Smitesh Bakrania, Ph.D.

Associate Professor of Mechanical Engineering

Rowan University
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Education

The University of Michigan, College of Engineering — **Ann Arbor, MI**
Ph.D., Mechanical Engineering — August 2008
M.S.E., Mechanical Engineering — April 2005

Union College — **Schenectady, NY**
B.S., Mechanical Engineering — June, 2003
Minors in Physics and Mathematics

Academic Experience

Rowan University, Department of Mechanical Engineering — **Glassboro, NJ**
Associate Professor of Mechanical Engineering — Sept. 2012 – Present
Assistant Professor of Mechanical Engineering — Sept. 2008 – Sept. 2012

Auckland University of Technology — **Auckland, New Zealand**
Visiting Professor of Mechanical Engineering (US Fulbright Scholar) — Feb. 2018 - June 2018

Research Experience

University of Michigan, Department of Mechanical Engineering — **Ann Arbor, MI**
Graduate Student Research Assistant — Aug. 2003 – June 2008
Prof. M. S. Wooldridge, Advisor
Dissertation Title: Combustion synthesis of tin dioxide nanocomposites for gas sensing applications.

Union College, Department of Mechanical Engineering — **Schenectady, NY**
Undergraduate Researcher — Aug. 2000 – June 2003
Prof. A. M. Anderson, Advisor
Research Topics: Characterization of silica-aerogels fabricated using a novel processing technique.
Previous research included development of a transient technique for Thermochromic Liquid Crystals.

Teaching Experience

Rowan University, Department of Mechanical Engineering — **Glassboro, NJ**
Assistant Professor of Mechanical Engineering — Sept. 2008 – Present
Classes taught: Freshmen Engineering Clinic I, Sophomore Engineering Clinics I and II, Junior and Senior Engineering Clinics I and II, Heat Transfer Processes, Fluid Mechanics I, Introduction to Nanotechnology (Traditional and Fully-Online), Mechanical Engineering Lab, Thermal-Fluids Sciences I and II, Introduction to Combustion.

University of Michigan, Department of Mechanical Engineering — **Ann Arbor, MI**
Graduate Student Instructor — Winter 2007, Fall 2008
Prof. M. S. Wooldridge, Primary Instructor
Course: Core heat transfer for mechanical engineering undergraduate students

Honors and Awards

Rowan University Excellence in Online Learning Award	November 2020
Rowan University Teaching Wall of Fame	May ’12, ’17, ’19, ’20
Rowan University Advising Wall of Fame	May ’15, ’19
Fulbright Scholar Awardee to Auckland University of Technology, New Zealand	Jan-July 2018
ASEE Best in Division Experimentation & Lab-Oriented Studies Paper	June 2015
ASEE Best in Computers in Education paper	June 2013
New Jersey Technology Council NJTC Best Educational Category App	June 2013
The Outstanding Mech. Eng. Alumni Silver Award	May 2008
Nominated for the Best GSI award	Winter 2007
1st place at the Univ. Michigan Engin. Grad. Student Symposium (Thermo)	November 2006
2nd place at the ASME Old Guard Speaking Contest, ASME IMECE Washington DC,	November 2003
Mortimer F. Sayre Prize (senior with the best potential in furthering the ideals of the mechanical engineering profession), Union College	May 2003
1st place at the ASME Region III Student Competition, Fairfax, VA	April 2003
Sigma Xi Outstanding Research Project Award	February 2003

Other Honors: Tau Beta Pi, Pi Tau Sigma, Sigma Xi, Sigma Pi Sigma

Publications and Presentations

Peer-Reviewed Journal Publications

1. Guggilla, B.R., Camins, J.P., Taylor, B., and Bakrania, S.D., “Examining Thermal Management Strategies for a Microcombustion Power Device,” MDPI Energies: Special Issue, August, 2021, *Under Review.*

2. Bakrania, S.D., “Toying with Engineering: Teaching Engineers to Be Entrepreneurial by Developing a Toy” Entrepreneurship Education and Pedagogy, Special Issue: STEAM Entrepreneurship Education, (2021).

