

SEUNG IHL KAM, Ph.D

Professor of the Craft & Hawkins Department of Petroleum Engineering
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Full-Time Employment History

- Full/Associate/Assistant Prof., Craft & Hawkins Dept. of Petroleum Engr., LSU., since June 2006
- Lecturer B (Assistant Prof.), Australian School of Petroleum, U. of Adelaide, May 2002-June 2006
 - Visiting Senior Research Scientist, Santos, Australia, Nov. 2002 - May 2003
- Postdoc, Petroleum & Geosystems Engr., Univ. of Texas at Austin, Jan. 1999 - May 2002

Education

- PhD: Petroleum & Geosystems Engr., The Univ. of Texas at Austin, 1998
Dissertation: "Interaction between Bubbles and Solids: Three Applications" (Prof. W.R. Rossen)
- MS: Energy and Resources Engr., Seoul National Univ. (Korea), 1994
Thesis: "A Study on Kill Simulation by Combining Transient and Pseudo-Steady States" (Prof. J.M. Kang)
- BS: Energy and Resources Engr., Seoul National Univ. (Korea), 1992

Honors, Awards, and Certificates

- Promotion to Full Prof., 2017; Tenure (LSU), 2012; Tenure (U. of Adelaide), 2005
- Holder of Donald W. and Gayle A. Keller Distinguished Professorship, since Aug. 2007
- Faculty ambassador to promote collaborative efforts between the US and South Korea under MASGA (shipbuilding) and MANUGA (Energy) [as an elected Technical Group Council Officer of CHE/Energy Division (C2) (2023-2026) and an elected Vice President Candidate (2026-2027) of KSEA (The Korean-American Scientists and Engineers Association); also Nomination Committee member for KSEA officer positions (2025-2026) and faculty volunteer for the 2027 UKC (US-Korea Conference)]
- "Ewha Global Fellow", Ewha Womans University, 2024-2026, 2027-2029
- "Korea Technology Advisory Group (K-TAG)", member, Korea Government, since 2019
- "LSU Coastal Directory", member, LSU Energy Coast and Environment, since 2020
- "Global Talent", recognition by SK Innovation (EOR, sequestration), since 2013
- Adjunct Professor, Graduate School of Engineering Mastership, POSTECH, Korea, 2013-2014
 - Helping new Subsea Engineering Program (offshore drilling/production facilities; flow assurance)
- Adjunct faculty, Australian School of Petroleum (ASP), U. of Adelaide, June 2006 - Aug. 2012
 - Helping new I/EOR Program (research collaboration; 3 PhD students co-advising)
- SPE "A Peer Apart" 2018 Award of Achievement, The Society of Petroleum Engineers, 2018
 - Achievement of completing more than 100 reviews for SPE's peer-reviewed journals
 - 167 individuals in this elite group as of 2018
- Member of the Elite 25-Year Club, The Society of Petroleum Engineers, 2018
- SPE HSE Featured paper, with Ms. Thiberville, Dec. 2018
- Donald W. Clayton Eng. Excellence Award, Outstanding Mentor for Graduate Student, LSU, 2017, 2022, through The Donald W. Clayton Ph.D. Graduate Assistantship (M. Izadi, 2017-2020; H. Fleifel, 2022-2025)
 - College-level, based on mentoring graduate students for research
- "OnePetro Top-5 Downloads in the Past 30 Days," with Mr. Edrisi (450+ counts), May 2013
(OnePetro: an online library of technical literature for the oil and gas exploration and production (E&P) industry, containing more than 145,000 documents produced by 18 publishing partners.)
- "Top-20 most cited articles" with Mr. Dholkawala, J. Pet. Sci. Eng., Sept. 2010
- Several recognitions of research students (see Publication and Presentation sections for more) including "First Prize Winner of the International SPE Student Paper Contest," S. Panchadhara (MS

division), Oct. 2011 (others in AAE, DTS, SPE conferences); The Don Schroeder PSIG Scholarship (The Pipeline Safety Interest Group), C. Thiberville, Oct. 2018; The Sharon H. Neveu Teaching Award, C. Thiberville, Nov. 2020; LSU Public Service Assistantship (STEM Literacy), B. Cepeda-Salgado (fall 2022-spring 2023 as MS; fall 2023-spring 2024 as PhD student).

