

CEM SARICA

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Area of Specialization: Multiphase Flow in Pipes, Flow Assurance, Oil and Gas Production, and Horizontal Wells

Professional Experience

The University of Tulsa, Tulsa, Oklahoma

Director, Tulsa University Fluid Flow Projects (TUFFP) and Paraffin Deposition Projects (TUPDP) June 2001 – Present

Director, Tulsa University Horizontal Well Artificial Lift Projects (TUHWALP), July 2012 – Present

F.H. “Mick” Merelli/Cimarex Energy Professor of Petroleum Engineering, April 2013 – Present

Professor of Petroleum Engineering, August 2004 – April 2013

Associate Professor of Petroleum Engineering, June 2001 – August 2004

Teaching: Graduate Program: “Flow Assurance” and “Advanced Production Design”
Undergraduate Program: “Production Engineering I” “Flow Assurance” and “Capstone Design”
Continuing Education (Short Course): “Two Phase Flow in Pipes”, “TU Leader STIM and Coil Tubing Courses”

The Pennsylvania State University, University Park, Pennsylvania

Director, Stripper Well Consortium, Energy Institute October 2000 – January 2001

Associate Professor of Energy and Geo-Environmental Engineering, August 1998 – June 2001

Teaching: Graduate Program: “Two Phase Flow Modeling in Pipes” and “Advanced Production Engineering”
Undergraduate Program “Rock and Fluid Properties”, “Rock and Fluid Properties Lab”, “Petroleum Engineering Design”
Continuing Education (Short Course): “Fundamentals of Pipeline Construction, Operation and Financing” Summer 1999

The University of Tulsa, Tulsa, Oklahoma

Associate Director, TUFFP, May 1996 – July 1998

Adjunct Professor of Petroleum Engineering, January 1996 – July 1998

Research Associate, TUFFP, October 1992 – May 1996

Teaching: Graduate Program: “Two Phase Flow Modeling” and “Advanced Production Design”
Continuing Education (Short Course): “Two Phase Flow in Pipes”, 1994 – 1999

Istanbul Technical University, Istanbul, Turkey

Assistant Professor of Petroleum Engineering, November 1990 – October 1992

Teaching: Graduate Program: “Two Phase Flow in Pipes” and “Advanced Production Engineering”
Undergraduate Program “Petroleum Production Technique-1”, “Petroleum Production Technique-2”
“Fluid Mechanics” and “Computer Programming”
Continuing Education (Short Course): “Two Phase Flow in Pipes”, 1991 and 1992

Publications

Articles published in refereed journals

- 1) Sarica, C. and Satman, A.: “Equations of States in Petroleum Engineering,” *PETROL*, September 1986, pp. 3-12, (In Turkish).
- 2) Sarica, C. and Shoham, O.: “A Simplified Transient Model for Pipeline-Riser Systems,” *Chemical Engineering Science*, 46, No: 9, pp. 2167-2179, 1991.
- 3) Ansari, A. M., Sylvester, N. D., Sarica, C., Shoham, O. and Brill, J. P.: “A Comprehensive Mechanistic Model for Upward Two-Phase Flow in Wellbores,” *SPE Production & Facilities*, May 1994 pp. 143-152.
- 4) Ozkan, E., Sarica, C., Hacıislamoglu, M. and Raghavan, R.: “Effect of Conductivity on Horizontal Well Pressure Behavior,” *SPE Advanced Technology Series Journal*, March 1995 pp.85-94.
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- 6) Yuan, H., Sarica, C., Miska, S. and Brill, J. P.: “An Experimental and Analytical Study of a Single Phase Liquid Flow in a Horizontal Well,” *Journal of Energy Resources Technology*, Vol. 119, pp. 20-25, March 1997.
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- 8) Sarica, C., Demir, H. and Brill, J. P.: “An Analysis of Weep Holes as a Product Device for Underground Compensated LPG Storage Systems,” *SPE Production & Facilities*, pp. 47-52 February 1998.
- 9) Flores, G. J., Sarica, C., Chen, X. T. and Brill, J. P.: “Investigation of Holdup and Pressure Drop Behavior for Oil-Water Flow in Vertical and Deviated Wells,” *Journal of Energy Resources Technology*, pp. 8-15, March 1998.
- 10) Tengedal, J. O., Sarica, C., Schmidt, Z. and Doty, D.: “A Mechanistic Model for Predicting Pressure Drop in Vertical Upward Two-Phase Flow,” *Journal of Energy Resources Technology*, pp. 1-9, March 1999.
- 11) Flores, G. J., Chen, X. T., Sarica, C. and Brill, J. P.: “Characterization of Oil-Water Flow Patterns in Vertical and Deviated Wells,” *SPE Production & Facilities*, pp. 102-110, May 1999.