3. Bakrania, S.D., “A visual approach to teaching properties of water in engineering thermodynamics,” Advances in Engineering Education, September (2020).

4. Michel, T.R., Capasso, M.J., Cavusoglu, M.E., Decker, J., Zeppilli, D., Zhu, C., Bakrania, S.D., Kadlowec, J.A., Xue, W., Evaluation of porous polydimethylsiloxane/carbon nanotubes (PDMS/CNTs) nanocomposites as piezoresistive sensor materials, Microsystem Technologies, (2019) https://doi.org/10.1007/s00542-019-04636-4

5. Guggila, B.R., Rusted, A., and Bakrania, S.D., “Platinum nanoparticle catalysis of methanol for thermoelectric power generation,” Applied Energy, 237 (2019) 155-162.

6. McNally, D., Agnello, M., Pastore, B., Applegate, J., Westphal, E., and Bakrania, S.D., “A study of fuel and reactor design for platinum nanoparticle catalyzed microreactors,” Journal of Nanomaterials (2015), 538752.

7. Bakrania, S.D., “Rubric-based Grading App for the iPad,” Computers in Education Journal, ASEE, Vol. 25, No.1, January - March (2014) Issue.

8. Applegate, J.R., Dylan, M., Pearlman, H., and Bakrania, S.D., “Platinum nanoparticle catalyzed combustion of methanol-air mixture,” ACS Energy & Fuels, (2013), 27 (7), 4014–4020.

9. Bakrania, S.D., “Getting Students Involved in a Classroom with an iPhone App,” Computers in Education Journal, ASEE, Vol. 24, No.2, April - June (2013) Issue.

10. Applegate, J.R., Pearlman, H., and Bakrania, S.D., “Catalysis of methanol-air mixture using platinum nanoparticles for microscale combustion,” Journal of Nanomaterials, (2012), 460790.

11. Barkley, T.K., Vastano, J.E., Applegate, J.R., and Bakrania, S.D., “Combustion synthesis of Fe-incorporated SnO_2 nanoparticles using organometallic precursor combination,” Advances in Materials Science and Engineering, (2012), 685754.

12. Bakrania, S.D. and Wooldridge, M.S., “The Effects of the Location of Au Additives on Combustion-generated SnO_2 Nanopowders for CO Gas Sensing,” Sensors, 10 (2010) 7002-7017.

13. Chen,Y-H., Bakrania, S.D., Wooldridge, M.S., Sastry, A.M., “Image Analysis and Computer Simulation of Nanoparticle Clustering in Combustion Systems,” Aerosol Science and Technology, 1521-7388, 44 (2010) 83-95.

14. Bakrania, S.D. and Wooldridge, M.S., “The Effects of Two Thick Film Deposition Methods on Tin Dioxide Gas Sensor Performance,” Sensors, 9 (2009) 6853-6868.

15. Bakrania, S.D., Rathore, G.K. and Wooldridge, M.S., “An Investigation of the Thermal Decomposition of Gold Acetate,” Journal of Thermal Analysis and Calorimetry, 95 (2009) 117-122.

16. Bakrania, S.D., Miller, T.A., Perez, C., Wooldridge, M.S., “Combustion of Multiphase Reactants for the Synthesis of Nanocomposite Materials” Combustion and Flame, 148 1-2 (2007) 76-87.

17. Bakrania, S.D., Perez, C., Wooldridge, M.S., “Methane-assisted Combustion Synthesis of Nanocomposite Tin Dioxide Materials” Proceedings of the Combustion Institute, 31 (2007) 1797–1804.

18. Miller, T. A., Bakrania, S. D., Perez, C., and Wooldridge, M. S., "A New Method for Direct Preparation of Tin Dioxide Nanocomposite Materials," Journal of Materials Research, 20 11 (2005) 2977-2987.

19. Plata, D. L., Briones, Y. J., Wolfe, R. L., Carroll, M. K., Bakrania, S. D., Mandel, S. G., and Anderson, A. M., “Aerogel-Platform Optical Sensors for Oxygen Gas,” Journal of Non-Crystalline Solids, 350 (2004) 326-335.

