

Dr. Sarma A. Pidaparthi
460 McBryde Hall, Virginia Tech
225 Stanger Street
Blacksburg, VA 24061-1026

Education:

- 1995 Ph D. in Mathematics, Indian Institute of Technology, Kharagpur, India.
Dissertation Title: “Convective Heat Transfer in Channels with Arbitrary Periodic Wall Protrusions using Galerkin’s Method with Cubic B-Splines” .
- 1987 *M.Tech , Computer Science & Data Processing, Indian Institute of Technology, Kharagpur India.
*Only Course Work done but Dissertation not submitted.
- 1985 M.S. in Mathematics, Andhra University, Visakhapatnam, India
- 1982 B.S. in Mathematics, Andhra University, Visakhapatnam, India.

Academic Experience:

- 8/2020 – Present Instructor, Department of Mathematics,
Virginia Tech. Blacksburg, V.A -24060.
- 8/2003 – 8/2020 Professor & Chair of the Department of Mathematics,
Southern West Virginia Community and Technical College, Logan. W.V.
- 1/2001 – 8/2003 Post Doctoral Researcher, Department of Mechanical Engineering,
IUPUI, Indianapolis.
- 8/2001 – 3/2002 Associate Faculty , Department of Mathematical Sciences,
IUPUI, Indianapolis
- 3/2000 – 12/2000 Senior Lecturer, Department of Mathematics,
Kigali Institute of Science, Technology and Management. Kigali, Rwanda.
- 7/1998 – 3/2000 Assistant Professor, Department of Mathematics,
Vellore Engineering College, Vellore, India.
- 11/1996 – 6/1998 Senior Lecturer and Head of The Department of Mathematics,
Bannari Amman Institute of Technology, Sathyamangalam, India.
- 7/1993 – 11/1996 Lecturer, Department of Mathematics,
Bapatla Engineering College, Bapatla, India.
- 2/1990 – 4/1993 Teaching Assistant, Department of Mathematics,
National Institute of Technology in India, Warangal, India.

Technical Skills:

Microsoft Office, WebAssign, Canvas, Math XL, ALEKS, Blackboard, Soft Chalk, MATLAB

Courses Taught with Different Modalities (*fast track, blended & on-line*).

Undergraduate Courses :

- Math 1225 Calculus for Single Variable - I
 - Math – 153 & 154 Algebra and Trigonometry – I & II
 - MT- 090 & 99 Basic Mathematics & Introductory Algebra
 - MT -121 College Mathematics For General Education
 - MT -121 & 121A College Mathematics For General Education & Enhanced
 - MT-124 & 124A Technical Math & Enhanced
 - MT -123 Intermediate Algebra
 - MT -125 Analytic Trigonometry
 - MT -128 Algebra for Allied Health
 - MT -130 & 130A College Algebra & Enhanced
 - MT – 225 & 230 Elementary Statistics
 - ME -101 & 102 Mathematics For Elementary Teachers – I & II
 - BU –115 Business Calculations
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- Mathematics I&II: *Differential Equations, Series Expansion, Matrix Theory, and Vector Calculus.*
 - Mathematics III: *Laplace Transforms, Complex Analysis, Contour Integration Statistical Methods.*
 - Mathematics IV: *Fourier Transforms, Fourier series, Partial Differential Equations.*
 - Mathematics V: *Numerical Methods for Single Non-Linear Equation, Numerical Interpolation, Numerical Solutions of Differential Equations and Algorithms for solving problems.*
 - Statistical Methods: *General Statistical Methods including Correlation, Regression, Sampling, Testing of Hypothesis and Time Series Analysis.*
 - Operations Research: Simplex methods, Transportation and Assignment problems.

Graduate Courses

- Numerical Methods and Optimization Techniques
- Elements of Numerical Analysis and Computer Programming
- Applied Numerical Analysis
- Real Analysis
- Numerical Methods
- Computer Oriented Statistical Methods

Honors and Awards:

- **Savas-Kostas Award for Excellence at SWVCTC, 2017.**
- **Finalist for Savas-Kostas Award for Excellence at SWVCTC, in 2012, 2013 & 2019.**
- **Post-Doctoral Fellowship** (Through NSF sponsored Project) 2001
- **Best Teacher Award** (Vellore Engineering College, Vellore, India) 1998
- **University Grants Commission** (Research Fellowship) 1995

Referred Journal Publications:

1. Sarma, P.A.; Pidaparti, Ramana M.; Meiss, Richard A, "Effect of off-axis cell orientation on mechanical properties in smooth muscle tissue", Journal of Biomedical Science and Engineering (JBiSE), 2011.
2. Sarma, P.A.; R.M.Pidaparti and R.A.Meiss, " Shear Stiffness Estimation for a Smooth Muscle Tissue", **Polymers & Polymer Composites, Vol.12, No.4, 2004.**
3. P. A. Sarma, R. M. Pidaparti, P.N.Moulik and R. A. Meiss, "Non-Linear Material Models For Tracheal Smooth Muscle Tissue" **International Journal of Bio-Medical Materials and Engineering Vol.13, 235-245, Number 3 / 2003.**
4. P.A.Sarma, R.M.Pidaparti and R.A.Meiss, " Anistropic properties of Tracheal Smooth Muscle Tissue" , **Journal of Biomedical Materials Research, Vol. 65A, Issue 1, 1-8, 2003.**
5. P.A Sarma and Prasad, B.V.S.S.S, " Response of Periodic wall protrusions on average flow and heat transfer characteristics in forced convections study " **REV ROOM. SCI. Techn. Mec App 1.TOME 40, No1, 33-53, Bucharest, 1995.**
6. P.A. Sarma, Prasad, B.V.S.S.S and Sastri, K.S., " Laminar natural convection in vertical channels with periodic wall protrusions", **Applied Scientific Research 54, 1-22, 1995.**
7. P.A.Sarma, "Families of Third, Fourth and Fifth order Extended Nystrom methods for $Y''' = f(x, y)$ " **MAHTMATICS-REVIEWED'ANALYSE, NUMERIC, ET DE THEORIEDEL'APPROXIMATION, Vol 2 0, Nos 1-2, 1991, 83-95.**

Conference Proceedings & Abstracts:

1. P. A. Sarma, R. M. Pidaparti and R. A. Meiss, "Material Property Investigation of a Bio-Inspired Composite", Proceedings of the **American Society of Composites 17th Technical Conference**, October 21-23, West Lafayette, IN.
2. P. A. Sarma, R. M. Pidaparti and R. A. Meiss, "Investigation Of A Hyperelastic Material Model For Tracheal Smooth Muscle Tissue", Proceedings of the 21st **Southern Biomedical Engineering Conference**, September 28- 29, 2002, Washington, DC.
3. R.M.Pidaparti, P.A.Sarma, and R.A.Meiss, "Smooth Muscle Tissue Composite Material Properties from Experiments and Computations" Abstract, **2002 SEM Annual conference and Exposition on Experimental and Applied Mechanics**, June 10-12, Wisconsin, USA.
4. R.M.Pidaparti, V.B.Somashekar,P.A.Sarma,G.Vemuri,A.S.C.Sinha, A.M.Gacy "Preliminary Investigations on a Nanoscale Biomolecular Motor" **Bio Vision – 2001**, December 21-24, 2001, Bangalore, India.
5. R.M.Pidaparti, P.A.Sarma, A.S.C.Sinha, G. Vemuri and A.M.Gacy , " Nuclear Membrane Dynamics Of A Nuclear Pore Complex Structure ", Proceedings of **2001 ASME International Mechanical Engineering Congress and Exposition**, November 11 – 16, 2001, New York .
6. P. A. Sarma, R. M. Pidaparti and R. A. Meiss, " A Material Model For Shortening – Dependent Stiffness Of Tracheal Smooth Muscle ", Proceedings of **2001 ASME International Mechanical Engineering Congress and Exposition**, November 11 – 16, 2001, New York .
7. A.S.C.Sinha, R.M.Pidaparti, P.A.Sarma, G. Vemuri and A.M.Gacy , "A Dynamic Model for Nuclear membrane of a Nanoscale Bio-Molecular Motor ", **2001 ANNIE Conference**, November 4 – 7, Missouri.
8. P.A.Sarma, R.M.Pidaparti and R.A.Meiss, "Composite material model of smooth Muscle Tissue" Abstract, **ICMAT 2001**, Singapore, July 01- 06, 2001.
9. P.A Sarma and Prasad, B.V.S.S.S, "Combined convection in corrugated channels using Galerkin's method with cubic B-Splines" proceedings of **15th National Heat and Mass Transfer Conference and the 4th ISHMT/ASME Heat and Mass Transfer**, Vol.1, 539-544, 2000.

Professional Activities:

1. Attended American Mathematical Association of Two-Year Colleges in Milwaukee WI, November 13th -17th 2019.
2. Attended workshop on "Comprehensive Math Praxis Deep Dive/Curriculum Restructure for Yearlong Residency", in Oct17-18, 2019 at Advanced Technology Center of South Central WV.
3. Attended Joint Conference for the West Virginia Community College Association, at Martinsburg, West Virginia in November 2010.