- 12) Yuan, H., **Sarica, C.** and Brill, J. P.: "Effect of Perforation Density on Single Phase Liquid Flow Behavior in Horizontal Wells," *SPE Production & Facilities*, pp. 203-210, August 1999.
- 13) Ozkan, E., **Sarica, C.** and Haci, M.: "The influence of Pressure Drop along the Wellbore on Horizontal Well Productivity," *Society of Petroleum Engineers Journal* September 1999.
- 14) Tengedal, J. O., Kaya, A. S. and **Sarica, C.**: "Flow Pattern Transition and Hydrodynamic Modeling of Churn Flow," SPE 53504, *Society of Petroleum Engineers Journal* December 1999.
- 15) Marcano, R., Chen, X. T., **Sarica, C.** and Brill, J. P.: "A Study of Slug Characteristics for Two-Phase Horizontal Flow," *Computer Standards & Interfaces*, Vol. 21, Issue 2, 15 June 1999, Pages 118-119
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- 17) Taitel, Y., **Sarica, C.** and Brill, J. P.: "Slug Flow Modeling for Downward Inclined Pipe Flow: Theoretical Considerations," *International Journal of Multiphase Flow*, pp. 833-844, **26/5** April 2000.
- 18) Jiang, W., **Sarica, C.**, Ozkan, E. and Kelkar, B.: "Effects of Completion Geometry on Single-Phase Liquid Flow Behavior in Horizontal Wells," *Journal of Energy Resources Technology*, June 2001.
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- 20) Meng, W., Chen, X. T., Kouba, G. E., **Sarica, C.** and Brill, J. P.: "Experimental Study of Low Loading Gas-Liquid Flow in Near Horizontal Pipes," SPE 56466 (74687) *SPE Production & Facilities Journal*, November 2001.
- 21) Vicente, R., **Sarica, C.** and Ertekin, T.: "A Numerical Model Coupling Reservoir and Horizontal Well Flow Dynamics – Transient Behavior of Single-Phase Liquid and Gas Flows" *Society of Petroleum Engineers Journal*, March 2002.
- 22) Ozkan, E., **Sarica, C.** and Haci, M.: "Interpretation of Horizontal-Well Production Logs: Influence of Logging Tool," *SPE Production & Facilities Journal*, May 2002.
- 23) Zhang, H. Q., Wang, Q. **Sarica, C.** and Brill, J.P: "A Unified Mechanistic Model for Slug Liquid Holdup and Transition between Slug and Dispersed Bubble Flows," *International Journal of Multiphase Flow*, 97-107, **29**, 2003.
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- 29) Hernandez, O. C., **Sarica, C.**, Volk, M., Brill, J. P., Delle-Case, E. and Hensley, H.: "Improvements in Single-Phase Paraffin Deposition Modeling," SPE 84502, *SPE Production & Facilities Journal*. November 2004.
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- 35) Zhang, H. Q. and **Sarica, C.**: "Unified Modeling of Gas/Oil/Water Pipe Flow – Basic Approaches and Preliminary Validation," SPE 95749 *SPE Projects, Facilities & Construction Journal*, June 2006.
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- 66) Lee, H., Al-Sarkhi, A., Pereyra, E., **Sarica, C.**, Park, C., Kang, J. and Choi J.: “Hydrodynamics model for gas–liquid stratified flow in horizontal pipes using minimum dissipated energy concept,” Volume 108, August 2013, Pages 336–341 *Journal of Petroleum Science and Engineering*.
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- 43) Soepyan, F.B., Cremaschi, S., **Sarica, C.**, Subramani, H.J., Kouba, G. and Gao, H.: "Confidence in Critical Velocity Predictions for Solids Transport," SPE 170776 Presented at 2014 SPE Annual Technical Conference and Exhibition, Amsterdam, The Netherlands, 27–29 October 2014.
- 44) Daas, M.A., Espedal, M., Aydin, T.B., Pereyra, E. and **Sarica, C.**: "Modelling of water dispersion in stratified oil-water-gas flow," 19th International Corrosion Congress, Jeju, Korea, Nov. 2-6, 2014.
- 45) Nair, J., Pereyra, E., **Sarica, C.**, Torres, C.F. and Arellano, J.M.: "Downhole Venturi Nozzles and Foam Application: A Novel Artificial Lift Method," SPE 173630-MS Presented at the SPE Production and Operations Symposium held in Oklahoma City, Oklahoma, USA, 1–5 March 2015.
- 46) Guner, M., Pereyra, E., **Sarica, C.** and Torres, C.F.: "An Experimental Study of Low Liquid Loading in Inclined Pipes from 90° to 45°," SPE 173631-MS Presented at the SPE Production and Operations Symposium held in Oklahoma City, Oklahoma, USA, 1–5 March 2015.
- 47) Panacharoensawad, E. Rittirong, A. and **Sarica, C.**: "A Self-Sufficient Wax Deposition Model for Horizontal Gas-Oil Slug Flow," Paper 399041 Presented at 2015 AIChE Spring Meeting, Austin, TX, April 26–30, 2015.
- 48) Golchha, A., **Sarica, C.** and Venkatesan, R.: "Settling of Wax Particles in Near-Gelling Systems under Quiescent Conditions," OTC 25652-MS Presented at 2015 Offshore Technology Conference, Houston, TX, May 4–7, 2015.
- 49) Alsaadi, Y., Pereyra, E., Torres-Monzon, C.F. and **Sarica, C.**: "Liquid Loading of Highly Deviated Gas Wells from 60° to 88°," SPE 174852 Presented at 2015 SPE Annual Technical Conference and Exhibition, Houston, TX, 28–30 September 2015.
- 50) Gawas, K.P., Pereyra, E. and **Sarica, C.**: "Experimental Study of Drop Size Distribution for Air-Oil Two-Phase Flow in Large Diameter Pipe," SPE 174875 Presented at 2015 SPE Annual Technical Conference and Exhibition, Houston, TX, 28–30 September 2015.
- 51) Chi, Y., Daraboina, N. and **Sarica, C.**: "Investigation of Inhibitors Efficacy in Wax Deposition Mitigation Using a Laboratory Scale Flow Loop," Presented at 2016 AIChE Spring Meeting, Houston, TX, April, 10-14, 2016.
- 52) Gawas, K., Pereyra, E. and **Sarica, C.**: "Transport of Water and Oil Droplets Entrained in Gas Phase for Larger Diameter Air-Oil-Water Low Liquid Loading Flow in Horizontal and Near-Horizontal Pipe," Presented at 2016 AIChE Spring Meeting, Houston, TX, April, 10-14, 2016.
- 53) Karami, H., Pereyra, E. and **Sarica, C.**: "Effects of Mono-Ethylene Glycol on Three-Phase Low Liquid Loading Flow Characteristics in Near-Horizontal Pipelines," Presented at 2016 AIChE Spring Meeting, Houston, TX, April, 10-14, 2016.
- 54) Daraboina, N., Soedarmo, A. and **Sarica, C.**: "Microscopic Study of Wax Inhibition Mechanism," OTC 226973 Presented at 2016 Offshore Technology Conference, Houston, TX, May 2–5, 2016.
- 55) Brito, R., Pereyra, E. and **Sarica, C.**: "Effect of Well Trajectory on Liquid Removal in Horizontal Gas Wells," SPE-181423-MS, Presented at 2016 SPE Annual Technical Conference and Exhibition, Dubai, UAE, 26-28 September 2016.
- 56) Dinata, R., Pereyra, E. and **Sarica, C.**: "End of Tubing (EOT) Placement Effects on the Two-Phase flow Behavior in Horizontal Wells: Experimental Study," SPE-181302-MS, Presented at 2016 SPE Annual Technical Conference and Exhibition, Dubai, UAE, 26-28 September 2016.
- 57) Zheng, W., Zhang, H. Q. and **Sarica, C.**: "Unified Model of Heat Transfer in Gas/Oil/Water Pipe Flow," SPE 181151-MS, to be Presented at SPE Latin America and Caribbean Heavy and Extra Heavy Oil Conference, Lima, Peru, October 19-20, 2016.
- 58) Brito, R., Pereyra, E. and **Sarica, C.**: "A Novel Analysis to Detect When and Where Liquid Loading Occurs in Horizontal Gas Wells - Case Studies," SPE-181223-MS, Presented at 2016 SPE North America Artificial Lift Conference and Exhibition, The Woodlands, Texas, 25-27 October 2016.
- 59) Brito, R., Pereyra, E. and **Sarica, C.**: "Existence of Severe Slugging in Toe-Up Horizontal Gas Wells," SPE-181217-MS, Presented at 2016 SPE North America Artificial Lift Conference and Exhibition, The Woodlands, Texas, 25-27 October 2016.
- 60) Valbuena, J., Pereyra, E. and **Sarica, C.**: "Defining the Artificial Lift System Selection Guidelines for Horizontal Wells," SPE-181229-MS, Presented at 2016 SPE North America Artificial Lift Conference and Exhibition, The Woodlands, Texas, 25-27 October 2016. A Summary has been published in *JPT* July, 2017 Vol 69 No: 7.
- 61) Barreto, C., Karami, H., Pereyra, E. and **Sarica, C.**: "Experimental Investigation of Severe Slugging Control by Surfactant Injection," Presented at 2017 OTC, Houston, TX, May 1-4, 2017.
- 62) Agarwal, J., Ravichandran, S., Daraboina, N. and **Sarica, C.**: "Effect of Hydrodynamic Parameters on the Wax Mass Density: Scale Up from Laboratory Flow Loop to Crude Production Pipelines," Presented at 2017 OTC, Houston, TX, May 1-4, 2017.
- 63) Barreto, C., Karami, H., Pereyra, E. and **Sarica, C.**: "Effect of Surfactant (Foamer) Delivery Location on Horizontal Wells Deliquification," Presented at ASME's FEDSM2017, Waikoloa, Hawaii, July 30 – Aug. 3, 2017.
- 64) Ekinci, S., Kim, T., Aydin, T., Pereyra, E. and **Sarica, C.**: "Pipe Inclination Effects on Slug Flow Characteristics of High Viscosity Oil-Gas Two-Phase Flow for Near Horizontal Pipes," Presented at ASME's FEDSM2017, Waikoloa, Hawaii, July 30 – Aug. 3, 2017.
- 65) Roullier, D., Shippen, M., Adames, P., Pereyra, E. and **Sarica, C.**: "Identification of Optimum Closure Relationships for a Mechanistic Model Using a Data Set From a Low-Liquid Loading Subsea Pipeline," SPE-187327-MS, Presented at 2017 SPE Annual Technical Conference and Exhibition, San Antonio, TX, 9-11 October 2017.
- 66) Vuong, H. D., **Sarica, C.**, Pereyra, E. and Alsarkhi, A.: "Pressure Effects on Pressure Gradient and Liquid Holdup in Two-Phase Oil-Gas Low-Liquid-Loading Flow in Horizontal Pipes," SPE- 187229-MS, Presented at 2017 SPE Annual Technical Conference and Exhibition, San Antonio, TX, 9-11 October 2017.
- 67) Dubey, A., Chi, Y., Daraboina, N., and **Sarica, C.**: "Investigating the Performance of Paraffin Inhibitors under Different Operating Conditions," SPE-187252-MS, Presented at 2017 SPE Annual Technical Conference and Exhibition, San Antonio, TX, 9-11 October 2017.
- 68) Soedarmo, A., Pereyra, E. and **Sarica, C.**: "A Simplified Model for Steady-State Pseudo-Slug Flow," OTC-28996-MS Presented at 2018 OTC, Houston, TX, 30 April – 3 May 2018.