20. Anderson, A. M., Bakrania, S. D., Konecny, J., Gauthier, B. M., and Carroll, M. K., “Detecting Sol-Gel Transition using Light Transmission,” Journal of Non-Crystalline Solids, 350 (2004) 259-265.

21. Gauthier, B. M., Bakrania, S. D., Anderson, A. M., and Carroll, M. K., “A Fast Supercritical Extraction Technique for Aerogel Fabrication,” Journal of Non-Crystalline Solids, 350 (2004) 238-243.

Published Educational Apps

22. Clausius, Apple iPad, iTunes App Store, 2015

23. CorePal, web portal, 2015

24. evaluA+, Apple iPad, iTunes App Store, 2013

25. Polata, Apple iPhone, iTunes App Store, 2012, 2018 in prep.

26. Pikme, Apple iPhone, iTunes App Store, 2011

Published Educational Videos

27. “The Culture Code Summary,” https://youtu.be/7IAOvoCHvhk, May 2020

28. “Taking your whiteboard lecture online,” https://youtu.be/ZEg1IE5JoIY, March 2020

29. “Using Property Charts of Water” https://youtu.be/SFjNByAz03w, Sept., 2019

30. “Thermodynamic Behavior of Ideal Gases,” https://youtu.be/W3GeydKjc60, Sept., 2018

31. “Thermodynamic Properties of Water,” https://youtu.be/cmnnHIRGqaA, July, 2017

32. “Preparing Effective Figures and Tables,” https://youtu.be/Ue2Vr5bYwI4, Aug., 2014

33. "Get Prepared to Present Well," https://youtu.be/3OmOIzgPOqo, Aug., 2010

Book Chapter

34. Bakrania, S.D., "On Replacing the Steam Tables," in Mechanical Engineering Education Handbook, edited by Charles E. Baykal, Jr., Nova Science Publishers, NY (2020).

35. Miller, T.A., Bakrania, S.D., Perez, C., and Wooldridge, M.S., "Tin Dioxide/Metal/Metal Oxide Nanocomposites for Gas Sensor Applications," in Functional Nanomaterials, edited by E. Rosenberg and K.E. Geckeler, American Scientific Publishers, Stevenson Ranch, CA (2006).

Patents

36. Gauthier, B. M., Anderson A. M., Bakrania, S. D., Mahony, M. K., Bucinell, R. B., "Method And Device For Fabricating Aerogels And Aerogel Monoliths Obtained Thereby" United States Patent 8,080,591 December 20th, 2011.

37. Gauthier, B. M., Anderson A. M., Bakrania, S. D., Mahony, M. K., Bucinell, R. B., "Method And Device For Fabricating Aerogels And Aerogel Monoliths Obtained Thereby" United States Patent 7,384,988. June 10th, 2008.

Conference Publications

38. Elatky, N., and Bakrania, S.D., "Student Perceptions of Project Management and Team Culture within Capstone Projects," American Society of Engineering Education Virtual Conference, July 26-28, 2021.

39. Bakrania, S.D., and Bakrania, L.S., "A transition from face-to-face to an online delivery, in nano steps," American Society of Engineering Education Virtual Conference, June 22-26, 2020.

40. Anderson, T., Nates, R., and Bakrania, S.D., "Pure substances, impure thoughts: Identifying common problems in the determination of the thermodynamic properties of pure substances by Mechanical Engineering undergraduate students," Australasian Association for Engineering Education Conference (AAEE), Brisbane, Australia. December, 8-11, 2019.

41. Bakrania, S.D., and Jha, R., "Upgrading the Capstone Projects: The Engineering Clinic Model," 9th World Engineering Education Forum (WEEF), Chennai, India, November, 13-19, 2019.

42. Bakrania, S.D., and Haas, F.M., "Teaching Thermodynamic Properties of Water Without Tears" American Society of Engineering Education Conference, Tampa, FL, June 16-20, 2019.

