciences* 44, no. 1 (2010): 1-12. [#1.163, **70%**]
4. Benjamin R. Morin, Carlos Castillo-Chavez, Shu-Fang Hsu Schmitz, **Anuj Mubayi**, Xiaohong Wang. "[Notes from the heterogeneous: a few observations on the implications and necessity of affinity](#)," *Journal of Biological Dynamics* 4, no. 5 (2010): 456-477. [#1.279, **20%**]
3. Darren Sheets (¥), **Anuj Mubayi (S)**, Hristo Kojouharov (S). "[Impact of socio-economic conditions on the incidence of Visceral Leishmaniasis in Bihar, India](#)," *International Journal of Environmental Health Research* 20, no. 6 (2010): 415-430. [#1.485, **60%**]
2. Swati Debroy, Christopher Kribs-Zaleta (S), **Anuj Mubayi**, Gloriell M Cardona-Melendez, Liana Medina-Rios, MinJun Kang, Edgar Diaz. "[Evaluating treatment of Hepatitis C for Hemolytic Anemia management](#)," *Mathematical Biosciences* 225, no. 2 (2010): 141-155. [#1.246, **25%**]

2004

1. Katharina Baumann, Charles Bergeron, C. Sean Bohun, Thalya Burden, Huaxiong Huang, Samet Kadioglu, Serguei Lapin, Bruce McGee, **Anuj Mubayi**, Juan Restrepo, Andrew Taylor, Rex Westbrook. "[In-situ thermal remediation of contaminated soil](#)," *Canadian Applied Mathematics Quarterly* 12, no. 1 (2004): 25-37. [**10%**]

Edited Book

1. Edwin Michael, **Anuj Mubayi (Eds)** (2018). "[Population Ecology, Epidemiology, and Control of Neglected Tropical Diseases](#)". Basel, Switzerland: *Tropical Medicine and Infectious Disease*. [**50%**]

Book Chapters

2. **Anuj Mubayi**. "[Computational Modeling Approaches in Global Health: Sensitivity of Social Determinants on the Patterns of Health Behaviors and Diseases](#)". *Handbook in Statistics* 36 (2017). [**100%**]
1. **Anuj Mubayi**. "[Inferring Patterns, Dynamics, and Model-Based Metrics of Epidemiological Risks of Neglected Tropical Diseases](#)." *Handbook in Statistics* 37 (2017). [**100%**]

Refereed Conference Proceedings

2018

5. Sirish Namilae, Pierrot Derjany, **Anuj Mubayi**, Ashok Srinivasan. "Multiscale Pedestrian Dynamics and Infection Spread." *Pedestrian and Evacuation Dynamics (PED)*, August 21-24th, 2018, Lund, Sweden. [**15%**]
4. Sirish Namilae, Pierro Derjany, **Anuj Mubayi**, Ashok Srinivasan. "Model Based Policy Analysis for Infection Spread During Air Transportation." *International Conference on Transport & Health 2018*, 24-27 June. Mackinac Island, Mission Point Resort (USA). [**15%**]

3. Pierrot Derjany, Sirish Namilae, **Anuj Mubayi**, Ashok Srinivasan. “[Computational Model for Pedestrian Movement and Infectious Diseases Spread During Air Travel.](#)” *2018 AIAA Modeling and Simulation Technologies Conference* (2018): 0419. [25%]

2013

2. Kaushik K. Gorahava (¥), Jay M. Rosenberger, **Anuj Mubayi (S)**. “[Nonlinear optimization model for the control of Leishmaniasis in Bihar, India, using insecticide intervention.](#)” *Proceedings of the 2013 Industrial and Systems Engineering Research Conference* in A. Krishnamurthy and W.K.V. Chan, eds. (2013). [70%]

2011

1. Ume L Abbas, Robert Glaubius, **Anuj Mubayi**, Gregory Hood, John W Mellors. “Predicting the impact of ART and PrEP with overlapping regimens on HIV transmission and drug resistance in South Africa.” *18th Conference on Retroviruses and Opportunistic Infections* 27 (2011). [25%]

In Review

3. **Anuj Mubayi**, Marlio Paredes, Juan Ospina. “A Comparative Assessment of Epidemiologically Different Cutaneous Leishmaniasis Outbreaks in Madrid-Spain and Tolima-Colombia: An Estimation of the Reproduction Number via a Mathematical Model.” [70%]

2. Diego Morales, Marlio Paredes, Emmanuel J. Morales-Butler, Maytee Cruz-Aponte, Leon Arriola, Varsovia Cevallos, Patricio Ponce, **Anuj Mubayi (S)**. “The role of underreporting and reservoirs on the Cutaneous Leishmaniasis dynamics: A modeling study using 2010 outbreak in the Valle Hermosa, Ecuador.” [40%]

1. Sherry Towers, **Anuj Mubayi**, Carlos Castillo-Chavez (S). “The advantages of using unbinned likelihood analysis methods: with analysis of contagion in mass killings as an example.” [25%]

TECHNICAL REPORTS AND PROCEEDINGS

(Lead author listed first, Senior author(s) listed last (S), Undergrad student authors (£), Graduate student authors (¥))

2017

30. Christina Ciecierski, Brian Hitsman, Daniel Romero, **Anuj Mubayi**. “[Abstract A04: Social activities and events and their role in determining health behavior adoption among minority college students.](#)” *Cancer Epidemiology Biomarkers & Prevention* 26 (2 Supplement) (2017): A04-A04. AACR.

29. Pierrot Derjany, Sirish Namilae, **Anuj Mubayi**, Mathew Scotch, Ashok Srinivasan. “Effect of Pedestrian movement on infection transmission during air travel: A modeling study.” *Transportation Research Forum Proceedings*, March (2017).

28. Diego Vicencio Morales (¥), Juan Meléndez (¥), **Anuj Mubayi (S)**. “[Evaluating Cost Effective Control Strategies for dealing with Beaver Infestation in Tierra del Fuego.](#)” *MTBI* 14, no.07 (2017).

27. **Anuj Mubayi**. “[Cause and Dynamics of a Silent Epidemic: Confronting the Dropout Crisis and Keeping Children in Schools. A Mathematical Analogy with an Infectious Diseases Approach.](#)” *SIAM Newsjournal* 50, no.5 (2017).