4. Participated in College Transition Math Profession Development with West Virginia Department of Education at Charleston in November 2009.
5. Attended summer workshop ACTIVATE (Advancing computing and Technology Interest and innovation through Teacher Education) Computing with Alice, July 6-9, 2009, Computational Thinking, July 10-13, 2009, JAVA Programming, July 14-17, 2009 at School of Computer Science, Carnegie Mellon University.
6. Attended Transportation Academy in Clarksburg, West Virginia in June, 2009.
7. Attended T³ (Teachers Teaching with Technology) conference at Flatwoods, West Virginia in March 2009.
8. “Community & Technical College System Faculty Development Conference” on September 5, 2008, Charleston, WV.
9. West Virginia Higher Education Math Symposium April 4-5th, 2008 at, Clarksburg, WV.
10. “West Virginia Higher Education Math Symposium” Feb 23-24, 2007 at Caperton Center, Clarksburg, WV.
11. Attended the West Virginia Higher Education Mathematics Symposium held at Marshall University in March 2006.
12. Attended Math Higher Education Symposium held in Beckley in April 2005.
13. Attended the West Virginia Higher Education Mathematics Symposium held at Marshall University in March 2006.
14. Attended “ Mathematics Leadership Institute I, with West Virginia Department of Education ” at Charleston Civic Center, December 9-11, 2004.
15. Conducted a one day Instep Professional Development Session for a group of faculty members and student teachers at Wyoming/McDowell Campus in November 2004.
16. Attended “ Great Teacher Conference “ at Cairo, W.V , June 21 – 24, 2004.
17. Attended “**Instep summer workshop**” Center for Educational Technologies, **Wheeling Jesuit University, Wheeling**, June 14-18, 2004.
18. Attended “11th Annual Teaching and Learning Conference at Ashland”, Kentucky, October 10 –11, 2003.
19. Participated in “Curriculum Alignment Project with WV. Higher education Policy Commission at Beckley, on September 20, 2003.
20. Attended a Short term course on “Finite element Modeling with ANSYS- Theory and Applications, **IUPUI, Department of Mechanical Engineering**, March 13-15, 2001.

Outreach Activity Services:

As a lead faculty:

- I assisted the Dean of School of Arts and Sciences in preparing Spring 2020 and Fall 2020 schedules for math department.
- I helped the administration not only with getting students registered for Fall & Spring classes, but also with proctoring and scoring student placement tests.
- I actively participated in local Middle & Higher School Career Days every year.
- I served on the math faculty hiring committee for three candidates.
- I developed new courses based on co-requisite model and for online courses, including a Math course (Technical Math, MT-124) which got approved and complies completely with Quality Matter Standards review.
- I have developed master syllabi for # Math Courses (Trigonometry, Technical Mathematics and Algebra for Allied Health)
(See Attachments below)



SAS Master
SyllabusMT124latest



SAS Master
SyllabusMT125latest



SAS Master
SyllabusMT128latest

State Task Force member:

- As a member, I attended meetings with a statewide team to decide on all transfer prerequisites required for Mathematics & Statistics courses.
- Along with my other Task force members, I have reviewed the end-of-year submissions for two math courses (Quantitative Reasoning and Introductory Statistics) across the W.V State.
(See Attachments below)



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Introductory Statisti

Various Committees Served:

- Curriculum and Instruction Committee
- Assessment Committee
- Promotion Committee (Chair)
- Math Scoring Team.
- Scorer for the State Math Field Day Competitions.

External examiner:

- I have examined and submitted the final report for a Ph. D thesis titled “**Effect of Slip on Stenotic Region Flow of Non-Newtonian Fluids**” submitted by a candidate from National Institute of Technology, Warangal, India.
- I have examined and submitted the final report for a Ph. D thesis titled “**Solution of Higher Order Boundary Value Problems by Petrov-Galerkin Method With B-Splines**” submitted by a candidate from National Institute of Technology, Warangal, India.

Unit Plan & Instructional Guides for West Virginia Department of Education:

- Developed a unit plan on “**Basic Matrix algebra and its applications**” for High school Teachers across West Virginia in June 2014
<http://nextgen.wvnet.edu/Courses/unit.php?c=6&u=33>.
- Developed Instructional guides on “**Exponential and Logarithmic Equations**” for High school Teachers across West Virginia in 2010.
- Developed Instructional guides on “**Exponential and Logarithmic Functions**” for High school Teachers across West Virginia in 2009.
”(<http://wveis.k12.wv.us/Teach21/public/Iguide/Iguide.cfm?action=V1&tsele1=2&tsele2=122&tsele3i=512>)

Text Book:

Compiled a Text Book, “*Calculus and Algebra*”, for Engineering Students of Kigali Institute of Science and Technology, Kigali, Rwanda, 2001.

References: Available upon request.