- Wooley Professor of Excellence, recognized at the LSU Women's Basketball game, Nov. 15 2024
 - National level, based on the passion, dedication, and work that epitomize the essence of the award
 - Worley is one of the world's largest technical, professional and construction service providers. Your credentials are in alignment with all five of their competencies for this award: customer focus, business insight, cultivates innovation, drives vision & purpose, and technical competency. Your passion, dedication, and work epitomize the essence of the award)
 - LSU "Kudos & Thank You!" recognition, Communication across the Curriculum, Nov. 2022
 - University-level, based on the feedback from students (professors doing an exceptional job communicating and connecting with them)
 - Longwell Award for Instructor Excellence, LSU, 2017 and 2020
 - College-level, based on the contribution to early-year engineering students
 - Michael R. Mangham Tiger Athletic Foundation Undergraduate Teaching Award, LSU, 2014
 - University-level, based on teaching philosophy, student evaluation, Dept. support
 - Zaki Bassiouni Excellence in Instruction Award, PETE department, LSU, 2013
 - Department-level, voted by senior students in the department
 - Teaching Excellence Recognition, LSU Baseball Faculty Guest Coach Program, Spring 2010
 - University-level, nominated by Academic Center for Student Athletes
 - 3-day CxC Institute on Communication Across Curricula, Louisiana State U., May 2009
 - Three-day Provost's Seminar on Teaching for New Faculty, Louisiana State U., August 2006
 - Completion of a semester-long "Teaching at University" course, U. of Adelaide, 2004
 - First prize winner in honor of Dr. J. Earnshaw, Eufoam Conference, Delft, The Netherlands, 2000
 - Scholarship by Asan Foundation, Hyundai, Korea, 1990-1992
 - Departmental Alumni Scholarship, Seoul National Univ., Korea, 1989
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Professional and Administrative Activities

- An elected member of LSU Faculty Senate (2026 – 2029) to make a healthy university environment
- Institute of International Education (Fulbright) - National Screening Committee member, since 2025
- American Council on Education - Program Review Committee member, since 2017 (ad hoc; served in 2017, 2020)
- External Reviewer for the graduate program/courses, The University of West Indies, T&T, 2026 - 2029

- PETE Interim Department Chair (May 2023 – Aug. 2024)
 - General duties such as budget, hiring, faculty/staff support and evaluation, UG/G academic program, industry relationship, workplace safety, mentoring, etc.
 - With the following somewhat less-usual tasks/responsibilities
 - ABET/SACS/Academic Program Evaluation Coordinator (with Dr. Thurber)
 - PETE Graduate Advisor / CoE Graduate Advisor Committee
 - LSU PERTT (Petroleum Engineering Research, Training, & Testing) Lab committee chair
 - New Faculty Hiring and Mandatory Faculty Evaluation for Promotion and Tenure
 - Working as a Faculty Advisor for the student organizations (i.e., SPE Student Chapter)
 - Executive Committee Member of the Petroleum Engineering Department Head Association (PEDHA)

- PETE Graduate Advisor / CoE Graduate Advisor Committee, (July 2017 – Sept. 2026)
 - Leading PETE graduate curriculum changes to meet the need of modern petroleum industry
 - Mentoring PETE graduate students; guiding for successful completion of MS and PhD studies
 - Performing various supporting roles for CoE (e.g. developing endowment proposal (eg. Carraway Endowment, fall 2017); recruiting students; reviewing teaching/research award applications (eg. Longwell Award for Instructor Excellence, LSU, 2018; Outstanding Dissertation Award Committee (2017, 2021, 2023))
 - Working with Graduate School for various University-level affairs (including proposal development such as 9th Cohort of the Bridge to the Doctorate (BD) Activity of the Louis Stokes Louisiana Alliance for Minority Participation (LS-LAMP (NSF-Funded LSU Bridge to the Doctorate Program), fall 2021)

- PETE Promotion & Tenure Committee Chair / CoE Faculty Advisory Committee, spring 2021 - spring 2023
 - Helping PETE junior faculty by hearing them out and assisting faculty performance evaluation (e.g. making recommendations after mandatory and nonmandatory reviews; chairing committee meetings and reporting the summary)
 - Supporting CoE with faculty advisory group recommendations (e.g. performance evaluation (PS-109), CoE promotion and tenure (PS-36))

- PETE Teaching Lab Committee, since 2006
 - Maintaining and upgrading PETE 2034 Rock and Fluid Properties Lab (e.g. relocation of teaching labs to the new CoE building (part of \$110 Million Renovation and Expansion of Engineering Campus, 2014-2017); major upgrades with relative permeability, capillary and interfacial tension, electric resistivity, phase behavior experiments)
 - Reviewing and implementing existing and new lab safety guidelines; participating into CoE safety training and practice (e.g., 2019-2020)

- Faculty/Staff/Technician Search Committee, since 2006
 - Participating into search activities in various roles (e.g. technician search committee chair (2021-2022), department chair search committee member (2010-2011))

- CoE Faculty Research Committee for Built Infrastructure, 2023
 - Composed of about 10 faculty, from different departments within the College, who have expertise in one or more aspects of Built Infrastructure
 - Work together over several weeks to come up with recommendations on the key strategic questions

- PETE ABET coordinator (Accreditation Board for Engineering & Technology), 2011-2016
 - Responsible for collecting/recording BS activities (Outcomes and Objectives) for continuous improvements, writing 200+ page ABET Self-study report, and preparing for ABET on-campus visit (course binders, data, analysis, assessment, in close communications with chair, faculty, and staff)
 - Efforts led to "No weaknesses in the program identified" and re-accreditation in 2016
(From ABET website: "ABET provides assurance that a college or university program meets the quality standards of the profession for which that program prepares graduates.")