43. Bakrania, S.D., Whittington, C., Anderson, T., and Nates, R., "Understanding student absenteeism in undergraduate engineering programmes," 29th Austrasian Association for Engineering Education Conference (AAEE), Hamilton, New Zealand, December 9-12th, 2018.

44. Wildgoose, A., and Bakrania, "Development and implementation of rapid feedback using cloud-based assessment tool." Frontiers in Engineering, Indianapolis, IN, October 18-20, 2017.

45. Bakrania, S.D. and Mallouk, K.E., "Blowing off Steam Tables," American Society of Engineering Education Conference, Columbus, OH June 25-28, 2017.

46. Haas, F. M., Merrill, T.L., Bakrania, S.D., "Cannons to spark thermal-fluid canons," American Society of Engineering Education Conference, Columbus, OH June 25-28, 2017.

47. Bakrania, S.D., "Are Steam Tables running out of steam?" ASEE Zone II Conference, Puerto Rico, March 2-5, 2017.

48. Bakrania, S.D., and Carrig, A., "Touching Water: Exploring Thermodynamic Properties with Clausius App," American Society of Engineering Education Conference, New Orleans, LA June 26-29, 2016.

49. Bakrania, S.D., Mallouk, K.E., and Bhatia, K.K., "Consumer Reports Inspired Introduction to Engineering Project," American Society of Engineering Education Conference, Seattle, WA June 14-17, 2015. *Selected as Best in Division Experimentation & Lab-Oriented Studies Papers.*

50. Bakrania, S.D., and Johnson, B.J., "A Cloud-based Tool for Assigning Students to Projects," American Society of Engineering Education Conference, Seattle, WA June 14-17, 2015.

51. Bakrania, S.D., Bhatia, K, and Jahan, K., "CorePal: A standards-based content hub for STEM fields," Frontiers in Engineering, Madrid, Spain, October, 2014.

52. Bakrania, S.D., Bhatia, K, and Jahan, K., "A standards-based tool for middle school teachers to engage students in STEM fields," American Society of Engineering Education Conference, Indianapolis, IN June 15-18, 2014.

53. Banger, S., and Bakrania, S.D., "A rubric-based grading app for the iPad," American Society of Engineering Education Conference, Atlanta, GA, June 24-26, 2013. *Selected as Best in Computers in Education papers.*

54. Bakrania, S.D., "A study on the influence of rich versus traditional classroom response system questions on concept retention," Frontiers in Engineering, Seattle, WA, October, 2012.

55. Bakrania, S.D., "Getting Students Involved in a Classroom with an iPhone App," American Society of Engineering Education Conference, San Antonio, TX, June 10-13, 2012.

56. Bakrania, S.D., "Getting Students Prepared to Present Well," American Society of Engineering Education Conference, Vancouver, BC, Canada, June 26-29, 2011.

57. Bakrania, S.D., "Integration of Journal Club Ideology into a Nanotechnology Course," American Society of Engineering Education Conference, Louiseville, KY, June 20-23, 2010.

58. Bakrania, S.D., Bhatia, K.K., Riddell, W.T., Dahm, K.D., Weiss, L., "Wind Turbines to Teach Parametric Design," American Society of Engineering Education Conference, Austin, TX, June 14-17 2009.

59. Riddell, W.T., Bakrania, S.D., Bhatia, K.K., Courtney, J., Dahm, K., Weiss, L., "Putting the horse before the cart – Fitting a new project into established design and writing pedagogy," ASEE Middle Atlantic Section Spring Conference, Baltimore MD, April, 2009.