2016

26. Asma Azizi (¥), Karen Ros Soto, **Anuj Mubayi (S)**. “[A Continuous-risk Model with Heterogeneous Mixing for Understanding Impact of Condom Use on Spread of Sexually Transmitted Infections Among Adolescents](#),” *MTBI* 13, no.11M (2016).
25. Diego Morales, Marlio Paredes, **Anuj Mubayi (S)**. “[Dynamics of Cutaneous Leishmaniasis Infection in the Presence of Bird Reservoirs as a Tool for Vector Surveillance in Ecuador](#),” *MTBI* 13, no.07M (2016).
24. Juan Ospina, Doracelly Hincapie-Palacio, Jesús Ochoa, Adriana Molina, Guillermo Rúa, Dubán Pájaro, Marcela Arrubla, Rita Almanza, Marlio Paredes, **Anuj Mubayi (S)**. “[The reproductive number of Zika in municipalities of Antioquia, Colombia: stratifying the potential transmission of an ongoing epidemic](#),” arXiv:1609.05969 (2016).
23. Angel Hernández (£), Omomayowa Olawoyin (£), Diana Taipe (£), Emmanuel J. Morales Butler, Mayteé Cruz-Aponte, **Anuj Mubayi (S)**. “[The Spatial-temporal Dynamics of Chikungunya in Most Affected Ecuadorian Provinces](#),” *MTBI* 13, no.05M (2016).

2015

22. Gabriel Morey-León (£), Jesús Vega-Lugo (£), James Humberstone (£), Emmanuel J. Morales Butler, Marlio Paredes, **Anuj Mubayi (S)**, Padmanabhan Seshaiyer (S). “[Assessing the Impact of Treatment Delays on the Prevalence of HIV Drug Resistant Cases: Modeling Case Study in Ecuador](#),” *MTBI* 13, no.04M (2015).

2014

21. Krystal Blanco (£), Kamal Barley (¥), **Anuj Mubayi**. “[Population Dynamics of Wolves and Coyotes at Yellowstone National Park](#),” *MTBI* 11, no.07M (2014).
20. Matthew Buhr (£), Oscar Garcia (£), Tiffany Reyes (£), Hasan Sumdani (£), Kamal Barley (¥), Adrian Smith (¥), Benjamin Morin, **Anuj Mubayi (S)**. “[Dynamics of Glial Cell Defense Mechanisms in Response to Ischemic Hypoxia in the Brain](#),” *MTBI* 11, no.05M (2014).
19. Michael Wong, Beverly Gonzales (£), **Anuj Mubayi (S)**. “Clinical and financial implications for hospital practice: Results from first national hospital survey regarding patient-controlled analgesia,” *Physician-Patient Alliance for Health & Safety (PPAHS)* (2014).

2013

18. George Alexiades (£), Germaine Suiza (£), **Anuj Mubayi (S)**. “The Impact of Climatic Factors in Predicting Incidence of Visceral Leishmaniasis in India,” *NEIU Summer Research Program* (funded by Title III grant) (2013).
17. Jared Scott (£), **Anuj Mubayi (S)**. “Estimating Reservoir Infection and Treatment Completion Rates with Visceral Leishmaniasis Incidence in Bihar, India,” *NEIU Summer Research Program* (funded by Title III grant) (2013).
16. Maryam Khan (£), Shana Kachaochana (£), **Anuj Mubayi (S)**. “The Influence Of Socio-Economic Conditions On Narcotic Cases In Chicago Communities,” *NEIU Summer Research Program* (funded by Title III grant) (2013).

2012

15. Brenda Martinez Jaurrieta (£), Itelhomme Fene (£), Kimberly Gutstein (£), Wilson Alvarez Torres (£), **Anuj Mubayi (S)**. "[Prison Reform Programs, and their Impact on Recidivism](#)," *MTBI* 09, no. 06M (2012).

14. Nancy Hernandez Ceron (¥), Jesse E Taylor, **Anuj Mubayi (S)**. "[The Effects of Epidemic Dynamics on MHC Diversity](#)," *MTBI* 09, no. 07M (2012).

13. Wilson E. Alvarez (£), Itelhomme Fene (£), Kimberly Gutstein (£), Brenda Martinez (£), Diego Chowell (¥), **Anuj Mubayi (S)**, Luis Melara (S). "[Prisoner reform programs, and their impact on recidivism](#)," *MTBI* 09, no. 06M (2012).

2010

12. Catherine Rogers (£), Kim Ngan Tran Nguy (£), Onyekachi A. Amajor (£), Thomas Seaquist (£), Britnee Crawford (¥), **Anuj Mubayi**, Christopher Kribs-Zaleta, Oladipo Oyediran. "[Daily behavior of Trypanosoma Cruzi hosts and vectors in Texas: an agent-based modeling approach in NetLogo](#)," *Mathematics Department Technical Report 2010-18*, University of Texas at Arlington, (Spring 2010).

11. Kachi Amajor (£), Catherine Rogers (£), Kim Ngan Tran Nguy (£), Thomas Seaquist (¥), Britnee Crawford (¥), **Anuj Mubayi**, Christopher Kribs-Zaleta, Oladipo Oyediran. "[Quantification of biting rates of two Trypanosoma cruzi vectors on two preferred mammalian hosts in Texas using an agent-based model](#)," *Mathematics Department Technical Report 2010-19*, University of Texas at Arlington, (2010).

2009

10. Marcel Munoz Figueroa (£), Xavier Martinez Rivera (£), Thomas Seaquist (£), Britnee Crawford (¥), **Anuj Mubayi**, Kehinde Salau (¥), Christopher Kribs-Zaleta. "[Two strain competition: Trypanosoma Cruzi](#)," *MTBI* 06, no. 07M (2009).

9. Swati Debroy (¥), Carlos Castillo-Chavez, Maia Martcheva, **Anuj Mubayi**. "[Time-since-infection Immunological Model for Hepatitis C and Observed Treatment Profiles](#)," *MTBI* 06, no. 03M (2009).

2008

8. **Anuj Mubayi**. "[The role of environmental context on the dynamics and control of alcohol use](#)," *Ph.D. Dissertation, Arizona State University*, December, (2008).

7. Gloriell M. Cardona-Melendez (£), Swati DebRoy (¥), MinJun Kang (£), Liana Medina-Rios (£). "[Evaluating Treatment of Hepatitis C Infection with Respect to Resulting Hemolytic Anemia](#)," *MTBI* 05, no. 04M (2008).

