

Saroj P. Pradhan

Education

Ph. D. (<i>Applied Mathematics</i>)	University of Texas at Dallas <i>Dissertation title:</i> The role of the peripheral and central chemoreceptors in the stability of human respiratory system	2010
M. S. (<i>Applied Mathematics</i>)	University of Texas at Dallas	2007
Bachelor of Laws	Tribhuvan University, Kathmandu, Nepal	1995
M. Sc. (<i>Mathematics</i>)	The Central Department of Mathematics Tribhuvan University, Kathmandu, Nepal	1994

Professional Experience

9/2020 – Present	Assistant Professor, Prairie View A&M University, Prairie View TX
9/2017-8/2020	Lecturer I, Prairie View A&M University, Prairie View TX <i>Course Taught and Teaching:</i> Advanced Calculus, Linear Algebra, Differential Equations, Calculus II, Calculus I, Calculus-Business Life and Social Sciences, Finite Mathematics, Trigonometry, College Algebra and Trigonometry, and College Algebra, Contemporary College Algebra
08/2016 – 07/2017	Visiting Assistant Professor, South Methodist University, Dallas, TX <i>Course Taught:</i> Linear Algebra, Calculus II, and Calculus I
01/2013- 05/2016	Adjunct Faculty, Richland College, Dallas, TX <i>Course Taught:</i> College Algebra, Statistics
08/2011- 05/2012	Temporary Assistant Professor, University of Central Oklahoma, Edmond, Oklahoma <i>Courses Taught:</i> Calculus 1, Calculus and Statistics for Business and College Algebra for Business
01/2011-05/2011	Adjunct Faculty, North Lake College, Irving, TX <i>Course Taught:</i> College Algebra, Statistics, Math for Business and Economics

01/2006-12/2010	Teaching Assistant, University of Texas at Dallas, Richardson, TX Conducted problem sessions on Calculus I, Calculus II and Linear Algebra. Assisted Professors on Applied Calculus and Pre-Calculus.
01/1996-05/2002	Advocate, R-R Law Associates, Kathmandu, Nepal Pleaded cases on behalf of clients in District, Appellate and Supreme Courts of Nepal. Provided legal consultancy services. Drafted legal documents.

Publications

- 1. Saeed, D., Siriwardana, N.J., and Pradhan, S.P.** Steady Viscous Flow in a Cavity for Large Rayleigh Numbers and Small Prandtl Numbers to appear in SPRINGER NATURE - Research Book Series: Transactions on Computational Science & Computational Intelligence.
- 2. Pradhan, S.P., Siriwardana, N.J., and Saeed, D.** Role of Cardiac Output during Sleep and Exercise of Human Respiratory Control System Model with Multiple Transport Delays to appear in SPRINGER NATURE - Research Book Series: Transactions on Computational Science & Computational Intelligence.
- 3. Siriwardana, N.J., and Pradhan, S.P.** A High Order Finite Difference Method to Solve the Steady State Navier-Stokes Equations. Application and Applied Mathematics: An International Journal (AAM) Volume 16, Issue 1, June 2021, 361-382.
- 4. Pradhan, S.P., Hartung, F., and Turi, J.** Dynamics in a Respiratory Control Model with Two Delays. Application and Applied Mathematics: An International Journal (AAM) Volume 14, Issue 2, December 2019, 863-874.
- 5. Pradhan, S.P. and Turi, J.** Effects of CPAP Therapy on Respiratory Control System Stability.
Dynamics of Continuous, Discrete and Impulsive Systems Series B: Applications & Algorithms 23 (2016) 421-432
- 6. Pradhan, S.P. and Turi, J.** Parameter Dependent Stability/Instability in a Human Respiratory Control System Model. DISCRETE AND CONTINUOUS DYNAMICAL SYSTEMS Supplement 2013, 643-652.

Selected Talks

Human Respiratory Control System Model During Sleep at Altitude with Two Control Loops and Multiple Transport Delays. Third International Conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2023), Pokhara, Nepal May 25-28, 2023.

Human Respiratory Control System Model during exercise at altitude with Two Control Loops and Multiple Transport Delays. 42nd Texas Differential Equations Conference, Texas A&M University – Corpus Christi, Corpus Christi, TX, USA March 30-31, 2019.

Stability Analysis of Human Respiratory Control System Model with Two Control Loops and Multiple Transport Delays. Colloquium, Prairie View A & M University, Prairie View Texas, USA February 09, 2018.

Respiratory Control System Model During Exercise with Two Delays. Texas Applied Mathematics and Engineering Symposium, University of Texas, Austin, Texas, USA September 21-23, 2017.

Parameter Identification of Respiratory Control System Model with Peripheral and Central Controls. Texas Differential Equations Conference, Texas A&M University, College Station, Texas, USA March 4-5, 2017

Presented my current research progress on sleep apnea and exercise in altitude. Theme on Delay Differential equations in life sciences and medicine, Field Institute, Toronto, Canada May 25-29, 2015

CPAP Therapy in Patients with Complex Sleep Apnea. The 9th International Conference on Differential Equations and Dynamical System, Dallas, Texas, USA May 14-16, 2015

Parameter Dependent Stability/Instability in a Human Respiratory Control System Model. 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, Florida, USA July 1 - 5, 2012

Workshop and Seminar Attended

Theme on Delay Differential equations in life science and medicine, Field Institute, Toronto, Canada May 25-29, 2015

FLIR with Butler & Land Free Thermal Imaging Lunch \$ Learn Seminar, Bass Pro Shop Pearland, Houston March 21, 2019

University Services

- Course Coordinator for MATH 3073 (Linear Algebra) (Fall 2019, Fall 2022 - Present).
- Taught Independent Study/MATH 2053-32085-MATH 3995 P01 in Summer 2018.

- Taught Independent Study/MATH 3073-32851-MATH 3995 P02 in Summer 2019.
- Member of AAM Manuscript (2018 – Present).
- Member of Award Committee (2017-2018, 2020-Present).
- Member of Colloquium Committee (2018 – 2019).
- Library Liaison (2020-Present).
- Edited papers for Applications and Applied Mathematics: An International Journal in Latex.
- Demonstration of “Introduction to MATLAB and its Application to Ordinary Differential Equations”, Prairie View A&M University, Prairie View Texas, USA February 20, 2018.

Additional Trainings:

Certificate of Completion in Getting Ready for Quality Matters (GRQM)

Certificate of Completion in Introduction to Teaching Online (ITO)

Certificate of Completion in Effective College Instruction from ACUE

Affiliation

Life Member – American Mathematical Society

Life Member – Association of Nepalese Mathematicians in America (ANMA)