60. Chen, Y-H., Bakrania, S.D.,, Wooldridge, M.S. and Sastry, A.M., "Image Analysis and Computer Simulation of Agglomeration and Aggregation Phenomena of Nanoparticle Clusters" ASME International Mechanical Engineering Congress and Exposition, Seattle, WA, November 11-15, 2007

61. Bakrania, S.D. and Wooldridge, M.S., "Gas Sensing Measurements for SnO_2 Nanoparticles Fabricated using a Novel Synthesis Method" 212th ECS Meeting, Washington D.C., MA, October 7-12, 2007

62. Chen, Y-H., Bakrania, S.D., Wooldridge, M.S. and Sastry, A.M., "Image Analysis and Computer Simulation of Agglomeration and Aggregation Phenomena in Nanoparticles" ASME International Mechanical Engineering Congress and Exposition, Chicago, IL, November 5-10, 2006

63. Wooldridge, M.S., Bakrania, S.D., and Perez, C., "SENSORS: Design, Synthesis and Performance Evaluation of Nanocomposite Semiconductor Gas Sensors" Proceedings of the 2006 NSF Design, Service, and Manufacturing Grantees and Research Conference, St. Louis, MO, July 24-27, 2006

64. Perez, C., Bakrania, S., and Wooldridge, M.S, "X-Ray Photoelectron Characterization of Particulate Products of Combustion" Proceedings of the 2006 Technical Meeting of the Central States Section of The Combustion Institute, Cleveland, OH, May 21–23, 2006

65. Miller, T.A., Bakrania, S.D., Perez, C., and Wooldridge, M.S., “Combustion Synthesis of Nanocomposite Materials using Multi-Phase Particle Precursor Reactants,” Fourth Joint Meeting of the U.S. Sections of the Combustion Institute, Philadelphia, PA, March 20-23, 2005

66. Wooldridge, M.S., Miller, T., Bakrania, S.D. and Perez, C., “SENSORS: Design, Synthesis and Performance Evaluation of Nanocomposite Semiconductor Gas Sensors” Proceedings of NSF DMII Grantees Conference, Scottsdale AZ, January 3-6, 2005

67. Briones, Y. J., Plata, D. L., Carroll, M. K., Bakrania, S. D., Mandel, S. G., and Anderson, A. M., "PTOEP and Ru(DPP) as Oxygen Sensors in Silica-Based Sol Gels." ACS Meeting 2004, American Chemical Society, 227 (2004) U84-U84.

68. Miller, T. A., Chu, C. H., Bakrania, S., and Wooldridge, M. S., “Demonstration of a Particle Feed System for Combustion Synthesis of Metal and Metal Oxide Materials,” Eastern States Section of the Combustion Institute, Fall 2003 Technical Meeting, State College PA, October 2003

69. Bakrania, S. D. and Anderson A. M., “A Transient Technique for Thermochromic Liquid Crystal Calibration: The Effects of Light and Hysteresis” ASME IMECE, New Orleans, LA, November 2002.

70. Wolfe, R. L., Briones, Y., Anane, S. P., Carroll, M. K., Gauthier, B. M., Bakrania, S.D., and Anderson, A. M., "Investigation of Indicators in Aerogels and Xerogels." Abstracts of Papers of the American Chemical Society, 225 (2003) U133-U133.

Conference Posters

71. Wildgoose, A., and Bakrania, S., “A smartphone-centered assessment platform for rapid feedback,” ASEE Northeast Section Annual Conference, Lowell, MA, April 27-29th, 2017.

72. Mallouk, K., and Bakrania, S., “A Project Based in Self-Determination Theory to Improve Learning Outcomes in a First-Year Engineering Course,” 2015 Temple University Faculty Conference on Teaching Excellence, Philadelphia, PA, 2015.

73. Bakrania, S., Pearlman, H., Applegate, J., McNally, D., Agnello, M., and Pastore, B., “Pt-Nanoparticles: Synthesis, Characterization and Testing in a Catalytic Flow Reactor with Application to Microcombustors,” WIPP Poster, 35th International Symposium on Combustion, San Francisco, CA, August 3-8th, 2014.

74. McNally, D., Agnello, M., Pastore, B., and Bakrania S., “Development of a Pt Nanoparticle-based Microcombustor Power Device,” TechConnect World 2014, National Harbor, MD, June 16-18th, 2014

75. McNally, D., and Bakrania, S., “Investigating a platinum nanocatalytic combustion power source,” American Chemical Society 245th National Meeting, New Orleans, LA, April 7-11, 2013. *Selected for Sci-Mix Session.*

76. Applegate, J., Bakrania, S., and Pearlman, H., “Platinum Nanoparticle Catalysis of a Methanol-Air Mixture for Microscale Combustion,” MRS Fall Meeting (2012) Boston, MA.