2007

6. Aaron Abromowitz (£), Andre Robinson (£), Walter Chambliss (£), Emmanuel J. Morales-Butler (£). "[The Effects of Cycling on Drug Resistance HIV](#)," *MTBI* 04, no. 02M (2007).

5. Romarie Morales (£), Helene Nehrebecki (£), Carolina Pontones-Argueta (£), Jose M. Vega-Guzman (¥), **Anuj Mubayi**, Joaquin Rivera. "[Modeling Transmission Dynamics for the Fall Wave of the 1918-1919 Influenza Pandemic in Montreal and Winnipeg](#)," *MTBI* 04, no. 04M (2007).

2006

4. Diego Chowell (£), Irina Kareva (£), Rosa Torre (£), **Anuj Mubayi**. "[The Effects of Myeloid Cells on Tumor-Immune System Interaction in Different Time Scales](#)," *MTBI* 03, no. 01M (2006).

2005

3. Asela Acosta (£), Efrat Bar-Zohar, Saúl Blanco (£), Dori Luli (¥), Anuj Mubayi. "[An Epidemic Model of HSV-1 with Vaccination](#)," *MTBI* 02, no. 04M (2005).

2. Karyn Sutton (¥). "[Differential Behavior of Vectors Infected with Chagas' disease](#)," *MTBI* 02, no.12M (2005).

2004

1. Antonio Buenrostro (£), Katie Diaz (£), C. P. Gonzales (£), Magdaliz Gorritz. "[HIV and Its Impact on the Infant Immune System](#)," *MTBI* 01, no. 7M (2004).

CITATION AND OTHER QUANTITATIVE IMPACT METRIC

- Google Scholar Citations (as of 30 March, 2018) \approx 512 total citations
- Google Scholar H-index = 12
- ResearchGate Score =25.74

CONFERENCE PRESENTATION

Extramural

2017

- Talk title: "Transition From Graduate Study to First Faculty Position: The NEW Assistant Professor IS IN". Panel Discussion ("How to Prepare for your First Academic Position"). In *The Eleventh Annual Mathematical Field of Dreams Conference* by The National Alliance for Doctoral Studies in the Mathematical Sciences. St. Louis Airport Hotel in Renaissance, St. Louis, Missouri (Nov 3-5)
- Poster Title: "Vector Transmission Model for Visceral Leishmaniasis to study the impact of Non-Adherence to the treatment on the Intervention Measures." In *ICMA VI: The 6th International Conference on Mathematical Modeling*, The University of Arizona, Tucson, Arizona (Oct 20-22)
- Paper title: "Neglected Tools in Tropical Diseases, Lessons from Modeling Leishmaniasis, West Nile Virus, & Ebola: Research Without Patients." Mini-symposium: *Modeling complex systems in biology, epidemiology, life and social sciences*. In *International Symposium on Biomathematics and Ecology Education and Research (BEER)*. Illinois State University, Normal, Illinois (Oct 6-8)
- Paper title: "Changes In Air-Travel-Driven Human Mobility Patterns And Propagation Of Infectious Diseases." Mini-symposium (MS13): *The Influence Of Socio-Behavioral Mechanisms On The Spread Of Newly Emerging And Remerging Diseases* (July 18). In *The 2017 Society of Mathematical Biology (SMB) Annual Meeting*. Salt Lake City, University of Utah campus, Utah (July 16-20)
- Paper presented: "*Modeling Infection Transmission Dynamics and Elimination of Leishmaniasis*". Mini-symposium (MS84): *Modeling Transmission Dynamics, Vector-Host Ecologies for Controlling Tropical Vector-Borne Infectious Diseases*. In *2017 Society of Industrial and Applied Mathematics (SIAM) Annual Meeting*. David Lawrence Convention Center, Pittsburgh (July 11-14)
- Poster titled: "Elimination of Visceral Leishmaniasis in India through Existing Therapeutic and Vector Control Programs: A Systemic Dynamical Modeling Study." In *6th World Congress on Leishmaniasis*. Palacio de Congresos El Greco, Toledo, Spain (May 16-20)

- Paper presented: “Transmission Dynamics of Vector Borne Disease with Multiple Hosts: An Application of Visceral Leishmaniasis.” In *7th International Conference on Risk Analysis (ICRA7)*. Northeastern Illinois University, Chicago (May 3-5)

2016

- Facultad de Ciencias Físico Matemáticas, Benemérita Universidad Autónoma de Puebla, Mexico (Sep 24-30)
- CIMAT (Centro de Investigación en Matemáticas, A.C.), Guanajuato, Guanajuato, Mexico (Sep 21-22)
- **Panelist**. In *American Psychology Association (APA) Meeting*, Denver, Colorado (Aug)
- *3rd International & Interdisciplinary Workshop on Mathematical Modeling, Ecology, Evolution, Health, Challenges and Opportunities in Latin America*. Organized by the National Institute for Public Health Research of Ecuador (INSPI) Quito, Ecuador (July 18-22)
- *NEIU Mathematical Modeling Workshop*, Chicago, Illinois (May)
- *The first Congress in Mathematical Modeling and Launch of Mathematical Modeling Center*, Francisco Gavidia University, El Salvador (Feb 22-26)

2015

- *NEIU Mathematical Modeling Workshop*, Chicago (Dec)
- *NEIU Mathematical Modeling Workshop*, Chicago (May)
- **Organizer** Mini-symposium: “The System Dynamics of Social and Health Processes using Quantitative Data Sciences Methods (part of the Workshop Celebrating Diversity)”. In *2015 SIAM Conference on Computational Science and Engineering*, Salt Lake City, Utah (March 13-18)
- **Invited speaker**. In *International Conference on Mathematical and Computational Biology* at Indian Institute of Technology, Kanpur, India (Feb 28- March 3)
- **Invited speaker**: “Dynamic Modeling for Adaptive Management of Resources: From Biomedical to Social Systems”. In *Spring 2015 New College Faculty Research Colloquium*, NEIU, Chicago, Illinois (Feb 17)