- PETE SACS accreditation coordinator (Southern Association of Colleges & Schools), 2011-2016
 - Responsible for monitoring/collecting/recording BS/MS/PhD programs activities for continuous assessment; leading department-level discussions on investigation methods, analysis, self-evaluation, recommendations; writing annual reports; and maintaining Taskstream with full details
 - Efforts well recognized as an example (among a few) in college-level discussions (meeting deadlines; using ABET Outcomes (a) through (k) as an evaluation tool for SACS; incorporating senior projects, junior posters, PE/FE exams, exit interviews, course evaluations, recent grad survey into the model) (From SACS website: "SACS serves as the common denominator of shared values and practices among the diverse institutions in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia and Latin America and other international sites approved by the Commission that award associate, baccalaureate, master's, or doctoral degrees.")
 - College of Engineering Policy Committee, Fall 2011 – Spring 2014
 - Participating into CoE activities associated with college policy through regular meetings
 - Performing as PETE liaison on various on-going issues, updates, and feedback
 - Other Roles as a Faithful PETE citizen
 - New Research Frontiers (e.g. Subsurface Remediation & Subsea Engineering through Sabbatical Leave Spring 2018; MOU with KRCC, 2009-2015)
 - Department Promotion & Tenure Committee, since 2012
 - Coordinator, Department Graduate Seminar (PETE 7999), Fall 2009
 - Morning/evening walk around the University lake with visitors (on and off), to name a few
 - Member, The Society of Petroleum Engineers (SPE), since 1992
 - Member, American Association of Drilling Engineers (AADE), since 2015
 - Member, Korean-American Offshore Engineers Association (KOEAA) and Korean-American Scientists and Engineers Association (KOEAA), since 2012 (Student member, American Chemical Society, 1995-1998)
 - Member, American Geophysical Union (AGU), 2017
 - SPE Journal (Reservoir Evaluation and Engineering), Associate Editor since Sept. 2007
 - SPE Journal (Reservoir Evaluation and Engineering), Technical Editor since Dec. 2002
 - SPE ATCE Paper Selection Committee, member (2006-2011; 2013-2017; 2020-2022; 2026-2028)
 - Conference Organizing Committee/Session Chair (including SPE ATCE)
 - 2026 SPE ATCE "Unconventional I/EOR Methods", to perform;
 - 2025 LSU CO2 Symposium Session Chair, Baton Rouge, LA, Sept.;
 - 2022 SPE ATCE "EOR (Hybrid I/EOR Methods)", Houston, TX, Oct.;
 - 2021 SPE ATCE "EOR (Mobility and Conformance Control)", Dubai, UAE, Sept.;
 - 2020 SPE ATCE "EOR (Thermal Recovery & Wettability Alteration)", Houston, TX, Oct.;
 - 2017 SPE ATCE "Chemical EOR", San Antonio, TX, Oct.;
 - 2015 SPE ATCE "EOR in Conventional Reservoirs", Houston, TX, Oct.;
 - 2011 SPE ATCE "Improved Recovery Processes", Denver, CO, Oct.;
 - 2010 SPE ATCE "Heavy Oil and Thermal Recovery", Florence, Italy, Nov.;
 - 2009 SPE ATCE "Flow in Fractured Porous Media", New Orleans, LA, Oct.;
 - 2008 SPE ATCE "Imbibition, Capillarity & Relative Permeability", Denver, CO, Sept.;
 - 2007 SPE ATCE "Flow Through Porous Media", Anaheim, CA, Nov.;
 - 2006 SPE ATCE "CO2 sequestration I", San Antonio, TX, Sept.
 - Journal of Korean Society of Mineral and Energy Resources Engineers, Board member since 2017
 - Journal of Petroleum Science and Engineering, Associate Editor, May 2012 – May 2013
 - Journal of Energy Resources Technology, Associate Editor, March 2011 – March 2012
 - Int'l Centre of Excellence in Water Resource Management (Australia), member, 2004 - 2005
 - On-site Military Program Reviewer, ACE (Army/Marine Corps/Navy, Ft. Lee, VA), July 31- Aug 3, 2017; June 6-7, 2022 (remote)
 - External reviewer for tenure/promotion, various academic institutions (domestic and overseas)
 - Proposal/paper/book reviewer: American Chemical Society (ACS), American Society of Mechanical Engineers (ASME), Gulf Publishing, SPE Journal, SPE Drilling and Completion, Water Resources and Research, Journal of Hazardous Materials, Industrial & Engineering Chemistry Research, Chemical Science and Engineering, Transport in Porous Media, Louisiana Economic Development proposals review (2016, 2018), research proposals from USE, Australia, Canada, Qatar etc., among many.
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Personal Information

