

RESEARCH INTERESTS

Mathematical Modeling, Quantitative Virology and Immunology, Model-based Drug Development

EDUCATION

- **Ph.D. in Biophysics**, August 2018, Texas Christian University (TCU), Fort Worth, TX, USA
 - Thesis Advisor: Hana M. Dobrovolny
 - Thesis Title: Viral Coinfections of the Respiratory Tract, (Awarded TCU Outstanding Dissertation 2018)
- **M.Sc. in Biophysics**, May 2016, TCU, Fort Worth, TX, USA
- **B.Sc. in Electrical & Electronic Engineering (EEE)**, April 2010, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh

NON-DEGREE EDUCATION

- **Short Course in Systems Biology**, Center for Complex Biological Systems, University of California–Irvine, May 7–25, 2018
- **Summer School on Bioinformatics**, DeCART (Data, exploration, Computation, and Analytics Real-world Training for the Health Sciences), University of Utah, June 28–July 28, 2017

UNIVERSITY APPOINTMENTS

- **Postdoctoral Fellow**, October, 2018–present, Department of Pediatrics, Institute for the Study of Host Pathogen Systems, University of Tennessee Health Science Center (UTHSC), Memphis, TN
 - Advisor: Amber M. Smith
 - Research Area: Host-Pathogen Kinetics of Influenza Virus Infections and Bacterial Coinfection, Parainfluenza Virus Infection
- **Visiting Graduate Student**, October 16–November 3, 2017, Department of Pediatrics, UTHSC, Memphis, TN
 - Advisor: Amber M. Smith
 - Topic: Viral-bacterial coinfection modeling
- **Adjunct Faculty**, Fall, 2015–Spring, 2016, Department of Physics & Astronomy, TCU
 - Physics II (PHYS20484, based on Electromagnetism and Optics) (2 times)
- **Teaching Assistant (laboratory instructor)**, Fall, 2013–Summer, 2018, Department of Physics & Astronomy, TCU. Laboratories taught are
 - General Physics I (PHYS10154, based on Mechanics of Solids and Fluids, Thermodynamics, Sound and Wave Motion) (1 time)
 - General Physics II (PHYS10164, based on Electricity and Magnetism, Optics, Atomic and Nuclear physics) (4 times)
 - Introductory Astronomy: Earth & Planets (PHYS10273, based on the basic physical concepts of light and gravity, Earth’s climate and energy sources; also the motion of the Sun, Moon and stars) (3 times)
 - Archaeo-Astronomy (PHYS10293, based on the origin and evolution of the planets and moons, and search for extra-solar planets) (3 times)
- **Lecturer**, Fall, 2010–Summer, 2013, Department of EEE, American International University–Bangladesh (AIUB), Dhaka, Bangladesh (Fully responsible for all instructions and gradings in all courses). Courses taught are
 - Electromagnetic Theory (4 times)

- Analog Electronics I & II with laboratories (2 times each)
- Electrical Circuits I (DC circuit) & II (AC circuit) with laboratories (3 times each)

PUBLICATIONS

6. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Smith M. Amber (2020), ‘Kinetics of Parainfluenza Virus Infections’ (in preparation)
5. **Lubna Pinky**, Gilberto González-Parra, Hana M. Dobrovoly (2019), ‘Effect of stochasticity on coinfection dynamics of respiratory viruses’, *BMC Bioinformatics*, 20:191
4. **Lubna Pinky**, Gilberto González-Parra, Hana M. Dobrovoly (2019), ‘Superinfection and cell regeneration can lead to chronic viral coinfections’, *Journal of Theoretical Biology*, 466, 24–38
3. **Lubna Pinky**, Hana M. Dobrovoly (2017), ‘The impact of cell regeneration on the dynamics of viral coinfection’, *Chaos*, 27, 063109
2. **Lubna Pinky**, Hana M. Dobrovoly (2016), ‘Coinfections of the Respiratory Tract: Viral Competition for Resources’, *PLoS ONE* 11(5):e0155589
1. **Lubna Pinky**, Shakila Islam, Md. Nur Kutubul Alam, Mohammad Arif Hossain, Md. Rafiqul Islam (2014), ‘Modeling of Orientation-Dependent Photoelastic Constants in Cubic Crystal System’, *Material Science and Applications*, 223–230

PRESENTATIONS

— Upcoming Oral Presentations

1. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Smith M. Amber, ‘Kinetics of Parainfluenza Virus Infections’, SMB, University of Heidleburg, Germany, September 1, 2020

— Oral Presentations

1. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Smith M. Amber, ‘Kinetics of Parainfluenza Virus Infections’, PKPD Workshop, St. Jude Childrens Research Hospital, March 24, 2020
2. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Smith M. Amber, ‘Kinetics of Parainfluenza Virus Infections’, Math-Bio Seminar, Virginia Tech, March 4, 2020
3. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Amber M. Smith, ‘Quantifying Kinetic Differences in Two Recombinant Parainfluenza Viruses’, Society for Mathematical Biology (SMB), University of Montreal, Montreal, Canada, July 21-26, 2019
4. **Lubna Pinky**, Gilberto González-Parra, Hana M. Dobrovoly, ‘Mechanisms of virus-virus coexistence in the human respiratory tract’, Society for Industrial and Applied Mathematics (SIAM), Minneapolis, MN, August 6-9, 2018
5. **Lubna Pinky**, Hana M. Dobrovoly, ‘Viral coinfections of the Respiratory Tract’, Department of Physics and Astronomy, TCU, July 9, 2018
6. **Lubna Pinky**, ‘Optimal therapeutic strategy for influenza virus targeting intracellular NS1 protein: A mathematical modeling approach’, Center for Complex Biological System, University of California–Irvine, May 25, 2018
7. **Lubna Pinky**, Gilberto González-Parra, Hana M. Dobrovoly, ‘Two Possible Mechanisms of Chronic Viral Coinfections : Cellular Regeneration and Superinfection’, Texas Applied Mathematics and Engineering Symposium (TAMES), University of Texas-Austin, TX, September 21-23, 2017
8. **Lubna Pinky**, Hana M. Dobrovoly, ‘Coinfections of the Respiratory Tract: Viral Competition for Resources’, Department of Physics and Astronomy, TCU, March 4, 2016
9. **Lubna Pinky**, Hana M. Dobrovoly, ‘Impact of cell regeneration in human respiratory tract on simultaneous viral infections’, American Physical Society-March Meeting, San Antonio, TX, March 1-6, 2015