2014

- *Blackwell-Tapia Conference and Awards Ceremony*, IPAM, UCLA, California (Nov 14-15)
- **Panelist**. In *2014 Field of Dreams Conference*, Mesa, Arizona (Nov 7-9)
- *AIM Neglected Tropical Diseases Workshop* (with Jan Medlock), Palo Alto, California (Aug 11-15)
- **Organizer** Mini-symposium (with Swati Debroy). Talk title: “Advances in Mathematical Modeling of Complex Aspects and Control of Some Prevalent Infectious Diseases”. In *SIAM Conference on Life Sciences*, Charlotte, North Carolina (Aug 4-8)
- **Organizer** Mini-symposium (with Abhishek Pandey, Kamal K. Barley, Jan Medlock). Talk title: “Applications of Data-driven Models from Scientific Research to Public Health Issues”. In *SIAM Annual Meeting*, Chicago (July 7-11)
- *The First Short Course on Mathematical Sciences in Obesity*, Birmingham, Alabama (May 5-12)
- **Invited Speaker**. In *Workshop on Theoretical and Mathematical Epidemiology*, Johannesburg, South Africa (March 3-6)

2013

- *The 4th International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems: Mathematical Modeling of Complex Dynamics from Cells to Ecosystems*, Texas Tech University, Lubbock, Texas (Oct 4-6)
- *MBI Young Researchers Workshop*, Columbus, Ohio (Aug)
- *Society of Mathematical Biology Annual Meeting*, Tempe, Arizona (June 11-15)
- *5th International Conference on Risk Analysis (ICRA5)*, Tomar, Portugal (May 30-June 1)
- *IMA Annual Program Year Workshop Stochastic Modeling of Biological Processes*, Minneapolis, Minnesota (May 13-17)
- *Disease Dynamics*, University of British Columbia, Vancouver, Canada (Jan)

2012

- *ICERN, Blackwell-Tapia Conference*, Brown University, Rhode Island (Oct)
- *Department of Mathematics Seminar*, Purdue University, West Lafayette, Indianapolis (Sep)
- *Department of Mathematics Seminar*, Indian Institute of Technology, Kanpur, India (Spring)
- *Workshop on Nonlinear Dynamics* (by Indian Society for Mathematical Modeling and computer Simulation), Bhabha Group of Institutions Kanpur, India (Spring)
- *The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications*, Orlando, Florida (Summer)
- *SIAM Life Sciences Conference*, San Diego, California (Summer)

2011

- Talk title: "It takes two to tango: Interface between mathematics and biology". In *STEM (Science, Technology, Engineering and Mathematics) Scholarship Program*. Cleveland State University, Ohio
- Talk title: "Transmission Dynamics of Kala-azar in Bihar and Impact on Public Health Policies". In *AMS/MAA Joint Mathematical Meetings*, New Orleans, Louisiana

2010

- Talk title: "Public Health Policies in Response to Kala-azar in Bihar and Partially Observed Incidence." In *Mathematical Life Sciences Seminar*, Department of Mathematics, Case Western Reserve University, Cleveland, Ohio
- Talk title: "Effects of Contact Tracing and Removal on the Spread of New Emerging Diseases." In *Department of Statistics Seminar*, Pennsylvania State University, University Park, Pennsylvania
- Talk title: "The effect of Social Processes, Intrinsic Stochasticity and Control Programs on Alcohol Drinking Patterns". In *Statistic and Epidemiology Unit*, RTI International, Research Triangle Park, North Carolina

2009

- Talk title: "Transmission Dynamics and Case underreporting Of Kala-azar in Bihar, India." In *DIMACS/CCICADA Workshop on Mathematical Models for Behavioral Epidemiology*, Rutgers University, New Jersey
- Talk title: "Influence of social networks on the treatment of drug addiction." In *NECSI Winter School*, New England Complex Systems Institute (NECSI), Cambridge, Massachusetts

2008

- Talk title: “Alcohol drinking dynamics in distinct risk environments: Application to college drinking.” In *SIAM conference on the Life Sciences*, Hyatt Regency Montreal, Canada
- Talk title: “Mathematical models for public health problems.” In *School of Public Health Seminar*, Division of Epidemiology of Microbial Diseases, Yale University, New Haven, Connecticut

2005

- Talk title: “Effects of contact tracing and removal on the spread of new emerging diseases.” In *International Conferences on Recent Advances in Statistics*, Indian Institute of Technology, Kanpur, India

Intramural

2016

- *Research computing hands-on seminar*, Stochastic Modeling and Simulations, Arizona State University, Tempe, Arizona (Dec 5)
- *Research computing hands-on seminar, Uncertainty Quantification and Sensitivity Analysis*, Arizona State University, Tempe, Arizona (Oct 24)

2015

- **Organizer** *The First Workshop on Industrial Mathematical Modeling* (with Lafond, Lenig, Towers), ASU-West Campus, Glendale, Arizona (March 27-28)

2014

- **Invited speaker.** In *Workshop on Mathematical and Statistical Modeling of Complex Systems*, NEIU, Chicago (May 9-10 and Dec 12-13)
- **Invited speaker:** “Complex Societal Dynamics of Social Issues: Applications of Quantitative Modeling Methods”. In *Arizona State University School of Mathematical and Statistical Sciences’ Mathematical Biology Seminar*, Tempe, Arizona (Sep 26)
- **Invited speaker:** “Socio-economic Aspects & Elimination Target: Implications from Mathematical Modeling of Neglected System of Visceral Leishmaniasis.” In *The First International & Interdisciplinary Workshop On the Ecology, Evolution and Dynamics of Dengue and other Related Diseases*, The Biodesign Institute, Tempe, Arizona (Aug 4-5)

2012

- *Faculty Symposium*, Northeastern Illinois University, Chicago, Illinois (Nov)

2009

- Talk title: “Dynamical models for social and biological systems.” In *Section of Integrative Biology*, University of Texas, Austin, Texas

STUDENTS MENTORED

Ph.D. Chair or Co-Chair

7. *Bechir Amdouni*, Applied Mathematics for Life and Social Sciences, May 2022
Arizona State University, Tempe, Arizona
6. *Mugda Amol Thakur*, Applied Mathematics for Life and Social Sciences, May 2021
Arizona State University, Tempe, Arizona
5. *Romarie Morales*, Applied Mathematics for Life and Social Sciences, May 2016
Arizona State University, Tempe, Arizona

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4. *Kamal Barley*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
 3. *Beverly Gonzalez*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, Dec 2015
 2. *Abhishek Pandey*, Mathematical Sciences, Clemson University, Clemson, South Carolina, May 2014
 1. *Kaushik Gorahava*, Mechanical Engineering, University of Texas-Arlington, Texas, Aug 2013