- 69) Gcali, C., Karami, H., Pereyra, E. and **Sarica, C.**: “Surfactant Batch Treatment Efficiency as an Artificial Lift Method for Horizontal Gas Wells,” SPE- 190919-MS, Presented at 2018 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 28-30 Aug. 2018.
- 70) Acosta, R., Pereyra, E. and **Sarica, C.**: “Plunger Fall Velocity Studies in Vertical Wells,” Presented at 2018 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 28-30 Aug. 2018.
- 71) Nair, J., Pereyra, E. and **Sarica, C.**: “End of Tubing and Packer Placement Effects on Gas Lift Operations in Toe Down Gas Wells,” Presented at 2018 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 28-30 Aug. 2018.
- 72) Nair, J., Pereyra, E. and **Sarica, C.**: “Existence and Prediction of Severe Slugging in Toe-Down Horizontal Wells,” 18ATCE-P-943-SPE Presented at 2018 SPE Annual Technical Conference and Exhibition, Dallas, TX, 24-26 September 2018.
- 73) Oyewole, A., Kelkar, M., Pereyra, E. and **Sarica, C.**: “Well Performance Modeling in Unconventional Oil and Gas Wells,” 18ATCE-P-2093-SPE Presented at 2018 SPE Annual Technical Conference and Exhibition, Dallas, TX, 24-26 September 2018.
- 74) Rodrigues, H., Pereyra, E. and **Sarica, C.**: “Pressure Effects on Low-Liquid Loading Oil-Gas Flow in Slightly Upward Inclined Pipes: Flow Pattern, Pressure Gradient and Liquid Holdup,” 18ATCE-P-1422-SPE Presented at 2018 SPE Annual Technical Conference and Exhibition, Dallas, TX, 24-26 September 2018.
- 75) Daraboina, N., Chi, Y., **Sarica, C.**, Pereyra, E and Scott, S.: “Effects of High Pressure and High Temperature on the Performance of Existing Two-phase Flow Models in Wellbores,” 18ATCE-P-1175-SPE Presented at 2018 SPE Annual Technical Conference and Exhibition, Dallas, TX, 24-26 September 2018.
- 76) Soedarmo, A., Pereyra, E. and **Sarica, C.**: Gas-Liquid Flow in an Upward Inclined Large Diameter Pipe under Elevated Pressures,” OTC-29353-MS Presented at 2019 OTC, Houston, TX, May 6-9 2019.
- 77) Fan, Y. and **Sarica, C.**: “A Novel Approach for System Instability Prediction Using Nodal Analysis,” SPE-196134-MS Presented at 2019 SPE Annual Technical Conference and Exhibition, Calgary, Canada, September 30 – October 2, 2019.
- 78) Lopez, J., Pereyra, E. and **Sarica, C.**: “An Experimental Investigation of Dynamic Behavior of Gravity-Driven Downhole Separators,” SPE-196197-MS Presented at 2019 SPE Annual Technical Conference and Exhibition, Calgary, Canada, September 30 – October 2, 2019.
- 79) Lu, Y., Yang, J., **Sarica, C.**, Bell, E., and Daraboina, N.: “Paraffin Deposition Modeling – Is the Current Methodology Sufficient?,” 2019 AIChE Annual Meeting, Orlando, FL, November 10-15, 2019.
- 80) Fan, Y. Al-Safran, E., Pereyra, E. and **Sarica, C.**: “Modeling Liquid Holdup in Pseudo-slugs,” IPTC- 19769 Presented at 2020 International Petroleum Technology Conference (IPTC) Dhahran, Saudi Arabia, January 13-15, 2020.
- 81) Torres, C., Daraboina, N. and **Sarica, C.**: “A Predictive Tool for Multiphase Flow Wax Deposition in Production Lines,” 20OTC-P-1012-OTC Accepted to be Presented at 2020 OTC, Houston, TX, May 4-7 2020.
- 82) Chi, Y., Daraboina, N. and **Sarica, C.**: “Investigation of Thermal Effects on Gas-Oil Stratified Flow Wax Deposition,” OMAE2020-18477 To be Presented at ASME 2020 39th International Conference on Ocean, Offshore and Arctic Engineering OMAE2020, June 28-July 3, 2020, Fort Lauderdale, FL, USA.
- 83) Lopez, J., Pereyra, E. and **Sarica, C.**: “Experimental Investigation of a Highly Deviated Shroud Type Downhole Separators,” SPE-201127-MS to be Presented at 2020 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 25-27 Aug. 2020.
- 84) Sayman, O, Pereyra, E., and **Sarica, C.**: “Comprehensive Fall Velocity Study on Continuous Flow Plungers,” SPE-201139-MS to be Presented at 2020 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 25-27 Aug. 2020.
- 85) Akhiiardinov, A., Pereyra, E., **Sarica, C.** and Severino, J.: “Data Analytics Application for Conventional Plunger Lift Modeling and Optimization,” SPE-201144-MS to be Presented at 2020 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 25-27 Aug. 2020.
- 86) Nemoto, R. H., Hackworth, M. R., Pereyra, E., and **Sarica, C.**: “Dynamic Simulation of ESP Applied to Producing Wells from Unconventional Reservoirs,” SPE-201159-MS to be Presented at 2020 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 25-27 Aug. 2020.
- 87) Uzunoglu, H., Fan, Y., Pereyra, E. and **Sarica, C.**: “Effect of Constant Pressure Boundary on Gas Lift of Horizontal Wells,” SPE-201166-MS to be Presented at 2020 SPE Artificial Lift Conference and Exhibition-Americas, The Woodlands, Texas, 25-27 Aug. 2020.

Research Projects

Completed

- 1) Brill, J. P. and **Sarica, C.**: Tulsa University Fluid Flow Projects, a Research Consortium funded by several Oil and Gas Companies, Various of Projects on Two-Phase Flow in Pipes. October 1992 – July 1998, 1998 Average budget was \$700,000/year.
- 2) **Sarica, C.** and Brill, J. P.: “Investigation of Weep Holes as a Product Detection Device for Compensated LPG Storage Reservoirs,” Mid-America Pipeline Company, January 1995. The budget was \$19,332.
- 3) **Sarica, C.**: “Feasibility of Slug Tracking in Hilly Terrain Pipelines and Joint Industry Project Preparation,” Chevron Petroleum Technology Company, August 1995. The budget was \$14,865.
- 4) **Sarica, C.**: “Investigation of Orifice Plate as a Device to Measure Steam Quality and Mass Flow Rate,” Wilson Research Initiation Grant Program, PSU. The budget was \$5,252.
- 5) Ozkan, E., **Sarica, C.** and Kelkar, M.: “Optimization of Horizontal Well Completion, Phase-1,” Joint Industry Project supported by DOE, MMS, Phillips, BP-Amoco, Unocal Spirit 76. The budget was \$170,026. January 1998 – January 2000.
- 6) **Sarica, C.**: “Mechanics of Wax Removal,” Deep-Star Project. The budget was \$56,041. February 2000 – September 2000.
- 7) **Sarica, C.** and Morrison, J.: “Stripper Well Consortium,” Industry Consortium Supported by DOE. October 2000 – January 2001. The budget was \$3,600,000 for five years.
- 8) **Sarica, C.**: “Severe Slugging Prediction for Deep Water Pipeline-Riser Systems,” Texaco EPTD. The budget was \$28,605, January 2001-May 2001.