77. Agnello, M., Applegate, J., McNally, D., and Bakrania, S., “Micro-scale Catalytic Combustion of Varying Fuel-air Mixtures over Platinum Nanoparticles,” MRS Fall Meeting (2012) Boston, MA.

78. McNally, D., Applegate, J., and Bakrania, S., “Integrated Catalytic Microcombustor-thermoelectric Device for Portable Power Generation,” MRS Fall Meeting (2012) Boston, MA.

79. Bakrania, S. and Pearlman, H., “Enhanced Combustion with Nano-sized Catalytically Active Particles,” NSF CBET Grantees Conference (2012) Baltmore, MD.

80. Bakrania, S., Applegate, J., and Pearlman, H., “Reactivity of monodispersed nanoparticles” 7th US National Combustion Meeting (2011) Atlanta, GA.

81. Applegate, J., Payne, M., Pearlman, H., Bakrania, S.D., “Investigation of platinum nanoparticle size-effects on catalytic combustion of methanol” American Chemical Society 241st National Meeting, Anaheim, CA, March 27-31, 2011.

82. Martorano, A., Tedesco, V., McNally, D., Magdaleno, T., Ramanujachary, K.V., and Bakrania, S.D., "An Investigation of Titanium-nitride-fluoride (TiNF) as a Working Electrode Material for Dye-sensitized Solar Cells.", MRS Fall Meeting (2010) Boston, MA.

Invited Talks

83. Bakrania, S.D., EMphasizing Teaching Trends and Tools: Visualizing Steam, Workshop, 2020 KEEN National Conference, January 3rd, 2020.

84. Bakrania, S.D., “Pikme to Engage,” Great Ideas for Teaching Students (GIFTS), Rowan Teaching Connection Spring Conference, Glassboro, NJ, April 12, 2019.

85. Bakrania, S.D., “Engineering my Teaching,” STEM Tertiary Education Centre, Auckland University of Technology, Auckland, New Zealand, June 19, 2018.

86. Bakrania, S.D., “Enriching engineering pathways with mobile apps,” Fulbright and the Future of Tech, TechWeek ’18, Auckland, New Zealand, May 24, 2018.

87. Bakrania, S.D., “Engineering my Teaching,” Engineering, University of Waikato, Hamilton, New Zealand, May 9, 2018.

88. Bakrania, S.D., “Engineering my Teaching,” Innovations in Teaching and Learning Institute, University of Queensland, Brisbane, Queensland, Australia, April 27, 2018.

89. Bakrania, S.D., “Engineering my Teaching,” Engineering, Griffith University, Gold Coast, Queensland, Australia, April 26, 2018.

90. Bakrania, S.D., “Developing Combustion Power and Apps for Portability,” Union College Mechanical Engineering Seminar, May 22, 2015.

91. Bakrania, S.D., “Getting Students to Participate with an iPhone app,” Indo-US Collaboration for Engineering Education (IUCEE) Virtual Academic Webinar, April 15th, 2015.

92. Bakrania, S.D., “An Overview of Combustion Research and Educational App Development Efforts,” Department of Mechanical and Industrial Engineering, University of Dar es Salaam, Tanzania, August 2013.

93. Bakrania, S.D., “Combustion Synthesized Tin Dioxide Nanocomposites for Gas Sensing Applications,” Chemistry and Environmental Science Seminar, New Jersey Institute of Technology, February 2009.