Ph.D. Member of Committee

4. *Cesar Paul Motalvo Clavijo*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2021
3. *Victor Moreno*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2017
2. *Arlene Evangelista*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, Dec 2015
1. *Britnee Crawford*, Mathematics, University of Texas-Arlington, Texas, May 2012

Master Chair

6. *Bechir Amdouni*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, May 2014
5. *Steve Szymanowski*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, May 2014
4. *Indira Bambur*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, Dec 2013
3. *Ridouan Bani*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, May 2013
2. *Rasheed Hameed*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, May 2013
1. *Mohammad Yunusa*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois, May 2013

Master Member of Committee

8. *Sai Ram Dheeraj Lokam*, School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, Tempe, Arizona, Dec 2016
7. *Sakshi Sargam Parasher*, Public Health, Arizona State University & University of Michigan, May 2016
6. *Claudia Rodriguez*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
5. *Jasmine Jackson*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
4. *Maryam Khan*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
3. *Shala Brown*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
2. *Baltazar Espinoza Cortes*, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona, May 2016
1. *Darren Sheets*, Statistics, University of Texas-Arlington, Texas, May 2009

Graduate Students Mentor (Students on Research Projects)

7. *Inyoung Lee*, Ph.D. Mathematics Education, Arizona State, 2018-present

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| | University, Tempe, Arizona | |
| 6. | <i>Tin Phan</i> , Ph.D. Mathematics, Arizona State University, Tempe, Arizona | 2017-present |
| 5. | <i>Juan Melendez-Alvarez</i> , Ph.D. Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | 2017-present |
| 4. | <i>Diego Vicencio</i> , PhD Mathematics, Universidad Técnica Federico Santa María, Chile | 2017-present |
| 3. | <i>Trevor Fox</i> , Ph.D. Life Sciences, Arizona State University, Tempe, Arizona | 2017-present |
| 2. | <i>Whitney Mgbara</i> , Ph.D. Environmental Science, University of California, Berkeley | 2017-present |
| 1. | <i>Matteo Vaiente</i> , Ph.D. Biomedical Informatics, Arizona State University, Tempe, Arizona | 2016-present |

Undergraduate Thesis Advisor

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| 4. | <i>Whitney Mgbara</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | Aug 2017 |
| 3. | <i>Jared Scott</i> , Mathematics, Northeastern Illinois University, Chicago, Illinois | May 2014 |
| 2. | <i>Maryam Khan</i> , Accounting & Applied Mathematics, Northeastern Illinois University, Chicago, Illinois | Dec 2013 |
| 1. | <i>George Harris</i> , Applied Mathematics, Northeastern Illinois University, Chicago, Illinois | May 2013 |

Research Project Advisor

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| 19. | <i>19.1 Amber Andrade, 19.2 Meghan Werbick, 19.3 Sparshee Naik</i> , Global Health, Arizona State University, Tempe, Arizona | May 2020 |
| 18. | <i>Shama Joshi</i> , School of Life Science, Arizona State University, Tempe, Arizona | May 2020 |
| 17. | <i>Micaela García, Annabel Judd</i> , School of Life Science and Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2020 |
| 16. | <i>16.1 Katelyn Dinkel, 16.2 Joy Ren, 16.3 Mohini Bhakta</i> , Arizona State University, Tempe, Arizona | May 2020 |
| 15. | <i>Marcos Ifill</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2018 |
| 14. | <i>Futao Xie</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2018 |
| 13. | <i>Xavier Henes</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2018 |
| 12. | <i>Gabriella De Cardenas</i> , Applied Mathematics, Arizona State University-West, Phoenix, Arizona | May 2017 |
| 11. | <i>Whitney Mgbara</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2017 |
| 10. | <i>Stephen Lacour</i> , Applied Mathematics, Arizona State University-West, Phoenix, Arizona | May 2016 |
| 9. | <i>Destiny Cebur</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2016 |
| 8. | <i>Christopher Castro</i> , Applied Mathematics, Northeastern Illinois University, Chicago, Illinois | May 2015 |
| 7. | <i>Megan Crepeau</i> , Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona | May 2015 |
| 6. | <i>Christopher Graham</i> , Applied Mathematics, Arizona State University, Tempe, Arizona | May 2015 |

- University-West, Phoenix, Arizona
5. *George Alexiades*, Mathematics, Northeastern Illinois University, Chicago, Illinois May 2014
 4. *Germaine Suiza*, Biology, Northeastern Illinois University, Chicago, Illinois May 2014
 3. *Gabriela Solis*, Computer Science, Northeastern Illinois University, Chicago, Illinois Dec 2013
 2. *Jonathan Meeks*, Applied Mathematics, Northeastern Illinois University, Chicago, Illinois May 2013
 1. *Catherine Rogers*, Mathematics, University of Texas-Arlington, Texas May 2009

Honors Thesis/Contract

5. *Brianna Chavez*, Honors College, Arizona State University, Tempe, Arizona May 2019
4. *Rasheeda Mohammed*, Global Health, Arizona State University, Tempe, Arizona May 2018
3. *Rachael Gokool*, Honors Thesis, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona May 2015
2. *Tyler Ray*, Honors Contract and Honors Thesis, Applied Mathematics for Life and Social Sciences, Arizona State University, Tempe, Arizona May 2015
1. *Andrew Trichak*, Honors Contract, Mathematics, Arizona State University, Tempe, Arizona May 2015

TEACHING EXPERIENCE**ASU Faculty (2014-present)****Fall 2017**

- ASB 394 & AML 394 - Topic (Modeling and Simulations of Neglected Tropical Diseases; Full classroom course; 7 and 5 students, respectively)
- AML 499 - Individualized Instructions (1 student)
- AML 610 - Topic: Methods & Modeling in the Biological Sciences (Full classroom course)
- ASB 492 - Honors Directed Study
- ASB 499 - Individualized Instructions (1 student)

Summer 2017

- AML 799 - Dissertation (student Byong Kwon)
- AML 253 - Intro to Math Tools & Modeling (4 students)

Spring 2017

- AML 406 - Capstone (1 student)
- AML 499 - Individualized Instructions (1 student)
- AML 590 - Reading and Conference (1 student)
- ASB 100 - Introduction to Global Health (79 students)

Fall 2016

- AML 610 - Methods and Modeling in the Biological Sciences
- AML 792 - Research
- AML 590 - Reading and Conference (regular classroom course)

