

## SHORT BIOGRAPHICAL SKETCH

### PERSONAL INFORMATION:

Anil C. Banerjee, PhD  
Professor of Chemistry  
Graduate Program Coordinator  
Department of Chemistry  
Columbus State University  
Columbus, GA 31909 (USA)  
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### EDUCATION:

ED.S. Secondary Science Education, Columbus State University  
Senior Fulbright Post-Doc Fellow, University of Iowa  
PhD in Chemistry, Indian Institute of Technology, Kharagpur  
Master of Science in Chemistry, Indian Institute of Technology, Kharagpur  
Bachelor of Science in Chemistry with honors, University of Calcutta

### ACADEMIC APPOINTMENTS AND OTHER SIGNIFICANT WORK EXPERIENCE:

Full Professor of Chemistry with tenure, Columbus State University: 2014--Present  
Associate Professor of Chemistry with tenure, Columbus State University: 2009-2013  
Assistant Professor of Chemistry (tenure-track), Columbus State University: 2005-2008  
Associate Professor of Chemistry (tenure-track), Texas A&M University (2002-2005)

### RECENT RESEARCH PROJECTS:

Area: Heterogeneous catalysis/ environmental catalysis/Process development/Materials Chemistry  
Project 1: Catalytic combustion of methane over PdO-PdOx/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts  
Project 2: Particle Size and PdO-Support Interactions in PdO/CeO<sub>2</sub>-  $\gamma$  Al<sub>2</sub>O<sub>3</sub> Catalysts and Effect on Methane Combustion  
Project 3: Synthesis and characterization of nanomaterials and nanocatalysts

### RECENT GRADUATE and UNDERGRADUATE STUDENTS:

Jihyeon Park, Graduate student (Fall 2020-)  
Jacqueline M. McGuire: Catalytic oxidation of methane over alumina supported palladium oxides [ MS Chemistry thesis, Columbus State University, May 2018]  
John D. Gary Catalytic oxidation of carbon monoxide over ceria and alumina supported palladium oxides [ MS Chemistry thesis, Columbus State University, November 2018]  
Md. Abdul Hakim: Low temperature catalytic combustion of methane over PdO-PdOx/  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalysts (2018-2019).

Domenica Fertal, Undergraduate student (Fall 2018-)  
Kristina Armstrong, Austin Clance, Jordan Lyons, Christian Reed, Ian Becerra and Isaiah Wilcox:  
Undergraduate students ( fall 2020-)

### MEMBERSHIP:

Member, American Chemical Society (2003---)  
Member, International Affairs Committee, American Chemical Society (2019-)  
Member, American Association for the Advancement of Science (2013-)  
Member, Division of Energy and Fuels, American Chemical Society (2015-)  
Member, Division of Catalysis Science and Technology, American Chemical Society (2015-)

### AWARDS, FELLOWSHIPS AND OTHER HONORS:

Columbus State University Educator of the Year (2012)  
Senior Fulbright Post-Doc Fellow, University of Iowa (1991)

### RECENT GRANTS

Fall 2019: Preparation, activity, characterization of alumina and alumina-ceria supported palladium catalysts: \$3300

2015-2019: Catalytic combustion of methane over Pd/alumina catalysts: University research grant: \$15, 000

2012-2015: PI and project director of Federal Teacher Quality Grants: \$1,05182

### GUEST EDITORS OF SPECIAL ISSUES

Anil Banerjee and Matteo Monai: Catalyst-support interactions in heterogeneous catalysis: from fundamental concepts to applications (Catalysis Today; 2020-2021).

Anil Banerjee and Hongxing Dai: Advances in Catalytic Oxidation of Methane and Carbon Monoxide (Catalysts; 2020-2021).

Anil Banerjee: Metal/Metal Oxide-Support Interactions in Heterogeneous Catalysis (Catalysts; 2019-2020).

Anil Banerjee: Catalytic Oxidation of Methane (Catalysts; 2017-2018)

### RECENT PUBLICATIONS AND CONFERENCE PAPERS

- Fertal, D.R.; Park, J.; Bukhovko, M.P.; Ding, Y.; Monai, M.; Banerjee, A. C. Development of Pd/ $\gamma$ - $\text{Al}_2\text{O}_3$  catalysts and catalyst-solid interactions in methane combustion. *Catalysis Today* (manuscript in preparation)
- Fertal, D.R., Bukhovko, M.P., Ding, Y., Billor, M.Z., Banerjee, A.C. Particle Size and PdO-Support Interactions in PdO/CeO<sub>2</sub>- $\gamma$  Al<sub>2</sub>O<sub>3</sub> Catalysts and Effect on Methane Combustion. *Catalysts* 2020, 10, 976.
- Fertal, D. R., Bukhovko, M., Banerjee, A. C. (2020). Activity and characteristics of Pd/alumina and Pd/ceria-alumina catalysts for methane combustion (American Chemical Society National Meeting spring 2020).
- Fertal, D., Bukhovko, M., Banerjee, A. C. (2020). Preparation and activity of palladium catalysts on alumina and ceria-alumina mixed supports (American Chemical Society National Meeting spring 2020).
- Banerjee, A. C., Golub, K. W., Abdul, Md. H., Billor, M.Z. (2019). Comparative study of the characteristics and activities of Pd/ $\gamma$ - $\text{Al}_2\text{O}_3$  catalysts prepared by Vortex and Incipient Wetness Methods. *Catalysts* 2019, 9(4), 336; <https://doi.org/10.3390/catal9040336>.
- Banerjee, A.C., McGuire, M. M., Lawnick, O., Bozack, M.J. (2018). Low-temperature activity and PdO/PdOx transition in methane combustion by a PdO-PdOx/ $\gamma$ - $\text{Al}_2\text{O}_3$  catalyst. *Catalysts*, 8(7), 266; <https://doi.org/10.3390/catal8070266>.
- Banerjee, A.C. (2013). Teaching Science using Guided Inquiry Experiments: A Professional Development Model for High School Science Teachers. In: B. Wojnowski & S. Koba (Eds), *Exemplary Science: Best Practices in Professional Development*, 2<sup>nd</sup> edition. NSTA Press: Arlington, 2013.
- Banerjee, A.C. (2011). Research-based Resources to Teach Chemistry: Chem Demos, Guided Inquiry Labs, Professional Development & Teaching Strategies. LAP LAMBERT Academic Publishing AG & Co. KG: Saarbrücken, Germany.
- Banerjee, A. C., Golub, K. W., Abdul, Md. H. (2019). The active phase in catalytic combustion of methane (Paper accepted for presentation in the Division of Catalysis Science and Technology, ACS National Meeting, 31 March-4 April, Orlando, FL).
- Banerjee, A. C., McGuire, J. (2018). Activity and mechanism of methane oxidation over Pd/ $\text{Al}_2\text{O}_3$  catalyst (Presented at the Natural Gas Symposium of The Division of the Energy and Fuels, American Chemical Society National Meeting, 18-22 March, New Orleans, LA.).
- Banerjee, A. C., McGuire, J., Gary, J., Bozack, M. (2017). Activity, XPS and STEM data of Pd/ $\text{Al}_2\text{O}_3$  catalysts (Presented at a symposium of the Division of Catalysis Science and Technology, American Chemical Society National Meeting, 05 April, San Francisco, CA.).