- 9) **Sarica, C.:** “Investigation of Orifice Plate as a Device to Measure Steam Quality and Mass Flow Rate,” Texaco Upstream Technologies, The budget was \$74,984. May 2001-April 2002.
- 10) Ozkan, E., **Sarica, C.** and Kelkar, M.: “Optimization of Horizontal Well Completion, Phase-2,” Joint Industry Project supported by DOE, Texaco, and Chevron. The budget was \$260,000. July 2000 – July 2002.
- 11) **Sarica, C.:** “Severe Slugging Elimination in Ultra-Deep Water Tiebacks and Risers,” Joint Industry Project participated by Chevron, Marathon, MMS, and Total. The budget was \$190,000 March 2001 – September 2002.
- 12) **Sarica, C.:** “Heavy Oil & Emulsion Rheology Technology Development, Phase-1,” a TUCoRE Project funded by Chevron. The budget was \$29,957. Summer 2002.
- 13) **Sarica, C.:** “Heavy Oil & Emulsion Rheology Technology Development, Phase-2,” a TUCoRE Project funded by Chevron. The budget is \$400,000, 2003-2006.
- 14) **Sarica, C.:** “Evaluation of Three-phase Multiphase Flow Correlations, Undergraduate Research Project,” a TUCoRE Project funded by Chevron. The budget was \$36,000, 2005.
- 15) **Sarica, C.:** “Investigation of a Novel Severe Slugging Elimination Method.”, Funded by BP, The budget was \$31,146, 2005.
- 16) **Sarica, C.:** “Paraffin Deposition Characteristics of *Mexilhão* Condensate,” Funded by Petrobras, The budget was \$19,998, 2007.
- 17) **Sarica, C.:** “Paraffin Deposition Characteristics of *Maria and Armada* Fluids,” Funded by BG, The budget was \$28,000, 2007.
- 18) **Sarica, C.:** “Investigation of a Fiber Optic Device as a Multiphase Flow Meter,” Funded by Petronas, The budget was \$19,292, 2007.
- 19) **Sarica, C.:** “Investigation of a New Multiphase Flow Meter,” Funded by Chevron, The budget was \$20,000, 2008.
- 20) **Sarica, C.:** “Development of Next Generation Multiphase Pipe Flow Prediction Tools,” A DOE Supported Project 2003-2008 with a total budget of \$731,995.
- 21) **Sarica, C.:** “Paraffin Deposition Characteristics of Three Petrobras Oils,” Funded by Petrobras, The budget was \$26,976, 2009.
- 22) **Sarica, C.:** “Testing of Surfactants as a Severe Slugging Suppression Agents,” Funded by Chevron, The budget was \$29,137, 2009.
- 23) **Sarica, C.:** “Testing of Surfactants as a Severe Slugging Suppression Agents – Phase II,” Funded by Chevron, The budget was \$24,958, 2010.
- 24) **Sarica, C.:** “Paraffin Deposition Characteristics of Tupi Crude Oil,” Funded by Petrobras, The budget was \$50,477, 2010.
- 25) **Sarica, C.:** “Testing of Effectiveness of a Chemical Additive on Low Liquid Loading Three-phase Flow,” Funded by ExxonMobil, The budget was \$50,015, 2010.
- 26) Pereyra, E. and **Sarica, C.:** “Testing Efficacy of a Newly Developed Online Multiphase Flow Meter,” the budget is \$230,864, 2011-2012.
- 27) Zhang, H. Q. and **Sarica, C.:** “Tulsa University Heavy Oil Projects,” a Joint Industry Project the annual budget is \$516,000. Funded by BP, Chevron, ConocoPhillips ExxonMobil, Petrobras, and Petrochina. 2007-2012.
- 28) Pereyra, E., **Sarica, C.** and Kelkar, M.: “Efficacy of Down-hole Venturi Nozzle in Flow Stabilization,” the budget is \$380,000, 2012-2013.
- 29) Cremaschi, S., and **Sarica, C.:** “Risk Management in Model Building,” a TUCoRE Project 2013 budget is \$120,000.
- 30) Kelkar, M. and **Sarica, C.:** “Foam Flow in Vertical Pipes,” a Joint Industry Project Funded by RPSEA and Six Oil and Gas Companies, 2011-2014, \$900,000. Completed Dec. 2014.
- 31) **Sarica, C.:** “Research Collaboration between SNU and TU,” May 2011 to March 2015. Budget is \$850,000.
- 32) **Sarica, C.:** “Wax Settling and Re-Entrainment,” a TUCoRE Project. 2011-2016, the total budget was \$475,000.
- 33) **Sarica, C.:** “Characterization of Air and Oil/water Emulsion Flow in Horizontal Pipes,” Funded by Chevron, May-July 2016, \$60,500.
- 34) **Sarica, C.:** “A Feasibility Study on the Effects of High Pressure High Temperature (HPHT) on Two-phase Flow of Oil and Gas in Vertical Pipes”, Funded by Shell, Dec. 2015-Nov. 2016, \$275,000.
- 35) **Sarica, C.:** “Multiphase Flow and Paraffin Deposition Testing,” Funded by Total, Nov. – Dec. 2016, \$45,000.
- 36) **Sarica, C.:** “Characterization of Air and Oil/water Emulsion Flow in Horizontal Pipes, Phase II” Funded by Chevron, Sept. 2017-Feb. 2018, \$80,000.
- 37) **Sarica, C.:** “Proof of Concept Hydrate Experiments for Pseudo-One-Pass Conditions” Funded by Chevron, Aug. 2017-Dec. 2017, \$125,000.
- 38) **Sarica, C.:** “Pseudo-One Pass Three-phase Flow Hydrate Deposition Testing for Low and High Liquid Loading Conditions” Funded by Chevron, April 2018 – June 2018, \$125,000.
- 39) **Sarica, C.:** “Proof of Concept Study for a Non-Intrusive Fiber Optics Device in Measurement of Two-phase Flow Characteristics” Funded by Showcor, Nov. 2018, \$45,000.
- 40) Daraboina, N. and **Sarica, C.:** “Performance Testing of Various Paraffin Inhibitors for Caspian Sea Condensate” Funded by Infineum, Nov. 2018-May 2019, \$100,000.
- 41) **Sarica, C.:** “Improvements of 2 in. ID Pseudo-One Pass Three-phase Hydrate Flow Loop and Detailed Investigation of Hydrate Deposition and Mitigation Methods” Funded by Chevron, 2019, \$637,798.
- 42) **Sarica, C.:** “Performance Testing of an Intrusive Fiber Optics Device in Measurement of Two-phase Flow Characteristics” Funded by ConocoPhillips, 2019, \$66,500.

Underway

- 1) **Sarica, C.:** “Tulsa University Fluid Flow Projects,” a Research Consortium funded by Several Oil and Gas Companies, Various of Projects on Two-Phase Flow in Pipes. May 2001 to Present. 2018 Expenditures of \$704,617.
- 2) **Sarica, C.:** “Tulsa University Paraffin Deposition Project,” a Research Consortium Funded by Several Companies. May 2001 to present. 2018-2019 budget is \$455,000.
- 3) **Sarica, C.:** “Tulsa University Horizontal Well Artificial Lift Projects,” a Research Consortium funded by Several Oil and Gas Companies, Various of Projects. July 2012 to Present. 2018-2019 expenditures of \$641,465.