- Big fan of Horrible Science, Horrible Geography, Dead Famous, and Murderous Math series
- Believer of the Magic of Compounding
- Walking/jogging lover with an ambition for Boston Marathon
- Donor to the SNU (Seoul National University) Development Fund

Special Skills

- Several years of laboratory experience for industry sponsored projects with special emphases on:
 - Coreflooding experiments at high P and high T: in a wide range of rock/fluid systems (bead/sand-packs, Berea, Boise, field consolidated/unconsolidated cores, reservoir oils and brines); in presence of chemical additives (polymer, acid, corrosion inhibitor, surfactant) with degradation of chemicals at harsh conditions (precipitation and stability)
 - Flow in tubes/pipes: bubble-size distribution for flow characterization; motion of foam films in complicated pore geometries; measurement of interfacial tension and contact angle
 - Fundamentals of rock and fluid properties: porosity, permeability (gas, liquid), density, viscosity, resistivity, compressibility, and reservoir parameters
 - Ability to independently assemble coreflood apparatus, perform multiphase flow tests, and analyze test results; familiarity with lab safety issues and lab equipment; guiding new graduate students to lab experiments during induction periods
- Experience in simulation and modeling studies including:
 - Multiphase flow in porous media: developing mechanistic/dynamic foam simulators in connection with Population Balance technique for foam-assisted recovery processes
 - Flow in pipes/annuli: gas-liquid two-phase flow in well control; pipeline leak/plugging
 - Use of Eclipse for history matching and future performance forecast: single-well model, sector model, and full field simulation; Use of OLGA for flow assurance
 - Modeling of interactions between foams and solids; bubble generation in pore network
 - Familiarity with complex computer algorithms, convergence & stability issues, and discretization of hyperbolic, elliptic, and parabolic partial differential equations

Teaching Interest

- Enhanced oil recovery and reservoir physics (fractional flow analysis, capillary phenomena, gas and chemical injection, sweep efficiency)
- Petrophysics (rock properties, rock and fluid interactions, interfacial phenomena)
- Reservoir fluid properties (phase behavior with multi-components, equation of state modeling)
- Surface production operations (gas-, oil-, and water-processing facilities and design)
- Near-wellbore production problems (damage control, production enhancement, well deliverability)
- Production engineering (multiphase flow in pipe and annulus, inflow performance, vertical flow performance, nodal system analysis, production optimization, future production forecast)
- Drilling engineering (mud hydraulics, well control, directional drilling, colloidal chemistry, systems)
- Numerical simulation and advanced mathematics (linear algebra, partial differential equation, numerical analysis, reservoir simulation); fundamental engineering courses (fluid mechanics, transport phenomena)

Research Interest (General interest in multi-phase flow in pipes and in porous media)

- Improved/enhanced oil recovery, subsurface environmental remediation (eg. surfactant/foam processes, CO₂ foam EOR/sequestration, chemical flooding, adsorption, wettability, polymer-enhanced/gelled foam, well stimulation, gas or water blocking, population balance model)
 - Stability and flow of complex fluid system in pipes and slits (eg. foam-solids interactions, foam-oil interactions, foam fracturing for gas shales and tight sands, foam drilling, solid transports)
 - Drilling and production facilities including deepwater development and subsea structures
 - Fluid assurance, flow in pipes (eg. well control, pipeline leak/plugging detection, liquid unloading)
 - Nano-materials (eg. transport of nanoparticles; filtering with nano-porous medium)
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Research Group Members

<Current Research Students>

- Hazem Fleifel (PhD)
Investigation of Co-Current and Counter-Current Flow Applications in Petroleum Industry
- Betty Cepeda (PhD)
Mobility-Control Surfactant/Foam Process for Subsurface Environmental Remediation
Mobility-Control Surfactant/Foam Process for EOR and CCUS Potential
- Hichem Dahim
Designing and Optimization of In-situ NAPL Remediation Treatments

<Previous Research Students>

PhD, MS:

Hazem Fleifel (2025), Yanfang Wang (PhD, 2021), Mohammad Izadi (PhD, 2019), Seungjun Lee (PhD, 2014), Alireza Edrisi (PhD, 2014), Alireza Roostapour (PhD, 2013), Rahul Gajbhiye (PhD, 2011);