Spring 2016

- AML 406 - Directed Research (Capstone research projects)
- MAT 275 - Modern Differential Equations
- AML 792 - Research
- AML 590 - Reading and Conference (regular classroom course)

Fall 2015

- MATH 243 - Discrete Mathematics
- AML 590 - Reading and Conference (regular classroom course)
- AML 792 - Research
- AML 799 - Dissertation
- MAT 499 - Individualized Instruction

Spring 2015

- AML 406 - Capstone projects
- MATH 272 - Calculus III
- AML 590 - Reading and Conference (regular classroom course)
- AML 592 - Research
- AML 799 - Dissertation
- MAT 499 - Individualized Instruction

Fall 2014

- MATH 272 - Calculus III
- AML 590 - Reading and Conference (regular classroom course)

NEIU Faculty (2012-14)

- MATH 275 Computational and Applied Statistics (undergraduate course; taught 2 times)
- MATH 334 & 336 Mathematical Statistics I & II (undergraduate course; sequence taught 2 times)
- MATH 374 Modeling and Simulation of Complex Systems (undergraduate course; taught 1 time)
- MATH 173 College Algebra (undergraduate course; taught 1 time)
- MATH 167 Business Calculus (undergraduate course; taught 1 time)
- MATH 471 Introduction to Stochastic Models (graduate course; taught 1 time)
- MATH 472 Simulation, Modeling and Analysis (graduate course; taught 1 times)
- MATH 474 Mathematical Modeling (graduate course; taught 1 times)

INVITED KEYNOTE SPEAKER/WORKSHOP**2018**

- **Invited Speaker**, *I Encuentro Internacional de Matemática Aplicada a Ingeniería, Finanzas, Biociencia y Medio Ambiente*. Universidad Andina del Cusco, Cusco, Perú (Sep 26-28)
- **Organizer committee member** (with Pallav Baruah, and DKK Vamsi), *Indo-US Workshop on Modeling Dynamics, Statistical Inference, and Prediction of Infectious Diseases (WMDSP-ID)*. Mathematical Modeling: An Introduction to the Formulation Analysis and Application of Mathematical Models that Describe the Dynamics of Infectious Diseases. Department of Mathematics and Computer Science, Sri Sathya Sai Institute of Higher Learning. India (Aug 9-12)

- **Plenary speaker**, *V Workshop on Computational Data Analysis and Numerical Methods*, Escola Superior de Tecnologia e Gestao, Felgueiras, Instituto Politécnico do Porto, Portugal (May 11-12)

2017

- **Keynote speaker**, Talk title: “Recent Progress and Future Perspective of Mathematical Modeling Methods in Medicine and Social Sciences”. In *11th Mathematical and Statistical Modeling Workshop*, Northeastern Illinois University, Chicago, Illinois (Dec 15-16)
- **Keynote speaker**, Talk title: “Building Collaborative Learning Communities: Access and Excellence through REU Experience”. In *10th Mathematical and Statistical Modeling Workshop*, Northeastern Illinois University, Chicago, Illinois (May 5-6)
- **Invited speaker**, Talk title: “Transmission Dynamics of Vector Borne Disease with Multiple Hosts: An Application of Visceral Leishmaniasis.” In *7th International Conference on Risk Analysis (ICRA7)*.
- Mini-symposium **Chair and Organizer**: “Dynamical Epidemiological Modeling Methods for Risk Assessment for Public Health”. Northeastern Illinois University, Chicago, Illinois (May 3-5)
- **Invited speaker**, Talk: “Transmission Dynamics & Host-Vector Ecologies Of Neglected Infectious Diseases: Using Mathematical Models”. In *ASU’s BIO 423 Population and Community Ecology*, Scott Collins (Feb 21)
- **Invited speaker**, Talk: “Population dynamics & host-vector ecologies of tropical vector-borne infectious diseases: addressing challenges using mathematical models”. In *Spring 2017 Biomedical Informatics Weekly Seminar Series*, ASU’s Department of Biomedical Informatics, Mayo Clinic Scottsdale, Arizona (Jan 27)
- **Keynote speaker**, Talk title: “Enhancing Summer Research Experience: Guiding Multi-talents in Scholars” (EnSuRE: GEMS). Talk title: “Future of Work Skills: Computational, Statistical and Ethical Challenges”. In *PEER Project Research Training Workshop*, Building Science and Technology Capacity in El Salvador; the Centro de Modelaje Matemático-Carlos Castillo-Chavez (CMM-C3), Universidad Francisco Gavidia (UFG), San Salvador, El Salvador (Jan 11-13)

2016

- **Keynote speaker** (with Saurabh Biswas, and Dheeraj Lokam), “[Uncertainty & Sensitivity Analysis](#)”.
- **Keynote speaker**, *1st-10th Mathematical & Statistical Modeling Workshop*, Department of Mathematics, College of Arts and Sciences, Northeastern Illinois University, Chicago, Illinois (May and Dec)
- **Invited speaker**, “An Assessment of Mathematical Models of the Neglected Tropical Diseases: Research Without Patients”. In *Seminario de Estudiantes de Matemáticas Aplicadas*, CIMAT, Mexico (Sep 22)
- **Keynote speaker**, *1st CEMMAC Workshop in Mathematical Modeling: Epidemiology*, Facultad de Ciencias Físico Matemáticas, and Centro Multidisciplinario de Modulación Matemática y Computacional, Benemérita Universidad Autónoma de Puebla, Puebla, México

2014

- **Keynote speaker**. In *1st Theoretical and Mathematical Epidemiology*, Joint UNISA-UP Workshop, University of South Africa, Florida, South Africa

2013

- **Keynote speaker.** In *Advanced Workshop on Mathematical Epidemiology and Differential Equations*, Sponsored by Dept. of Sc. & Tech, Indian Institute of Technology, Patna, Bihar, India

2011

- **Keynote speaker**, “Epidemiology and Biostatistics”, Papua New Guinea Institute of Medical Research, and Divine Word University, Madang, Papua New Guinea

2003

- **Invited speaker**, “*TxBESS Science & Math Teacher conference-workshop*, College of Science, University of Texas at Arlington, Texas

SERVICE

Institution

At ASU (2014-present)