94. Bakrania, S.D., “Combustion Synthesized Tin Dioxide Nanocomposites for Gas Sensing Applications,” Physics, Chemistry and Engineering, Union College Seminar, May 30, 2008

95. Bakrania, S.D., “Combustion Synthesized Tin Dioxide Nanocomposites for Gas Sensing Applications,” Union College Mechanical Engineering Seminar, October 5, 2006

Presentations

96. Guggila, B.P.R., Rusted, A., Barrett, B., Moran, R., Kaur, N., and Bakrania, S.D., “An Integrated Design For A Portable Methanol Fuel Microcombustion-Thermoelectric Coupled Power Device,” ASME International Mechanical Engineering Congress & Exposition, Pittsburg, PA, November 9-15, 2018.

97. Bakrania, S.D., “Learning Thermodynamic Properties With An App,” ASME International Mechanical Engineering Congress & Exposition, Phoenix, AZ, November 11-17, 2016.

98. Bakrania, S.D., “Pikme: Promoting student participation with an app,” 252nd ACS National Meeting in Philadelphia, PA, August 21-25, 2016.

99. McNally, D., and Bakrania, S.D., “Development of a Nanocatalytic Micrombustor Power Device,” 2013 American Institute of Chemical Engineers Annual Meeting, San Francisco, CA, November 3-8, 2013.

100. Bakrania, S.D., “Educational Mobile Apps: Pikme, evaluA+ and aCRS” New Jersey Technology Council NJTC Mobile Applications Forum & Competition, Best Educational Category, June 20, 2013.

101. Wooldridge, M., Eagle, W.E., Bumbalough E., Bakrania, S., “Combustion Synthesis of Metal Oxide Nanoparticles for High Value Applications,” MRS Fall Meeting, Boston, MA, November 26-28, 2012.

102. Ramanujachary, K., Bakrania, S.D., “Titanium-Nitride-Fluoride (TiNF) and TiO2 composite as an Alternative Working Electrode Material for Dye-Sensitized Solar Cells” International Conference on Materials for Advanced Technologies (ICMAT), Suntec, Singapore, June 26-July 2, 2011.

103. Barkley, T., Vastano, J., Dembowski, H., Bakrania, S.D., “Combustion synthesis of doped and composite SnO2 nanoparticles” National Conferences on Undergraduate Research (NCUR), Ithaca, New York, March 31-April 1, 2011.

104. Barkley, T., Vastano, J., Dembowski, H., Bakrania, S.D., “Combustion synthesis of doped and nanocomposite metal oxide nanoparticles” American Chemical Society 241st National Meeting, Anaheim, CA, March 27-31, 2011.

105. Wagnon, S. W. and Bakrania, S.D., “Optimization of Dye, Counter Electrode Material, and Electrolyte for Dye-Sensitized Solar Cells”, 23rd National Conference on Undergraduate Research (NCUR), La Crosse, Wisconsin, April 16-18, 2009

106. Bakrania, S.D. and Wooldridge, M.S., “Gas Sensing Measurements for SnO2 Nanoparticles Fabricated Using a Novel Synthesis Method” 212th ECS Meeting, Washington D.C., MA, October 7-12, 2007

107. Bakrania, S.D., Perez, C., Wooldridge, M.S., “Methane-assisted Combustion Synthesis of Nanocomposite Tin Dioxide Materials” Engineering Graduate Student Symposium, University of Michigan, November 3, 2006.

108. Bakrania, S.D., Perez, C., Wooldridge, M.S., “Methane-assisted Combustion Synthesis of Nanocomposite Tin Dioxide Materials” 31st International Symposium of the Combustion Institute, Heidelberg, Germany, August 6-11, 2006.

109. Bakrania, S.D., Anderson, A.M., “A Transient Technique for Thermochromic Liquid Crystal Calibration: The Effects of Light and Hysteresis”, Old Guard Speaking Contest, IMECE, Washington DC, November 16-18, 2003

110. Bakrania, S.D., and Anderson, A.M., “Characterization of Silica-Aerogels fabricated using a Novel Processing Technique,” National Conference on Undergraduate Research (NCUR), Salt Lake City, Utah, March 2003

Posters by Students

111. Rios, A., Bakrania, S.D., and Sharifi, N., “PCM-based Cooling Strategies for Lithium Ion Battery,” RUSS Symposium, Rowan University, April 2019.