Betty Cepeda (MS, 2023); Tooba Riaz (MS, 2021), Caitlyn Thiberville (MS, 2020), Hazem Fleifel (MS, 2020), Ran Wang (MS, 2019), Doris Ortiz (MS, 2017), Woochan Lee (MS, 2014), Sneha Panchadhara (MS, 2011), Ali Afsharpoor (MS, 2009), Miodrag Bogdanovic (MS, 2008), Zulfiqar F. Dholkawala (MS, 2006, U. of Adelaide))

Undergraduates:

Haliburton Scholar

Juliana Lang (fall 2021 – spring 2022), Madison Thony (fall 2021 – spring 2022), Marian Luzier (fall 2020 – spring 2021), Olivia Belle Kilpatrick (fall 2019 – spring 2020), Jacqueline Gonda (fall 2019 – spring 2020), Kayla Lehmann (fall 2017- spring 2019), Sarah Jones (fall 2018 - spring 2019), Phuc Perrie Nguyen (fall 2017- spring 2018)

Presidential Future Leader in Research Program

P. Block (fall 2018 - spring 2019); A. Gupta (fall 2006 - spring 2007)

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< Publications >

1. B. Cepeda-Salgado, G.S. Lee, F. Tsai, and S.I. Kam, "A Novel Surfactant-Imbibition DNAPL Remediation Technology with Horizontal Extraction Wells," in press, **InterPore Journal**, 2026
2. H. Fleifel, B. Cepeda-Salgado, M. Tyagi, and S.I. Kam, "Bullheading Drilling Operations: Understanding Anomalous Gas Displacement Efficiency," in press, **SPE Journal**, 2026
3. B. Cepeda-Salgado, G.S. Lee, I. Gupta, C. Willson, and S.I. Kam, "Surfactant/Foam Processes in Shallow Subsurface Remediation: Evaluation of Foams as a Blocking Agent," **Transport in Porous Media**, p. 709-732, Vol. 149, 2023.
4. B. Cepeda-Salgado, H. Fleifel (both first authors); G.S. Lee, and S.I. Kam, "A Simulation Study of Pilot-Scale In-Situ NAPL Remediation Treatment by Using Surfactant and Foam Processes in a Military Base South Korea," **Journal of Contaminant Hydrology**, p. 1-16, Vol. 247, 2022.
5. M. Izadi, P. Nguyen, D.P. Ortiz Maestre, H. Fleifel, and S.I. Kam, "An Investigation of Mechanistic Foam Modeling for Optimum Field Development of CO₂ Foam EOR Application," **SPE Reservoir Evaluation and Engineering**, p. 475-494, Vol. 24, Issue 3, 2021.
6. Y. Wang, J. Chen, S.I. Kam, and A. Bao, "Optimizing Multi-Stage Hydraulic Fracturing Treatments for Economical Production in Permian Basin Using Machine Learning," **IEEE Machine Learning and Applications**, p. 1057-1062, 2021.
7. C.J. Thiberville, Y. Wang, P.J. Waltrich, W.C. Williams and S.I. Kam, "Modeling of Smart Pigging for Pipeline Leak Detection: From Mathematical Formulation to Large-scale Application," **SPE Production and Operations**, p. 610-627, Vol. 35, Issue 3, 2020.
8. H. Fleifel, M. Izadi, S. Park, I. Gupta, G.S. Lee, and S.I. Kam, "Shallow Subsurface Environmental Remediation by Using Tracer-Surfactant-Foam Processes: History-Matching and Performance Prediction," **Transport in Porous Media**, p. 565-592, Vol. 134, Issue 3, 2020.
9. M. Izadi and S.I. Kam, "Investigating Supercritical CO₂ Foam Propagation Distance: Conversion from Strong Foam to Weak Foam vs. Gravity Segregation," **Transport in Porous Media**, p. 223-250, Vol. 131, Issue 1, 2020.
10. M. Izadi and S.I. Kam, "Bubble Population Balance Modeling for Supercritical CO₂ Foam EOR Processes: from Pore-scale to Core-scale and Field-scale Events," **SPE Reservoir Evaluation and Engineering**, p. 1467-1480, Vol. 22, Issue 4, 2019.
11. D.P. Ortiz Maestre and M. Izadi (both first authors); and S.I. Kam, "Modeling of Nanoparticle-Stabilized CO₂ Foam Enhanced Oil Recovery," **SPE Reservoir Evaluation and Engineering**, p. 971-989, Vol. 22, Issue 3, 2019.
12. P.J. Waltrich, M.S. Capovilla, W. Lee, P.C. de Souza, M. Zulqarnain, R.G. Hughes, M. Tyagi, W. Williams, S.I. Kam, A. Archer, J. Singh, H. Nguyen, J. Duhon, and C. Griffith, "Experimental Evaluation of Wellbore Flow Models Applied to Worst-Case-Discharge Calculations," **SPE Drilling and Completion**, p. 315-333, September 2019.
13. R. Wang, Y. Wang, M. Tyagi, Y. Chen, and S.I. Kam, "Multi-Dimensional CFD Analysis for the Prediction of Transient Wellbore Circulating Temperature Profile to Guide Offshore Cementing Job," **Journal of the Korean Society of Mineral and Energy Resources Engineers**, p. 19-30, Vol. 56, Issue 4, 2019.
14. C.J. Thiberville, Y. Wang, P. Waltrich, W.C. Williams, and S.I. Kam, "Evaluation of Software-based Early Leak Warning System in the Gulf-of-Mexico Subsea Flowlines," **SPE Production and Operations**, p. 802-828, Vol. 33, Issue 4, 2018 – **"SPE HSE Featured Paper," Dec. 2018**
15. Y. Wang, C. Thiberville, and S.I. Kam, "A New Model for Foam Flow in Pipes and Its Application in Drilling Processes," **International Journal of Modern Engineering**, p. 21-32, Vol. 18, No.1 (Fall/Winter), 2017.
16. E. Pagan, W.C. Williams, S.I. Kam, and P. Waltrich, "Modeling Churn and Annular Flow Regimes in Small- and Large-Diameter Pipes," **Chemical Engineering Science**, p.309-321, Vol. 162, 2017.
17. P.J. Waltrich, R. Hughes, M. Tyagi, S.I. Kam, W. Williams, P. C. de Sousa, M. Zulqarnain, W. Lee, M.S. Capovilla, "Experimental Investigation of Two-Phase Flows in Large-Diameter Pipes and Evaluation of Flow Models Applied to Worst-Case-Discharge Calculations," US Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, M17PX00030, December 2016.