- **NSF panel reviewer** 2017
- **Member of [TeamLA](#) Health and Social Science**, Arizona State University Leadership Academy, Tempe, Arizona 2017-present
- **Organizer** Mini-Symposium: “Modeling complex systems in biology, epidemiology, life and social sciences” (with Yun Kang (ASU), Padmanabhan Seshaiyer (George Mason University), Carlos Castillo-Chavez (ASU)). In *International Symposium on Biomathematics and Ecology Education and Research (BEER)*, Illinois State University, Normal, Illinois. Oct 6-8, 2017
- **Organizer** Mini-symposium “(MS13): The Influence Of Socio-Behavioral Mechanisms On The Spread Of Newly Emerging And Remerging Diseases” [July 18] (with Anupama Sharma (Institute of Mathematical Sciences, Chennai, India). In *2017 Society of Mathematical Biology (SMB) Annual Meeting*, Salt Lake City, University of Utah campus, Utah Jul 16-20, 2017
- **Organizer** ASU’s first Workshop: *Industrial & Health Complexity Modeling in Medicine, Social Dynamics, & Technology* (with Megan Jehn (SHESC), Robert Pahle (GEOPLAN), Matthew Scotch (BioInfor), Sherry Towers (MCMSC), Edwin Michael (Univ. of Notre Dame) Jun 8-9, 2017
- **Session Chair and Mini-symposium Organizer**: “Dynamical Epidemiological Modeling Methods for Risk Assessment for Public Health.” In *7th International Conference on Risk Analysis (ICRA7)*, Northeastern Illinois University, Chicago, Illinois May 3-5, 2017
- **Organizer** *PEER Project Research Training Workshop* (with Oscar Picardo (UFG)) Jan 11-13, 2017
- **Scientific Committee Member**, ICRA7/ISI 2017/WSMC 11, Building Science and Technology Capacity in El Salvador; the Centro de Modelaje Matematico-Carlos Castillo-Chavez (CMM-C3), Universidad Francisco Gavidia (UFG), San Salvador, El Salvador May, 2017
- **Director** of BS program in Applied Mathematics of Life and Social Science (AMLSS), Arizona State University, Tempe, Arizona 2016-present
- **Undergraduate Advisor**, Applied Mathematics Life Social Sciences Program, Arizona State University, Tempe, Arizona 2016-present
- **Coordinator**, *IREC Summer Program*, Arizona State University, 2016-present

- Tempe, Arizona 2016-present
- **Member** of SHESC Undergraduate Retention Committee, Arizona State University, Tempe, Arizona 2015-present
- **Barrett Honors Faculty**, Arizona State University, Tempe, Arizona 2015
- **Reviewer** of FONDECYT 2015 Initiation into Research, an initiative of the Chilean National Science and Technology Commission (CONICYT -Chile) May 25-27, 2015
- **Co-organizer** (co-PIs: Folashade. B. Agosto, Christopher Kribs-Zaleta, Ephantus J. Muturi, Niyamat Ali Siddiqui), 3 days Workshop “Challenges in Modeling Complexity of Malaria-Leishmaniasis Co-Infection in Resource-Limited Regions.” At National Institute for Mathematical and Biological Synthesis (NIMBioS) (supporting travel and participation for 28 participants) 2014-present
- **Member of Committee** for Ph.D. program in Applied Mathematics in Life and Social Sciences, School of Human Evolution and Social Change (SHESC), Arizona State University, Tempe, Arizona 2014-present
Aug 11-15, 2014
- **Co-Director**, MTBI, Arizona State University, Tempe, Arizona Aug 6, 2014
- **Co-organizer** (with Jan Medlock), American Institute of Mathematics’ Workshop: “Neglected Infectious Diseases”
- **Co-organizer** (with Swati Debroy), Mini-symposium: “MS53 & MS61 Advances in Mathematical Modeling of Complex Aspects and Control of Some Prevalent Infectious Diseases”, Society of Industrial and Applied Mathematics (SIAM) Conference on Life Sciences July 10, 2014
- **Co-organizer** Mini-symposium: “MS106 Applications of Data-driven Models from Scientific Research to Public Health Issues” (with Abhishek Pandey, Kamal Barley, Jan Medlock). In *Society of Industrial and Applied Mathematics (SIAM) Annual Meeting* 2013-present
- **Math Alliance Mentor**, National Alliance for Doctoral Studies in the Mathematical Sciences
May, 2014

National At NEIU (2012-14)

- **Co-organized** 2-day Workshop: *4th Workshop on Mathematical Modeling of Complex Systems (Applications in Medicine, Epidemiology and Public Health)* (with Lidia Filus, Joseph Hibdon (NEIU), Zbigniew Krysiak, Pawel Bartoszczuk (Warsaw School of Economics)). NEIU, Chicago, Illinois April 3, 2014
- **Co-organizer** *19th Annual Equity In Action Heritage Conference (Immigration and Social Justice): Session on “A Fascinating World of Modeling & Complex Social/Health Systems: Power of Mathematics, Statistics & Computing”*, (with Yasmin Ranney). NEIU, Chicago, Illinois Dec, 2013
- **Co-organized** 2-day Workshop: *3rd Workshop on Mathematical Modeling of Complex Systems (Applications in Epidemiology and Finance)* (with Lidia Filus (NEIU), Zbigniew Krysiak, Pawel Bartoszczuk (Warsaw School of Economics)). NEIU, Chicago, Illinois Oct 29, 2013
- **Co-organizer** *18th Annual Equity In Action Heritage Conference (Immigration and Social Justice): Session on “It*