112. Taylor, B., Tenerelli, A., Shulman, M., Wagner, Z., and Bakrania, S.D., “Thermal Management for Microcombustion-Powered Thermoelectric Generator,” RUSS Symposium, Rowan University, April 2019.

113. Rusted, A., Barrett, B., Moran, R., Kaur, N., and Bakrania, S.D., “An Integrated Design For A Portable Methanol Fuel Microcombustion-Thermoelectric Coupled Power Device,” Rowan STEM Symposium, Rowan University, April 2018.

114. Wildgoose, A. and Bakrania, S.D., “A Smartphone-Centered Assessment Platform for Rapid Feedback,” Rowan STEM Symposium, Rowan University, April 2017.

115. Westphal, E. W., O'Connor, T., Cosgrove, J., Franklin, J., Bagnell, C., and Bakrania, S.D., "Investigating Pt-based Microcombustor Performance and Design for Portable Power Device," Rowan STEM Symposium, Rowan University, April 2016.

116. Carrig, A., Lavan, J., Boyle, C., and Bakrania, S.D., "Educational App Development," Clinic Showcase, Rowan University, College of Engineering, April 2016.

117. Westphal, E. W., O'Connor, T., Cosgrove, J., Franklin, J., Bagnell, C., and Bakrania, S.D., "Investigating Pt-based Microcombustor Performance and Design for Portable Power Device," Clinic Showcase, Rowan University, College of Engineering, April 2016.

118. Buggy, N., Hayduk, L., Westphal, E., Nalbach, J., Zybrick, R., and Bakrania, S.D., "Investigating Pt-Catalyzed Microcombustor Design for Portable Power Device," AiChE 2015 National Conference, Salt Lake City, November 2015.

119. Buggy, N., Hayduk, L., Westphal, E., Nalbach, J., Zybrick, R., and Bakrania, S.D., "Investigating Pt-based Microcombustor Performance and Design for Portable Power Device," Rowan STEM Symposium, Rowan University, April 2015.

120. Lavan, J.T., Carrig, A.J., and Bakrania, S.D., "Andur: A Pocket DAQ," Rowan STEM Symposium, Rowan University, April 2015.

121. Westphal, E., and Bakrania, S.D., "Investigating Pt-based Microcombustor Performance for Portable Power Device," ASME Student Professional Development Conference, Temple University, Philadelphia, PA, April 2015.

122. Buggy, N., Hayduk, L., Westphal, E., Nalbach, J., Zybrick, R., and Bakrania, S.D., "Investigating Reactor Design for Pt-Catalyzed Microcombustion," AiChE 2015 Mid-Atlantic Student Regional Conference, College Park, MD April 2015.

123. Johnson, B., and Bakrania, S., "A Unified Cloud-Based Solution to Large-Scale Multidimensional Student to Project Assignment," AIChE 2014 Annual Meeting, Atlanta, GA, November 2014.

124. Westphal, E., and Bakrania, S., "Investigating Pt-based Microcombustor Performance for Portable Power Device," ASME IMECE World Congress 2014, Montreal, Canada, November 2014.

125. Agnello, M., Pastore, B., and Bakrania, S.D., "Exploring Fuels for Platinum Nanocatalyic Combustion," Rowan Day STEM Symposium, Rowan University, April 2014.

126. Agnello, M., Pastore, B., and Bakrania, S.D., "Investigating alumina supported platinum catalysts for micro-scale catalytic combustion," ACS Younger Chemists, Philadelphia, PA, March 2014.

127. Agnello, M., Pastore, B., and Bakrania, S.D., "Investigating alumina supported platinum catalysts for micro-scale catalytic combustion," Rowan Day STEM Symposium, Rowan University, April 2013.

128. Rosado, N. and Bakrania, S.D., "An advanced classroom response system (aCRS) using mobile apps," Rowan Day STEM Symposium, Rowan University, April 2013.

129. LaBarck, J. and Bakrania, S.D., "An App for NJ K-12 Science Standards," Rowan Day STEM Symposium, Rowan University, April 2013.

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