18. W. Lee, S. Lee, M. Izadi, and S.I. Kam, "Dimensionality-Dependent Foam Rheological Properties: How to Go from Linear to Radial Geometry for Foam Modeling and Simulation," **SPE Journal**, p. 1669-1687, Vol. 19, Issue 1, 2016.
19. A. Roostapour, G. Lee, L. Zhong, and S.I. Kam, "Model Fit to Experimental Data for Foam-Assisted Deep Vadose Zone Remediation," **Journal of Hazardous Materials**, Vol. 264, p. 460-473, 2014.
20. A. Edrisi and S.I. Kam, "A New Foam Model in Pipes for Drilling and Fracturing Applications," **SPE Journal**, p. 576-585, Vol. 19, Issue 1, 2014.
21. A. Edrisi, R.N. Gajbhiye, and S. I. Kam, "Experimental Study of Polymer-free and Polymer-added Foams for Underbalanced Drilling: Are Two Foam-Flow Regimes Still There?" **SPE Journal**, p. 55-68, Vol. 19, Issue 1, 2014.
22. S. Lee and S.I. Kam, "Three-Phase Fractional Flow Analysis for Foam-Assisted Non-Aqueous Phase Liquid (NAPL) Remediation," **Transport in Porous Media**, Vol. 101, Issue 3, p. 373-400, 2014.
23. S. Lee and S.I. Kam, "Enhanced Oil Recovery by Using CO₂ Foams: Fundamentals and Field Applications," a book chapter in "Enhanced Oil Recovery Field Case Studies" (James Sheng), **Gulf Professional Publishing** (Elsevier), ISBN:9780123865458, May 2013.
24. A. Roostapour and S.I. Kam, "Anomalous Foam Fractional Flow Solutions at High Injection Foam Quality," **SPE Reservoir Evaluation and Engineering**, p. 40-50, February, 2013.
25. A. Edrisi and S.I. Kam, "Mechanistic Leak-Detection Modeling for Single Gas-Phase Pipelines: Lessons Learned from Fit to Field-Scale Experimental Data," **Advances in Petroleum Exploration and Development**, Vol. 5, No. 1, p. 22-36, May 2013.
26. A. Roostapour and S.I. Kam, "Modeling Foam Delivery Mechanisms in Deep Vadose-zone Remediation Using Method of Characteristics," **Journal of Hazardous Materials**, Vol. 243, p. 37-51, December 2012.
27. R.N. Gajbhiye and S.I. Kam, "The Effect of Inclination Angles on Foam Rheology in Pipes," **Journal of Petroleum Science and Engineering**, Vol. 86-87, p. 246-256, May 2012.
28. S. Panchadhara, R.N. Gajbhiye, G.S. Lee, and S.I. Kam, "The Effect of Oil on Foam Stability during Foam Flow in Pipes," Editorial Invitation, **Exploration & Production: The Oil and Gas Review**, Vol. 9, Issue 1, p. 41-44, April 2011.
29. R.N. Gajbhiye and S.I. Kam, "Characterization of Foam Flow in Horizontal Pipes by Using Two-Flow-Regime Concept," **Chemical Engineering Science**, Vol. 66, p. 1536-1549, April 2011.
30. M. Namdar-Zanganeh, S.I. Kam, T. La Force, and W.R. Rossen, "The Method of Characteristics Applied to Oil Displacement by Foam," **SPE Journal**, vol. 16, No. 1, p. 8-23, 2011.
31. G.S. Lee, J.S. Jang, J.Y. Um, E.Y. Kim, and S.I. Kam, "A Field Study of Surfactant-Enhanced In-situ Remediation by Using Horizontal Wells and Trench in a Hilly Terrain," **Green Remediation – Environment, Energy, Economics**, p. 21-24, Oct. 2010.
32. A. Afsharpoor, G.S. Lee, and S.I. Kam, "Mechanistic Simulation of Gas Injection during Surfactant-Alternating-Gas (SAG) Processes Using Foam Catastrophe Theory," **Chemical Engineering Science**, Vol. 65, p. 3615-3631, 2010.
33. S.I. Kam, "Mechanistic Modeling of Pipeline Leak Detection at Fixed Inlet Rate," **Journal of Petroleum Science and Engineering**, Vol. 70, Issues 3-4, p. 145-156, February 2010.
34. M. Bogdanovic, R.N. Gajbhiye, and S.I. Kam, "Experimental Study of Foam Flow in Pipes: Two Distinct Flow Regimes," **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, Vol. 344, Issue 4, p. 56-71, July 2009.
35. A. Rosman and S.I. Kam, "Modeling Foam-Diversion Process using Three-Phase Fractional Flow Analysis in a Layered System," **Energy Sources Part A: Recovery, Utilization, and Environmental Effects**, Vol. 31, Issue 11, p. 936 – 955, 2009.
36. J.S. Tang and S.I. Kam, "Modeling of Pollutant Transport from a Stationary Phase into a Flowing Stream with Reversible Adsorption," **Energy Sources Part A: Recovery, Utilization, and Environmental Effects**, Vol. 31, Issue 4, p. 338-347, 2009.
37. A. Roostapour, G.S. Lee, and S.I. Kam, "Unconventional Fractional Flow Curves for Mechanistic Foam Flow Modeling and Simulation in Porous Media," Editorial Invitation, **Exploration & Production: The Oil and Gas Review**, Vol. 7, Issue 2, p. 55-58, November, 2009.
38. R.N. Gajbhiye and S.I. Kam, "Leak Detection in Subsea Pipeline: A Mechanistic Modeling Approach With Fixed Pressure Boundaries," **SPE Projects, Facilities & Construction**, p. 1-10, December 2008.
39. D.J. Mayberry, A. Afsharpoor, and S.I. Kam, "The Use of Fractional Flow Theory for Foam Displacement in Presence of Oil," **SPE Reservoir Evaluation and Engineering**, p. 707-718, August 2008. **– Considered for the 2009 Cedric K. Ferguson Medal Award**

