

Biographical Sketch

Prem Bikkina

Associate Professor

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A. PROFESSIONAL PREPARATION

J.N. Gov. Polytechnic	Hyderabad, India	Chemical Engineering	Diploma, 1999
Hyderabad Batteries Limited	Hyderabad, India	Chemical Engineering	Intern Oct 1997 – Apr 1998
Voltas Limited Chemicals Plant	Hyderabad, India	Chemical Engineering	Intern May 1998 – Nov 1998
National Institute of Technology	Warangal, India	Chemical Engineering	B.S., 2003
Indian Institute of Technology	Guwahati, India	Chemical Engineering	M.S., 2006
Oil India Limited	Duliajan, India	Petroleum Engineering	Researcher Jun 2006 – Jul 2006
Chevron Energy Technology Center	Houston, TX Tulsa, OK	Petroleum Engineering Petroleum Engineering	Professional Intern Jun 2012 – Aug 2012
The University of Tulsa			Ph.D., 2013
Lawrence Berkeley National Laboratory	Berkeley, CA	Earth Sciences	Postdoc Jun 2013 – Aug 2014

B. APPOINTMENT

Jan 2015 – Present	Faculty Advisor for Oklahoma State University's Society of Petroleum Engineers (SPE) Chapter, Stillwater, OK.
Aug 2014 – Present	Assistant Professor, School of Chemical Engineering, Oklahoma State University, Stillwater, OK.
May 2010 – Jun 2013	Research Assistant, Tulsa University Separation Technology Projects, University of Tulsa, OK.
Aug 2007 – May 2012	Teaching Assistant, Rock & Fluid Properties Lab, McDougall School of Petroleum Engineering, University of Tulsa, OK.

C. PRODUCTS

(i) *Most Closely Related to the Proposed Project*

1. **Bikkina PK**, Shoham O, Uppaluri R. Equilibrated Interfacial Tension Data of the CO₂-water System at High Pressures and Moderate Temperatures. 2011. *Journal of Chemical & Engineering Data*. 56(10):3725-33. <http://pubs.acs.org/doi/abs/10.1021/jc200302h>

2. **Bikkina PK**. 2011. Contact Angle Measurements of CO₂-water-quartz/calcite Systems in the Perspective of Carbon Sequestration. *International Journal of Greenhouse Gas Control*. 5(5):1259-71. <https://doi.org/10.1016/j.ijggc.2011.07.001>
3. **Bikkina PK**, Wan J, Kim Y, Kneafsey TJ, Tokunaga TK. 2016. Influence of Wettability and Permeability Heterogeneity on Miscible CO₂ Flooding Efficiency. *Fuel*. 166:219-26. <https://doi.org/10.1016/j.fuel.2015.10.090>
4. Joshi P, **Bikkina PK**, Wang Q. 2016. Consequence Analysis of Accidental Release of Supercritical Carbon Dioxide from High Pressure Pipelines. *International Journal of Greenhouse Gas Control*. 55:166-76. <https://doi.org/10.1016/j.ijggc.2016.10.010>
5. **Bikkina PK**, Mohan RS, Shoham O, Gomez LE, Subramani HJ, Kouba GE, inventors; University of Tulsa, assignee. Method and Device for Determining Solid Particle Surface Energy. *United States Patent US 9,645,067*. 2017 May 9. <https://www.google.com/patents/US9645067>

(i) *Other Significant Products*

1. **Bikkina PK**, De DS, Purkait MK, Uppaluri R. 2011. Surfactant Composition and Method for Enhanced Oil Recovery Utilizing above Aqueous Surfactant Composition. *Indian Patent 245703*. <http://www.allindianpatents.com/patents/245703-surfactant-composition-and-method-for-enhanced-oil-recovery-utilizing-above-aqueous-surfactant-composition>
2. **Bikkina PK**, Uppaluri R, Purkait MK. 2013. Evaluation of Surfactants for the Cost Effective Enhanced Oil Recovery of Assam Crude Oil Fields. *Petroleum Science and Technology*. 31(7):755-62. <http://dx.doi.org/10.1080/10916466.2010.529553>
3. **Bikkina PK**. 2013. Interfacial Phenomena in Oil-water-sand Dispersions. The University of Tulsa. <http://gradworks.umi.com/35/91/3591026.html>
4. **Bikkina PK**, Mohan RS, Shoham O, Gomez LE, Subramani HJ, Kouba GE, inventors; University of Tulsa, assignee. Method and Device for Determining Solid Particle Surface Energy. United States patent US 9,417,175. 2016 Aug 16. <https://www.google.com/patents/US9417175>
5. Kole S, **Bikkina P**. 2017. A Parametric Study on the Application of Microfluidics for Emulsion Characterization. *Journal of Petroleum Science and Engineering*. 158:152-159. <https://doi.org/10.1016/j.petrol.2017.06.008>

D. SYNERGISTIC ACTIVITIES

- National Lab Day sessions: Hosted hands-on lab sessions in May 2016, 2017, and 2018 for ‘National Lab Day’ event at Oklahoma State University for high school students from the region and will continue to host a session every year.
- Conference Organizer: Organized 2015 Society of Petroleum Engineers (SPE) Mid-Continent Regional Paper Contest, served as an organizing committee member and a paper review committee member for 2017 American Society for Engineering Education (ASEE) Midwest Section Conference, and a technical committee member and a session co-chair for 2018 SPE Improved Oil Recovery International Conference.
- Undergraduate Research Opportunity: Offered honors contract for an undergraduate student (woman) in Fall 2015 to provide her an opportunity to research and write a review on the Application of Ionic Liquids for Enhanced Oil Recovery.
- Research Mentor: Served as research mentor for an Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) undergraduate research scholar in 2017-18 academic year. The student was provided with the opportunity to be involved in an industry sponsored research project and co-author multiple conference papers and presentations.
- Reviewer: Served as a journal/proposal reviewer for 16 international journals, ACS Petroleum Research Fund, and U.S. Department of Energy.