Theses Advised or Co-Advised (Completed)

Master of Science in Engineering

- 1) Roumazeilles, P: "Downward Co-current Slug Flow in Inclined Pipes," 1994
- 2) Yuan, H.: "Investigation of Single Phase Liquid Flow Behavior in a Single Perforation Horizontal Wells," 1995
- 3) Marcano, R.: "Slug Length Distribution and Liquid Holdup in Horizontal Pipes," 1996
- 4) Tengesdal, J. Ø.: "Prediction of Flow Patterns, Pressure Drop, and Liquid Holdup in Vertical Upward Two-Phase Flow," 1998
- 5) Kaya, S.A.: "Comprehensive Mechanistic Modeling of Two-Phase Flow in Deviated Wells" 1998
- 6) Jiang, W.: "An Investigation of the Effects of Completion Geometry on Single-Phase Liquid Flow Behavior in Horizontal Wells," 1999
- 7) Coskun, T: "Numerical Modeling of Undulating Horizontal Wells," 2002
- 8) Hernandez, O.: "Investigation of Single Phase Paraffin Deposition Characteristics," 2002
- 9) Chanhong, G.: "Investigation of Long Term Paraffin Deposition Behavior," 2003
- 10) Alana, J. D.: "Single-phase Paraffin Deposition for Viscous Oils," 2003
- 11) Couto, G.: "Investigation of Two-phase Oil-Water Paraffin Deposition," 2004
- 12) Hossain, M.: "Assessment and Development of Heavy Oil Viscosity Correlations," 2005
- 13) Beltran, C.: "Severe Slugging Prediction for Gas-Oil-Water Flow in Pipeline-Riser Systems," 2005
- 14) Ersoy, G.: "Modeling of Inversion Point and Assessment of Heavy Oil Water Emulsion Viscosity Correlations," 2005
- 15) Gokcal, B.: "Effects of High Oil Viscosity on Two-Phase Oil-Gas Flow Behavior In Horizontal Pipes 2005
- 16) Sucre, G.: "Single Phase Paraffin Deposition", 2006
- 17) Bruno, A.: "Two-phase Oil-Water Paraffin Deposition" 2006
- 18) Keskin, C.: "Experiments and Modeling of Gas-Oil-Water Flow in Horizontal and Slightly Inclined Pipes," ME, 2007
- 19) Vielma, M.: "Characterization Oil-Water Flow in Horizontal Pipes", 2007
- 20) Estanga, D.: "Hydrate Formation in Lower Spots of Pipelines," 2007
- 21) Anosike, F.: "Oil-Water Paraffin Deposition," 2007
- 22) Dong, H.: "Three-phase gas-oil-water Low Liquid Loading Flow in Horizontal Pipes," 2007
- 23) Atmaca, S.: "Two-phase Oil-Water Flow in Inclined Pipes," 2007
- 24) Sanchez, R. : "Effect of Water Droplet Size & Dispersion Properties on Hydrate Plugging Tendencies for Water-in-Oil Emulsions," 2007
- 25) Yu, T.: "Modeling of Gas-Liquid Flow in Upward Vertical Annuli," 2009
- 26) Coletta, A.: "Investigation of Flow Behavior in Well Head Jumpers During Restart with Gas and Liquid," 2009
- 27) Sharma, A.: "Modeling of Hydrodynamics and Dispersions in Oil-Water Flow Pipe Flow," 2009
- 28) Domingues, R.: "Hydrates Formation Rates in Loop Experiments," 2009
- 29) Yunuskhajayev, A.: "Microscopic Observations of Hydrates," 2009
- 30) Magrini, K.: "Liquid Entrainment in Annular Gas-Liquid Flow in Inclined Pipes," 2009
- 31) Vuong, D. H.: "Experimental Study on High Viscosity Oil-Water Flows in Horizontal and Vertical Pipes," 2009
- 32) Akhiyarov, D.: "An Experimental Study on High Viscosity Oil/Gas Upward Flow in Vertical Pipes," 2010
- 33) Kora, C.: "Effect of High Oil Viscosity on Slug Liquid Holdup in Horizontal Pipes," 2010
- 34) Lu, C.: "Hydrate Characterization and Dissociation Studies," 2010
- 35) Dwivedi, P.: "An Investigation of Single-Phase Wax Deposition Characteristics of South Pelto Oil Under Turbulent Flow," 2010
- 36) Chelinsky, B.: "Effect of Pipe Inclination on Flow Characteristics of High Viscosity Oil-Gas Two-Phase Flow," 2011.
- 37) Mirazizi, H.: "Investigation of Single-Phase Paraffin Deposition Characteristics under Turbulent Flow," 2011.
- 38) Yuan, G.: "Liquid Loading of Gas Wells," 2011.
- 39) Sridhar, S.: "Experimental Study of High-Viscosity Oil/Water Flow in Inclined Pipes," 2011.
- 40) Subramani, V. J.: "A Model to Simulate Pressure Buildup During Hydrate Dissociation With Direct Electrical Heating," 2011.
- 41) Brito, R.: "Investigation of Medium Viscosity Oil Two-phase Flow in Horizontal Pipes," 2012.
- 42) Skopic, A.: "Experimental Study of Surfactant Effect on Liquid Loading in 2-in and 4-in Diameter Vertical Pipes," 2012.
- 43) Zheng, W.: "Unified Heat Transfer Modeling of Gas/Oil/Water Pipe Flow," 2012.
- 44) Guner, M.: "Liquid Loading of Gas Wells with Deviations from 0° to 45°," 2012.
- 45) Golchha, A.: "Settling of Wax Particles in Near-Gelling Systems Under Quiescent Conditions," 2013.
- 46) Singh, A.: "Experimental and Field Verification Study of Wax Deposition in Turbulent Flow Conditions," 2013.
- 47) Al-Saadi, Y.: "Liquid Loading in Highly Deviated Gas Wells," 2013
- 48) Nair, J.: "Flow Stabilization Using Downhole Venturi Nozzles for Gas Wells with and Without Foamers," 2013
- 49) Valbuena, J.: "Defining the Artificial Lift System Selection Guidelines in Horizontal Wells," 2014
- 50) Ekinci, S.: "Pipe Inclination Effects on Slug Flow Characteristics of High Viscosity Oil-Gas Two-Phase Flow," 2015
- 51) Soedarmo, A. A.: "Mechanistic Study of Wax Deposition: Boundary Layer and Deposit Morphology," 2015
- 52) Dinata, R. C.: "End of Tubing (EOT) Placement Effects on the Multiphase Flow Behavior in Horizontal Wells 2015
- 53) Chi, Y.: "Investigation of Wax Inhibitors on Wax Deposition Based on Flow Loop Testing," 2015
- 54) Navaneethakannan, S.: "Settling and Re-entrainment of Wax Particles in Near Gelling Systems under Quiescent Conditions," 2016
- 55) Agarwal, J.: "Experimental Study on Single-phase Wax Deposition in Turbulent Flow Conditions by Using Model Oil (MO-14)," 2016
- 56) Acosta, R.: "Plunger Velocity Studies in Vertical Wells," 2016
- 57) Barreto, C.: "Effect of Foamer Delivery Location on Horizontal Well Deliquification," 2016

- 58) Nguyen, A.: "Modeling of Oil-Water Flow in Horizontal and Near Horizontal Pipes," 2016
- 59) Banjara, V.: "Simplified Control Logic for Retrofit Severe Slugging Mitigation," 2016
- 60) Dubey, A.: "Effects of Operating Conditions and Inhibitors on Paraffin Deposition," 2016
- 61) Gcali, C.: "Efficiency of Surfactant Batch Treatment in Horizontal Gas Wells," 2017
- 62) Roullier, D.: "Slug Flow Analysis in Vertical Large Diameter Pipes," 2017
- 63) Oyewole, A.: "Well Performance Modeling in Unconventional Oil and Gas Wells," 2017
- 64) Deng, P.: "Investigation of Plunger Rise Velocity and Liquid Fall Back in Plunger Lift of Vertical Gas Wells," 2017
- 65) Uzunoglu, H.: "Gas Lift Studies at Constant Pressure Boundary Conditions", 2018
- 66) Alsanea, M.: "Effect of Water Cut on Onset of Liquid Loading and Foam Lift Performance in Horizontal Well", 2018
- 67) Jennamatti, A.: "Influence of Thermal and Hydrodynamic conditions on Long Duration Wax Deposition," 2018
- 68) Al-Muhaish, S.: "Multiphase Flow Measurement Technologies "Two-Phase Pipe Flow Meter"" 2019
- 69) Sayman, O.:
- 70) Yang, Jinghao:

Ph.D.