40. S.I. Kam, "Improved Mechanistic Foam Simulation with Foam Catastrophe Theory," **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, Vol. 318, p. 62–77, April 2008.
41. S.I. Kam, "Complication of Boundary Conditions in Mechanistic Modeling of Subsea Pipeline Leak Detection," Editorial Invitation, **Exploration & Production: The Oil and Gas Review**, Vol. 6, Issue 1, p. 114-117, April, 2008.
42. Z.F. Dholkawala, H.K. Sarma, and S.I. Kam, "Application of Fractional Flow Theory to Foams in Porous Media," **Journal of Petroleum Science and Engineering**, Vol. 57, p. 152-165, May 2007.
– **"Top-20 most cited articles," Journal of Petroleum Science and Engineering**
43. S.I. Kam, W.W. Frenier, S.N. Davies, and W.R. Rossen, "Experimental Study of High-Temperature Foam for Acid Diversion," **Journal of Petroleum Science and Engineering**, Vol. 58, p. 138–160, August 2007.
44. S.I. Kam, Q.P. Nguyen, Q. Li, and W.R. Rossen, "Dynamic Simulation with an Improved Model for Foam Generation," **SPE Journal**, p. 35–48, March 2007. – **Considered for the 2008 Cedric K. Ferguson Medal Award**
45. S.I. Kam and J. Choe, "Implication of Foam Generation Surface on Shallow Groundwater Remediation," **Journal of Korean Geosystem Engineering**, Vol. 43, No. 5, p. 499-508, October, 2006.
46. S.I. Kam, "Mechanistic Foam Simulation near Limiting Capillary Pressure," **Journal of the Korean Society for Geosystem Engineering**, Vol. 42, No. 2, p.101-112, April, 2005.
47. S.I. Kam and J. Choe, "Foams for Aquifer Remediation: Two Flow Regimes and Its Implication to Diversion Process," **Journal of Korean Society of Soil and Groundwater Environment**, Vol. 9, No. 1, p. 1-11, March, 2004.
48. S.I. Kam and W.R. Rossen, "A Model for Foam Generation in Homogeneous Media," **SPE Journal**, p. 417-425, Dec. 2003.
49. C.K. Mamun, J.G. Rong, S.I. Kam, H.M. Liljestrand, and W.R. Rossen, "Simulating Use of Foam in Aquifer Remediation," **Developments in Water Science**, Vol. 47, No. 1, p. 867-874, June, 2002.
50. L. Cheng, S.I. Kam, M. Delshad, and W.R. Rossen, "Simulation of Dynamic Foam-Acid Diversion Processes," **SPE Journal**, p. 316-324, Sept. 2002.
51. P.A. Gauglitz, F. Friedmann, S.I. Kam, and W.R. Rossen, "Foam Generation in Homogeneous Porous Media," **Chemical Engineering Science**, Vol. 57, p. 4037-4052, Oct. 2002.
52. S.I. Kam, P.A. Gauglitz, and W.R. Rossen, "The Yield Stress of Foamy Sands," **Colloids and Surfaces, A: Physicochemical and Engineering Aspects**, Vol. 202, Issue 1, p. 53-62, March 2002.
53. S.I. Kam and W.R. Rossen, "The Compressibility of Foamy Sands," **Colloids and Surfaces, A: Physicochemical and Engineering Aspects**, Vol. 202, Issue 1, p. 63-70, March 2002.
54. S.I. Kam, P.A. Gauglitz, and W.R. Rossen, "Effective Compressibility of a Bubbly Slurry I. Mechanisms of Bubble Growth," **Journal of Colloid and Interface Science**, Vol. 241, No. 1, p. 248-259, 2001.
55. S.I. Kam, P.A. Gauglitz, and W.R. Rossen, "Effective Compressibility of a Bubbly Slurry II. Fit to Field Measurement and Implications," **Journal of Colloid and Interface Science**, Vol. 241, No. 1, p. 260-268, 2001.
56. S.I. Kam and W.R. Rossen, "Anomalous Capillary Pressure, Stress, and Stability of Solids-Coated Bubbles," **Journal of Colloid and Interface Science**, Vol. 213, No.2, p. 329-339, 1999.
57. S.I. Kam and J.M. Kang, "An Efficient Approach for Simulation of Kill," **Journal of Japanese Association for Petroleum Technology**, Vol. 60, No.3, 199-209, May, 1995.
58. S.I. Kam and J.M. Kang, "A Simulation of Kill Processes Combining Transient and Pseudosteady States," **Journal of Korean Institute of Mineral & Energy Resources Engineers**, Vol. 31, No. 5, 78-82, October, 1994.