— Poster Presentations (Selected)

1. **Lubna Pinky**, Jeremie Guedj, Crystal W. Burke, Charles J. Russell, Amber M. Smith, ‘Quantifying Kinetic Differences in Two Recombinant Parainfluenza Viruses’, 4th Workshop On Viral Dynamics (WSVD), French National Institute of Health and Medical Research, Paris, France, October 21-23, 2019
2. **Lubna Pinky**, Gilberto González-Parra, Hana M. Dobrovolny, ‘Modeling of Viral Coinfection in Human Respiratory Tract Using Stochastic Method’, TAMES, University of Texas—Austin, TX, September 21-23, 2017
3. **Lubna Pinky**, Hana M. Dobrovolny, ‘Infectious viral dynamics of cellular coinfection in human respiratory tract’, Society for Mathematical Biology (SMB), University of Utah, July 17-20, 2017
4. **Lubna Pinky**, Hana M. Dobrovolny, ‘Dynamics of infectious viral coinfection with respiratory cell regeneration’, Dynamics Days Latin America and the Caribbean, Puebla, Mexico, October 24-November 1, 2016
5. **Lubna Pinky**, Hana M. Dobrovolny, ‘Study of viral coinfection dynamics in human respiratory tract’, Society of Industrial and Applied Mathematics (SIAM), Boston, MA, July 10-14, 2016
6. **Lubna Pinky**, Hana M. Dobrovolny, ‘Study of viral coinfections with human respiratory tract viruses’, Dynamics Days, Durham, NC, January 7–10, 2016
7. **Lubna Pinky**, Hana M. Dobrovolny, ‘Investigating simultaneous RSV and influenza infection of the upper respiratory tract’, 9th Respiratory Syncytial Virus Symposium, Stellenbosch, South Africa, November 9–13, 2014
8. **Lubna Pinky**, Hana M. Dobrovolny, ‘Investigation of dual virus infection of human respiratory tract.’ SIAM, Charlotte, NC, August 4–7, 2014

WORKSHOPS AND TRAININGS

- **Physiologically Based Pharmacokinetic Modeling**, Department of Pharmaceutical Sciences, St. Jude Children’s Research Hospital, 2019
- **Early Career Workshop**, SMB Annual Meeting, University of Utah, July 16, 2017
- **Dean’s Recognition of Professional Development in Science and Engineering**, Center for Career and Professional Development, TCU, 2016
- **Pedagogy Certification**, TCU Koehler Center for Teaching Excellence, TCU, 2015

HONORS AND AWARDS

— Academic Excellence Awards

- Outstanding Dissertation 2018, University level, TCU, \$1000
- Outstanding Dissertation 2018, College of Science and Engineering, TCU, \$250
- Outstanding Dissertation 2018 nominee, Department of Physics and Astronomy, TCU, \$100
- Bangladesh-Sweden Trust Fund for Graduate Level Studies, 2013, \$1000
- The Nippon Foundation Scholarship, Japan, 2007, \$200
- Dean’s List, KUET, 2007–2009
- Technical Merit Scholarship, KUET, 2006–2009, \$125

— Research Funds

- Department of Physics & Astronomy, TCU, 2018, \$5000
- College of Science and Engineering, TCU, 2017, \$1500

— Travel Awards

- SMB Travel Award (to attend WSVD in Paris), 2019, \$500

- SMB Landahl-Busenbergs Travel Award, 2019, \$250
- SIAM Student Travel Award, 2018, \$650; 2014, \$500
- TAMES Travel Award, 2017, \$250
- SMB Subgroup on Immunobiology and Infection Travel Award, 2017, \$200
- Dynamics Days Travel Support, 2016, \$200
- TCU Graduate Student Travel Support, 2014–2018, \$2000

PROFESSIONAL SERVICES

- **Guest Editor**, Special Issue “Systems Immunology Approaches in Infectious Diseases”, Biology, MDPI (Open for submission until 30 September 2020)
- **Journal Referee**, Processes, Biology, Bioinformatics, Mathematical Bioscience, American Journal of BioScience

VOLUNTARY SERVICES

- **Membership Table Representative**, SMB, Canada, 2018
- **Graduate Student Representative**, Student Research Symposium, TCU, 2016–2018
- **Outreach Program**, Tanglewood Elementary School, Fort Worth, Texas, December, 2015
Focus group–5th grade students, Project name: *Build Your Own Maglev Train*

PROFESSIONAL MEMBERSHIPS

- **Present**
 - UTHSC Postdoctoral Association, 2018–present
 - National Postdoctoral Association, 2018–present
 - Society for Mathematical Biology (SMB), 2017–present
 - Society for Industrial and Applied Mathematics (SIAM), 2014–present
- **Past**
 - American Physical Society (APS), 2015–2018
 - Woman in Science and Engineering, 2014–2018