- 1) Trallero, J.L.: "Oil-Water Flow Patterns in Horizontal Pipes," 1995.
- 2) Yang, J.: "Investigation of Downward Intermittent Flow in Inclined Pipes," 1996.
- 3) Flores, Jose G.: "Oil-Water Flow Patterns in Vertical and Deviated Wells," 1997.
- 4) Yuan, H.: "Investigation of Single Phase Liquid Flow Behavior in Horizontal Wells," 1997.
- 5) Meng, W.: "Low Liquid Loading Two-Phase Flow in Near Horizontal Pipelines," 1999.
- 6) Vicente, R.: "A Numerical Model Coupling Reservoir and Horizontal Well Flow Dynamics," 2000.
- 7) Tengesdal, J. Ø.: "Severe Slugging Elimination in Deep Water Tiebacks and Risers," 2002.
- 8) Al-Safran, E.: "An Experimental and Theoretical Investigation of Slug Flow Characteristics in the Valley of a Hilly Terrain Pipeline," 2003.
- 9) Fan, Y.: "Low Liquid Loading Gas-Liquid Flow in Near-Horizontal Pipes," 2005.
- 10) Hernandez, O.: "Characteristics of Hydrate Slurry Transport," 2006.
- 11) Gokcal, B.: "An Experimental and Theoretical Investigation of Slug Flow for High Oil Viscosity in Horizontal Pipes," 2008.
- 12) Gokcal Ersoy, G.: "Slug Flow Evolution in Three-phase Gas-oil-water Flow in Hilly Terrain Pipelines," 2010.
- 13) Panacharoensawad, E.: "Wax Deposition under Two-Phase Oil-water Flowing Conditions," 2012.
- 14) Choi, J.: "Development of a Transient Two-Phase Flow Model for Pipelines Using Drift-Flux Approach," 2012.
- 15) Wang, S.: "Experiments and Model Development for High-Viscosity Oil/Water/Gas Horizontal and Upward Vertical Pipe Flows," 2012.
- 16) Gawas, K.: "Studies in Low-Liquid Loading in Gas/Oil/Water Three-phase Flow in Horizontal and Near Horizontal Pipes," 2013.
- 17) Lee, H.: "Hydrodynamic Model for Gas-Liquid Stratified Flows in the Horizontal Pipe using Minimum Dissipated Energy," 2013.
- 18) Ritterong, A.: "Paraffin Deposition under Two-Phase Gas-Oil Slug Flow in Horizontal Pipes," 2014.
- 19) Al-Ruhaimani, F.: "Experimental Analysis and Theoretical Modeling of High Liquid Viscosity Two-Phase Upward Vertical Pipe Flow," 2015.
- 20) Mirazizi, H.: "Low Liquid Loading Three-Phase Flow and Effects of MEG on Flow Behavior," 2015.
- 21) Brito, R.: "Effect of Horizontal Well Trajectory on Two-Phase Gas-Liquid Flow Behavior," 2015.
- 22) Vuong, D.: "Pressure Effects on Two-Phase Oil-Gas Low-Liquid-Loading Flow in Horizontal Pipes," 2016
- 23) Fan, Y.: "Experimental and Theoretical Study on Onset of Liquid Accumulation and Pseudo-Slug Flow," 2017
- 24) Nair, J.: "Gas Lift Application and Severe Slugging in Toe Down Horizontal Wells," 2017
- 25) Rodrigues, H.: "Pressure Effects on Low-Liquid Loading Two-Phase Flow in Near-Horizontal Upward Inclined Pipes", 2018
- 26) Ravichandran, S.: "Mechanistic Study of Wax Deposition: Effect of Super-saturation", 2018
- 27) Soedarmo, A. A.: "Gas-Oil Flow in Upward Inclined Pipes: Pseudo-Slug Flow Modeling and Upscaling Studies", 2019
- 28) Kim, T.: "Detailed Flow Field Analysis of Air and Highly Viscous Liquid Slug Flow in Horizontal Pipes", 2019
- 29) Al-Saidi, Y.: "Low Liquid Loading Two-Phase and Three-Phase Flow in Slightly Upward Inclined Pipes", 2019
- 30) Chi, Y.: "Wax Deposition under Two-Phase Gas-Oil Stratified Flow", 2019

Post-Doctoral Research Associates

- 1) Wang, Q.: 1999-2007. Both at PSU and TU
- 2) Zhang, H-Q.: 2001-2003.
- 3) Delle-Case, E.: 2001-2004
- 4) Chen, H.: 2004 -2006
- 5) Chen, X.: 2004 -2006
- 6) Tsang, Y.: 2006-2007
- 7) Du, S.: 2007-2008
- 8) Li, M.: 2008-2010
- 9) Alsarkhi, A.: 2008-2009
- 10) Abdvayt, P.: 2009-2010
- 11) Shang, W.: 2007-2012
- 12) Pereyra, E.: 2011-2013

- 13) Panacharoensawad, E. : 2012-2014
- 14) Torres, C.: 2012-2014
- 15) Choi, J.: 2012-2014
- 16) Aydin, T. B., 2013-2015
- 17) Padsalgikar, A.: 2015-2016
- 18) Karami, H.: 2015-2017
- 19) Daraboina, N.: 2015-2018
- 20) Fan, Y.: 2017-2018
- 21) Nair, J. 2018
- 22) Nemoto, R.: 2018-Present
- 23) Vieira, R.: 2018-Present
- 24) Lu, Y.: 2019-Present
- 25) Babu, P.: 2019-Present

Theses Advised or Co-Advised (Underway)

Master of Science

- 1) Ilem-Iyam, Ukam: 2018-Present
- 2) Dzhuraev, Daler: 2019-Present
- 3) Hu, H.: 2018 – Present
- 4) Ualiyeva, Gulnur, 2019 –Present
- 5) Nasr, Mike. 2019 – Present
- 6) Rozli, Mohammed. 2019 –Present
- 7) Espina, L.P.: 2018-Present
- 8) Bell, Elijah: 2018 – Present

Ph.D.

- 1) Lopez, J: 2016-Present
- 2) Akhiiartdinov, A.: 2016-Present
- 3) Aql, A. : 2018-Present
- 4) Achajelooei, S. M. 2018-Present
- 5) Santos, Gabriel. 2019 – Present
- 6) Kramer Scariot, Vinicius. 2019 – Present
- 7) Zhu, Qianwei: 2019-Present
- 8) Garcia Chinchilla, Cesar Augusto: 2019 – Present
- 9) Shaikhah Al-Ballam: 2019 – Present
- 10) Loganathan, Niranjana: 2019 -Present

Professional Presentations

1. “Transient Two-Phase Flow in Horizontal Pipelines: Experimental Results, and Comparisons with Existing Transient Two-Phase Flow Simulators,” Multiphase Flow Transient Forum, New Orleans, LA, September 28, 1994.
2. “An Experimental Study of Single Phase Liquid Flow in a Horizontal Well,” Stanford University, Stanford, CA, October 19, 1995.
3. “Industry-University Cooperation, University of Tulsa Example,” Istanbul Technical University, Istanbul, Turkey, June 30, 1997.
4. “Hydraulics: Simulation and Design,” Discussion Leader, 1997 SPE Forum Series in Europe, Forum I “Multiphase Production” September 14-19, 1997, Aviemore, UK.
5. “Characterization of Oil-Water Flow Patterns in Vertical and Deviated Wells,” Graduate Seminar, Pennsylvania State University, March 1998, State College, PA.
6. “Production System Analysis,” Graduate Seminar, Pennsylvania State University, March 1999, State College, PA.
7. “Workshop, New Techniques for Improved Well Design, Gas Well Unloading”, Independent Oil and Gas Association of New York, 20th Annual Summer Meeting, June 28-29, 2000, Peak’n Peak, New York.
8. “Severe Slugging Elimination in Ultra-Deep Water Tiebacks and Risers,” Graduate Seminar Series, Aug. 31, 2001, the University of Tulsa, Tulsa, OK.
9. “Investigation of Self-lifting Concept for Severe Slugging Elimination in Deep-water Pipeline/Riser Systems,” Graduate Seminar, Sept. 6, 2002, University of Oklahoma, Norman, OK.
10. “Investigation of Self-lifting Concept for Severe Slugging Elimination in Deep-water Pipeline/Riser Systems,” Flow Assurance Forum, Sept. 18-19, 2002, Galveston, TX.
11. “Multiphase Flow & Flow Assurance Activities at the University of Tulsa,” Graduate Seminar Series, Nov. 7, 2002, the University of Tulsa, Tulsa, OK.
12. Multiphase Flow & Flow Assurance Activities at University of Tulsa,” SPE Bartlesville Section Speaker, Oct. 2002, Bartlesville, OK.
13. “Flow Assurance Activities at the University of Tulsa,” Professor Dr. Aydin Goktekin Seminar, Istanbul Technical University, June 19, 2003, Istanbul, Turkey.