- Takes 2 to Tango: Equity in Education & Research”, (with Yasmin Ranney). NEIU, Chicago, Illinois
- **Co-organizer** “Hispanic Heritage Month Distinguished Speaker” (Carlos Castillo-Chavez (Arizona State University)) Visit (with Lidia Filus). NEIU, Chicago, Illinois Oct 8, 2013
 - **Co-organizer** NETT Day 4.0 workshop/ panel discussion. *Applied Sciences and Use of Technology to Conduct Scientific Investigations* (with Laura J. West). NEIU, Chicago, Illinois **Co-Chair**, Department’s Faculty Hiring Committee, NEIU, Chicago Illinois Oct 8, 2013
 - **Co-teaching** “MATH 472 (Simulation Modeling and Analysis)” (with Pawel Bartoszczuk (Warsaw School of Economics)). NEIU, Chicago, Illinois Fall, 2013
 - Developed the course: “MATH 374 Modeling and Simulations of Complex Systems.” NEIU, Chicago, Illinois 2013
 - Developed a new undergraduate minor “Mathematical Modeling and Simulations of Complex Systems” (with Paul O’Hara, Nancy Wrinkle) 2013-14
 - **Co-organized** 3-day Workshop: *1st Workshop on Mathematical Modeling of Complex Systems (Applications in Epidemiology and Finance)* (with Lidia Filus (NEIU), Zbigniew Krysiak, Pawel Bartoszczuk (Warsaw School of Economics)). NEIU, Chicago, Illinois Dec, 2012
 - **Co-organized** 3-day Workshop: *2nd Workshop on Mathematical Modeling of Complex Systems (Applications in Epidemiology and Finance)* (with Lidia Filus (NEIU), Zbigniew Krysiak, Pawel Bartoszczuk (Warsaw School of Economics)). NEIU, Chicago, Illinois **Member of Executive Board** of Student Center for Science Engagement (SCSE), NEIU, Chicago Illinois May, 2012
 - **Member** of Executive Board of Student Center for Science Engagement (SCSE), NEIU, Chicago, Illinois 2012-14
 - Math Club Seminar **Co-Organizer**, NEIU, Chicago, Illinois 2012-14
 - **Applied Mathematics Minor program advisor**, NEIU, Chicago Illinois 2012-14
 - **Co-Chair** Department’s Faculty Hiring Committee, NEIU, Chicago, Illinois 2012-13
 - **Member** of Search & Screen Committee for Coordinator of SCSE, NEIU, Chicago Illinois 2012-13
 - **SCSE students’ Faculty Advisor** for day symposium, USDA, Peoria, Illinois 2012
- National/International Level (2012-14)**
- **Invited Speaker**, 2014 *Theoretical and Mathematical Epidemiology Workshop*, The University of South Africa, Johannesburg, South Africa Mar 3-8, 2014
 - **Co-organizer** Mini-symposium: “MS68 Mathematical Modeling of Public Health Problems”, (with Kamuela Yong). In *2013 Society of Industrial and Applied Mathematics (SIAM) Annual Meeting*, San Diego, California Jul 8-12, 2013
 - **Co-organizer** “Mini-symposium: MS13. Underlying Dynamics of Neglected Tropical Diseases”, *2013 Society of Mathematical Biology (SMB) Annual Meeting*, (with Christopher Kribs-Zaleta). Arizona State University, Tempe, Arizona Jun 10-13, 2013

- **Moderator**, CS13 *Epidemiology 3: Society of Mathematical Biology (SMB) Annual Meeting*, Tempe, Arizona Jun 10-13, 2013
- **Co-organizer** “SIAM Workshop Celebrating Diversity Symposium”. In *2012 SIAM Annual Meeting*, (with Sara Del-Valle), Minneapolis, Minnesota Jul 9-13, 2012

PUBLIC OUTREACH/MEDIA MENTION

2017

- *The Way We Board Planes Spreads More Disease*. Interview with Ben Schiller, Fast Company Magazine’s World Changing Ideas (Aug 23)
- *What Can We Do To Not Get Sick On Planes?* Interview with [Lauren Gilger](#), KJZZ 91.5 radio (Aug 15)
- *Cause and Dynamics of a Silent Epidemic: Confronting the Dropout Crisis and Keeping Children in Schools: A Mathematical Analogy with an Infectious Diseases Approach*. SIAM NEWS (June)
- [Risky health behaviors linked to social influences](#) State Press, AS

2016

- Research covered by [sciencenode.org](#) online webportal on exploring the real-world impact of advanced computing and networks (May), by [HPCwire](#) in the news resources covering fastest computers and the individuals connected (Sep), and by [NCSA](#) is the news resources covering high performance computing project on Blue Waters supercomputer (Sep)
- Research covered by [Denver’s channel 9 News](#) (Aug), by [Sciencedaily](#) (July 2015), and by news channels such as [CNN](#) and [BBC](#)
- The MTBI program, that I am directing, was highlighted in [NSF Discovery Math for the real world: Student-driven research program applies math to thorny social and biological problems](#), April

2013

- Research covered by [AllGov.com](#) (Jan), by [Sciencedaily](#) (Jan), and by [scientificamerica](#) (Feb)

High School Dropouts

- <https://asunow.asu.edu/20170201-discoveries-math-modeling-parental-involvement-immunize-students-dropping-out>
- <http://www.bbc.com/news/education-38651628>
- <https://sinews.siam.org/Details-Page/cause-and-dynamics-of-a-silent-epidemic-confronting-the-dropout-crisis-and-keeping-children-in-schools>

Airtravel

- <https://asunow.asu.edu/20170804-solutions-asu-researchers-math-model-healthier-plane-passengers>
- <http://zeenews.india.com/health/did-you-know-travelling-by-air-cause-infectious-diseases-to-spread-faster-read-2031270>
- <http://www.hindustantimes.com/more-lifestyle/travelling-by-air-for-your-next-trip-you-may-be-prone-to-infections-during-plane-rides/story-2ab1BXmktKM4NSrsiSFIVM.html>
- <http://economictimes.indiatimes.com/magazines/panache/can-flying-make-you-sick-plane-rides-are-one-of-the-fastest-ways-for-infectious-diseases-to-spread/articleshow/59952533.cms>

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- <https://www.hpewire.com/off-the-wire/using-blue-waters-supercomputer-better-understand-ebola-transmission/>
 - http://www.ncsa.illinois.edu/news/story/using_blue_waters_supercomputer_to_better_understand_ebola_transmission
 - <https://kjzz.org/content/519728/what-can-we-do-not-get-sick-planes>

Mass Killings

- <http://www.9news.com/news/what-if-we-never-named-the-shooters/288645936>

WEBPAGE INFORMATION

- <https://asu.pure.elsevier.com/en/persons/anuj-mubayi>
- <https://scholar.google.com/citations?user=UjNBh6IAAAAJ&hl=en>
- <https://www.linkedin.com/in/anuj-mubayi-7b18b09>
- https://www.researchgate.net/profile/Anuj_Mubayi
- <http://www.ntdmodelling.org/diseases/visceral-leishmaniasis>
- http://www.cs.fsu.edu/vipra/?page_id=27
- <https://www.chain-builder.net/collaborators>
- <https://www.genealogy.math.ndsu.nodak.edu/id.php?id=128852>