

Midland College Faculty Vitae

Name:

Pat Kesavan

Names of all higher education institutions attended, with degrees earned:

University of Texas-Permian Basin, Odessa, Texas, Post-Doctoral Research Fellow, 2002-2004

Pondicherry University, Pondicherry, India, Ph.D. in Materials Science, 2001

Madras University, Madras, India, Bachelor of Education in Physical Science, 1996

Pondicherry Engineering College, Pondicherry, India, Master of Science in Materials Science, 1994

Bharathidasan College, Pondicherry, India, Bachelor of Science in Physics, 1992

All previous teaching positions, including the names of the institutions, the position, and beginning and ending dates of employment:

Midland College, Professor, 08/2011 – Present

University of Texas-Permian Basin, Senior Lecturer, 08/2007-08/2011

University of Texas-Permian Basin, Lecturer, 06/2005 - 08/2007

University of Massachusetts, Visiting Professor, 06/2004-05/2005

University of Texas-Permian Basin, Post-Doctoral Research Fellow, 06/2002-05/2004

Significant professional publications related to the teaching profession, with a full citation for each:

Publications in Peer Reviewed Journals:

1. *Effect of Ru substitution on the first charge/discharge cycle of lithium-rich layered oxides*
James C. Knight, Pat Nandakumar, Wang Hay Kan and Arumugam Manthiram
J. Mater. Chem. A, 2015,3, 2006-2011

2. *Synthesis and Photo Catalytic Studies of Nitrogen-Doped ZnO Particles*
Jason Jones, Pat Nandakumar
Electrochemical Transactions 2011, 33 (31), 113
3. *Superionic conductivity of Lithium based electrolytes in the LiI-Li₂O-MoO₂-V₂O₅ (LMV) quaternary glass system*
Julio Garcia, Stewart C. Mann, Zachary Reynolds, and Pat Nandakumar,
Electrochemical Transactions 2009, 19 (25), 9-14
4. *Preparation, characterization and impedance studies of the superionic conducting AgI-Ag₂O-CrO₃-V₂O₅ glassy system*
Satyanarayana, N.; Patcheammalle, R.; Muralidharan, P.; Venkateswarlu, M.; Rambabu, B.
Solid State Ionics 2000, 136&137, 1097-1100 [6 times cited]
5. Study of ionic conductivity and transport properties of superionic conducting AgI-Ag₂O-CrO₃-P₂O₅ glassy system
Satyanarayana, N.; Patcheammalle, R.; Muralidharan, P.; Venkateswarlu, M.
Edited by Mukhopadhyay, R.; Godwal, B. K.; Yusuf, S. M From Solid State Physics, Proceedings of the DAE Solid State Physics Symposium, 42nd, Kalpakkam, India, Dec. 20-24, 1999 (2000), 608-610

Contributions to Conferences:

1. *Synthesis and Electrochemical Studies of High Capacity Cathode Materials for Rechargeable Lithium Ion Batteries,*
Jasmine Flores, Pat Nandakumar, Zhonghe Bi, Craig A. Bridges, Daniela F. Bogorin, M. Parans Paranthaman, Eunsung Lee, A. Manthiram,
223rd Electrochemical Society meeting, Toronto, Canada, May 12-16, 2013
2. *Structural Studies of MnO₂-NiO Nano Materials Synthesized by Reverse Micelle Process*
Jasmine Flores, Pat Nandakumar, Zhonghe Bi, Craig A. Bridges, Daniela F. Bogorin, M. Parans Paranthaman
223rd Electrochemical Society meeting, Toronto, Canada, May 12-16, 2013
3. *Novel Method of Synthesis of Zinc Oxide Doped with Nitrogen for photocatalytic Applications*
Jasmine Flores, Julio Valladares, Michelle Kidder, M. Parans Paranthaman, Pat Nandakumar
222nd Electrochemical Society meeting, Honolulu, HI, Oct 7-12, 2012
4. *Synthesis and characterization of partially stabilized Zirconia by doping with CaO*
Elvira Marol Nieto, Pat Nandakumar
220th Electrochemical Society meeting, Boston, MA, Oct 9-14, 2011

5. *Characterization and electrochemical properties of carbon coated Lithium Vanadate cathode materials*
Martin Trujillo, Pat Nandakumar
The Louis Stokes Alliance for Minority Participation (LSAMP) Annual Meeting and Student Research Conference, The University of Texas at Arlington, Sep 22-24, 2011
6. *Effects of modified membrane and carbon nanotube electrode on efficiency of the Vanadium Redox Battery*
Patrick Ray, Pat Nandakumar
219th Electrochemical Society meeting, Montreal, Canada, May 1 -6, 2011
7. *Synthesis of Nitrogen-doped ZnO particles by the addition of Ammonium borate salts*
Jason p. Jones, Julio Valladares, Pat Nandakumar
MS&T 200, Houston, TX Oct 17-21, 2010

Synergistic Activities:

Collaborative Research:

1. Oakridge National Laboratory Summer Visiting Faculty research during 2012 in the laboratory of Dr. Parans Paranthaman working on novel synthesis processes on the cathode materials for Lithium rechargeable batteries
2. Los Alamos National Laboratory (LANL) collaborative research under CRADA act is performed from Summer 09 on project Green Freedom on electrochemical methods of sequestering CO₂, with Dr. Jim Wright, the PI for this project.
3. Synthesis of TiO₂ nanopowders doped with Cu, Mo, Au, Ag, A collaborative research work with Dr. Julio Valladares, Professor at Midland College, a community college in Midland, TX from Summer 09 to the present

Undergraduate Research:

1. Serve as Research Mentor for students in solid state batteries cathode materials synthesis and characterization research.
2. Collaborates with Dr. Ready in Midland College in silver nanomaterials synthesis research project.
3. Presented research posters in various national and regional conferences.

Pedagogical/Educational:

1. Public science and out research presentations.
2. Judge for Science Fairs at various elementary schools.

3. Serves as faculty advisor for Midland College student chapter of ACS and directed the club in various activities. The award-winning club has presented their accomplishments in American Chemical Society national conference every year.

Professional service:

1. Reviewer for ACS student chapter reports.
2. Directs Research Colloquium in Midland College every year.
3. Heads Peer Led Tutor (PLT) program in Chemistry department at Midland College.