14. "Unified Modeling of Gas-Liquid Pipe Flow via Slug Dynamics," H-Q Zhang, Q. Wang, C. Sarica, J.P. Brill. SPE Forum Multiphase Capabilities in Frontier Environments – 31 August – 5 September, 2003, St. Maxime, France
15. "Wax Deposition Modeling under Multiphase Flow Conditions," B. Matzain, H-Q Zhang, C. Sarica. SPE Forum Multiphase Capabilities in Frontier Environments – 31 August – 5 September, 2003, St. Maxime, France
16. "Discussions on Emulsions," H-Q Zhang, C. Sarica. SPE Forum Multiphase Capabilities in Frontier Environments – 31 August – 5 September, 2003, St. Maxime, France
17. "Deep and Cold Waters The Place Where Opportunities and Challenges Abound: Multiphase flow and Sub-sea Processing": Workshop, Organized by Norway-North America Petroleum Research Corporation, November 2, 2005, Washington D.C., USA.
18. "Paraffin Deposition Overview," SPE Flow Assurance ATW, January 2007 Langkawi, Malaysia
19. TU's Research Activities, January 2007, Petronas, Kuala Lumpur, Malaysia
20. "Dynamic Paraffin Deposition Experiments for Oil-Water Dispersions Created with South Pelto Oil and Garden Banks Condensate", Petroleum Phase Behavior and Fouling Conference, June 2008, Victoria, Canada
21. "Flow Assurance Challenges and Our Research Activities," China Petroleum University, June 24 2008, Beijing, China
22. "An Experimental Study of Low Liquid Loading Gas-Oil-Water Flow in Horizontal Pipes," Graduate Seminar, October 30, 2009, University of Oklahoma, Norman, OK.
23. "Liquid Loading in Horizontal Wells," 2010 Gas Well Deliquification Workshop, Organized by Artificial Lift R&D Council (ALRDC), February 22-24, 2010, Denver, CO.
24. "Liquid Loading in Horizontal Wells," SPE Young Professionals Seminar, March 9, 2010, Tulsa, OK.
25. "Liquid Loading in Horizontal Wells," Appalachian Basin Gas Well Deliquification Workshop, Organized by Artificial Lift R&D Council (ALRDC), June 7-8, 2010, Marietta College, Marietta, OH.
26. "An Experimental Study of Low Liquid Loading Gas-Oil-Water Flow in Horizontal pipes," 20th ITU Petroleum and Natural Gas Seminar and Exhibition, June 24-25, 2010, Istanbul, Turkey.
27. Panelist, "Horizontal Well Multiphase Flow Hydrodynamics in Relation to Deliquification," SPE Fort Worth Section SPE Fall Panel Discussion, Oct. 27, 2010. Fort Worth, TX.
28. "State of the State of the Art of Multiphase Flow Prediction," AIChE/SPE Joint Flow Assurance Workshop, Sept. 26-28, 2011, Houston, TX.
29. "What TU Petroleum Engineering Does and How It Benefits the Industry?," SPE Mid-Continent Section Luncheon Talk – Oct. 6th, 2011, Tulsa, OK
30. "Research Projects in the School of Petroleum Engineering on Fluid Flow and Paraffin Deposition," Crude Oil Quality Association (COQA), Oct. 27, 2011, Tulsa, OK.
31. "State of the State of the Art of Multiphase Flow Prediction," Graduate Seminar LSU Petroleum Engineering, Nov. 11, 2011, Baton Rouge, LA.
32. "Horizontal Well Artificial Lift Consortium," Appalachian Basin Gas Well Deliquification Workshop, Organized by Artificial Lift R&D Council (ALRDC), June 3-5, 2013, Marietta College, Marietta, OH.
33. "Multiphase Flow in Flow Assurance," Texas A&M University at Qatar Distinguished Lecture Series Presentation, Dec. 8, 2013, Doha, Qatar.
34. "Multiphase Flow in Flow Assurance," The University of Texas at Austin, the Claude R. Hocott Lectureship in Petroleum Engineering Graduate Seminar Presentation, Oct. 20, 2014, Austin, Texas.
35. "Similarities and Differences of Two-phase Flow between Horizontal and Conventional Wells," Keynote Presentation at 4th Multiphase Flow Journeys (JEM 2017), March 27-31, 2017, São Paulo - SP - Brazil.
36. "Dynamics of Multiphase Flow in Horizontal Wells of Shale Plays," Graduate Seminar Presentation, Harold Vance Department of Petroleum Engineering, Texas A&M University, Nov. 28, 2017, College Station, TX.
37. "Multiphase Flow and Flow Assurance Facilities and Application in Industry Funded Research at The University of Tulsa," Invited Presentation, Offshore Korea, Oct. 10-11, 2018, Busan, Korea.
38. "Current State of the Art in Multiphase Flow Experimental Measurements," 2019 SPE/AIChE Workshop: Spend Less and Produce More - Offshore and Shale Flow Assurance Lessons, Feb. 5-6, 2019, Austin, TX.
39. "Multiphase Flow and Flow Assurance Facilities and Application in Industry Funded Research at The University of Tulsa," Current Advancements and Challenges in Multiphase Flow, Workshop, Invited Presentation, Texas A&M University Qatar, March 20-21, 2019 Doha, Qatar.

University Service Activities

- Director of TUFFP and TUPDP, 2001 – Present
- Director of TUHWALP, 2012 – Present
- Decision Review Board (DRB) member of TUCoRE, 2010 – Present
- Petroleum Engineering ABET Coordinator, 2018 – Present
- Member of Provost's Research Task Force, Nov. 2018 - -Feb. 2019
- North Campus Committee Chair
- Acting Chairman of Petroleum Engineering, Aug. 2011 – Dec. 2011
- 2010-2011 McDougall School of Petroleum Engineering Director Search, Committee Chair
- Petroleum Engineering Graduate Advisor for Master of Engineering Students, 2009-2011
- Petroleum Engineering ABET Coordinator, 2006 – 2009
- 2008-2009 Petroleum Engineering Faculty Search Committee Chair
- Petroleum Engineering Undergraduate Curriculum Committee Member, 2004-2009, 2014-present

- Petroleum Engineering Undergraduate Advising August 2001 – 2005
- Member of Drilling Faculty Search Committee 2002
- Graduate Seminar Coordinator, 2002-2003, 2012

Professional Service Activities:

- Member of SPE Projects, Facilities and Construction Advisory Committee, 2002 – Present.
- Member of SPE International Production and Operations Award Committee 2012 – 2013, 2019 - Present
- Chair of Flow Assurance Technical Section of SPE, 2018
- Member of Organizing Committee: SPE Forum: Production in Horizontal Unconventionals, 5 - 9 Nov 2018 Fort Worth, Texas, USA
- Vice Chair of Flow Assurance Technical Section of SPE, 2017
- Chair of SPE ATCE PFC Committee, 2017
- SPE ATCE PFC Committee Member 2014-2016
- Second Vice Chair of Flow Assurance Technical Section of SPE, 2016
- One of the three directors of Flow Assurance Technical Section of SPE, 2012-2015
- Co-Chair of the Steering Committee of SPE's 2015 Flow Assurance Forum
- Organizer of Flow Assurance Panel Session at 2014 SPE ATCE
- Chair of SPE International Production and Operations Award Committee 2014
- Board Member of Upstream Engineering and Flow Assurance Forum of AIChE, 2011 – 2013.
- Member of UDW PAC of RPSEA, 2010-2011
- Successful Award Nominations
 - Dr. Siamack Shirazi, 2018 SPE Projects, Facilities and Construction Award.
 - Dr. Stefan Miska, 2018 SPE/AIME Honorary Membership Award
 - Dr. Mohan Kelkar, 2018 SPE Distinguished Service Award
 - Mr. Robert Sutton, Recipient of 2014 SPE Production and Operations Award.
 - Dr. Tayfun Babadagli, Recipient of 2013 SPE Distinguished Member Award.
 - Dr. Hariprasad Janakiram Subramani, Recipient of 2013 SPE Gulf Region Production and Operations Award
 - Dr. Selen Cremaschi, Recipient of 2013 Zelimir Schmidt Outstanding Researcher Award.
 - Dr. Kazuioshi Minami, Recipient of 2011 SPE Projects, Facilities and Construction Award.
 - Mr. Norman McMullen, Recipient of 2009 SPE Projects, Facilities and Construction Award.
- Technical Program Committee Member of 2011 SPE Production Operations Symposium Held in Oklahoma City.
- Reviewer of the SPE Book titled "Organic Deposits in Oil and Gas Production," by Wayne Frenier, Murtaza Ziauddin, Ramachandran Venkatesan, 2010.
- Chairman of SPE Projects, Facilities and Construction Award Committee, 2003 – 2006.
- Member of Editorial Board of Society of Petroleum Engineers Journal (*SPEJ*), 1998 – 2006.
- Associate Editor of ASME's Journal of Energy Resources Technology (*JERT*), 1998 – 2003.
- Editor of "Wellbore Fluid and Heat Flows in Production Operations" Authored by Rashid Hasan and Shah Kabir, Published by SPE, 2002.
- Co-Editor of the Symposium Proceedings of BHRg 3rd and 4th North American Conferences on Multiphase Technology, 2002, and 2004.
- Technical Advisory Committee Member BHRg 3rd, 4th 5th 6th 7th, 9th and 10th North American Conferences on Multiphase Technology.
- Technical Advisory Committee Member BHRg 2003, 2005, 2007, 2009, 2011, 2013, 2015 and 2017 Conference on Multiphase Production Technology.
- Technical Program Chairman and Editor of BHRg 6th and 8th North American Conference on Multiphase Technology 2008 and 2012, respectively.
- Member of SPE Books Committee August 1999 – 2002.
- External Reviewer for Promotion and Tenure:
 - Dr. Amos Ullmann for Senior Lecturer position at The Iby and Aladar Fleischman Faculty of Engineering, Tel Aviv University, 2001.
 - Dr. Ergun Kuru for the rank of Professor at the Department of Civil & Environmental Engineering, School of Mining and Petroleum Engineering, University of Alberta, 2006.
 - Dr. Luis Ayala for the rank of Associate Professor with Tenure at the Department of Energy and Mineral Engineering at Pennsylvania State University, 2009.
 - Dr. Robert Wilkens for the rank of Professor at the Department of Chemical Engineering, University of Dayton, 2011.
 - Dr. A. Rashid Hasan for the rank of Professor at the Department of Petroleum Engineering, Texas A&M University, 2011.
 - Dr. Yu-Shu Wu for Tenure with the rank of Professor at the Department of Petroleum Engineering, Colorado School of Mines, 2011.
 - Dr. Luis Ayala for the rank of Professor at the Department of Energy and Mineral Engineering at Pennsylvania State University, 2014.
 - Dr. Mileva Radonjic for the rank of Associate Professor with Tenure LSU Craft & Hawkins Department of Petroleum Engineering, 2015.
 - Dr. Seung Kam for the rank of Professor with Tenure LSU Craft & Hawkins Department of Petroleum Engineering, 2016.
 - Dr. Luis Zerpa for the rank of Associate Professor with Tenure, the Department of Petroleum Engineering, Colorado School of Mines, 2018
 - Dr. Paula Waltrich, for the rank of Associate Professor with Tenure LSU Craft & Hawkins Department of Petroleum Engineering, 2018.
- ASME's ETCE'98 – ETCE 2002 Production Technology Symposium Steering Committee Member.

- SPE Production Operations Committee Member, 1996 – 1998.
- Reviewer for Journals Including IJMF, SPE P&F, SPEJ, JERT, Energy & Fuels, J. Petroleum Science and Engineering, Industrial & Engineering Chemistry Research TJOG, and In-Situ.
- Session Chair, BHRg 3rd North American Conference on Multiphase Technology, BHRg 2003 Conference on Multiphase Technology.
- Session Co-Chair, SPE 1997 – 1999 SPE Annual Meetings.
- Session Chair/Vice Chair, ASME's ETCE'98 – ETCE'02 Petroleum Technology Conferences.
- Forum Organizer, 2nd TUFFP Multiphase Flow Transient Forum, October 3, 1997

Awards:

- 1999 ASME Jacobson Best Paper Award Recipient: Tengesdal, J. O., **Sarica, C.**, Schmidt, Z. and Doty, D.: "A Mechanistic Model for Predicting Pressure Drop in Vertical Upward Two-Phase Flow," Presented at ASME's ETCE 99, Feb. 1-3, 1999 Houston TX.
- ASME's Petroleum Division 75th Anniversary Medallion Award, 1999.
- ASME Certificate of Appreciation, February 2000.
- Society of Petroleum Engineers (SPE) Outstanding Editor Award, October 2000.
- ASME Certificate of Appreciation for serving as Associate Editor of Journal of Energy Resources Technology between January 1, 1997 and December 31, 2003.
- Eminent Reviewer Award of Journal of Petroleum Science and Engineering for 2008.
- 2010 SPE International Production and Operations Award.
- 2012 SPE Distinguished Member Award.
- Article titled "Modeling of droplet entrainment in co-current annular two-phase flow: A new approach" is recognized by Science Direct as one of the Top 25 papers published in International Journal of Multiphase Flow in 2012.
- 2013 Top 20 Science & Engineering Professors in Oklahoma.
- Chevron Fellow at the University of Tulsa: 2012-2014, 2016-2018
- 2015 SPE John Franklin Carll Award.
- 2015 SPE Cedric K. Ferguson Certificate.
- Best Paper Award: Fan, Y., Pereyra, E., Torres, C.F., Aydin, T.B., and **Sarica, C.**: "Experimental study on the onset of intermittent flow and pseudo-slug characteristics in upward inclined pipes," Presented at 17th International Conference Multiphase Production, Cannes, France, June 10-12, 2015.
- Outstanding Reviewer, International Journal of Multiphase Flow, December 2017.
- Outstanding Reviewer, Applied Thermal Engineering, April 2018.
- Outstanding Reviewer, Chemical Engineering Science, May 2018.
- Best paper award: Kim, T., Pereyra, E. and **Sarica, C.**: "Modeling of Wall Shear Stress in Horizontal Pipes for Highly Viscous Two-Phase Slug Flow," Presented at 11th North American Conference on Multiphase Technology, Banff, Canada, June 6-8, 2018.
- Inaugural Recipient of the Outstanding Researcher Award of the University of Tulsa, 2019.
- Best paper award: "Soedarmo, A., Pereyra, E. and **Sarica, C.**: "Characterization of Pseudo-slug Flow in a Slightly Upward Large Diameter Pipe under Elevated Pressures," Presented at 19th International Conference Multiphase Production, Cannes, France, June, 5-7 2019.

Education:

Ph.D. in Petroleum Engineering,	January 1987 - August 1990	The University of Tulsa
M.S. in Petroleum Engineering,	October 1982 - March 1984	Istanbul Technical University
BS in Petroleum Engineering,	October 1978 - July 1982	Istanbul Technical University

Professional Memberships: SPE and Turkish Petroleum Engineers Chamber.