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< Presentations >

1. B. Cepeda-Salgado, G.S. Lee, and S.I. Kam, "Optimization of Surfactant-Imbibition In-situ DNAPL Remediation with Horizontal Wells," to be presented with a conference proceeding at **the 39th Annual US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2026)**, Atlanta, GA, 5-8 Aug. 2026.
2. S.I. Kam, "Rapidly Chaining Energy Industry," presented at **the MANUGA with K workshop (Make America Nuclear Great again with Korea)**, Dallas, TX, 18-19 Jan. 2026.
3. H. Fleifel, B. Cepeda-Salgado, M. Tyagi, and S.I. Kam, "Bullheading Drilling Operations: Understanding Anomalous Gas Displacement Efficiency," **SPE 228232** presented at **the 2025 SPE Annual Technical Conference and Exhibition**, Houston, TX, 20-22 Oct. 2025.
4. B. Cepeda-Salgado, G.S. Lee, and S.I. Kam, "In-Situ Surfactant Remediation Using Horizontal Wells: Basic Concepts and Fundamentals," presented with a conference proceeding at **the 38th Annual US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2025)**, Atlanta, GA, 5-9 Aug. 2025.
5. B. Cepeda-Salgado, H. Fleifel and S.I. Kam, "Evaluation of Dynamic Bullheading Well-Control Processes: Efficiency of Gas Displacement by Liquids in Vertical Downward Flow" presented at **the 2025 AADE National Technology Conference & Exhibition**, Midland, TX, 15-16 April, 2025.
– invitation; Second Prize Winner of the Student Presentation
6. B. Cepeda-Salgado, H. Fleifel, G.S. Lee, and S.I. Kam, "A Field Case Study: In-situ Surfactant and Foam Treatments for Subsurface Remediation of Non-Aqueous Phase Liquids (NAPL)," proceeding; to be presented at **the 37th annual US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2024)**, San Francisco, CA, 21-24 August 2024.
7. S.I. Kam, "Green and Net Zero," **the 2024 SK Innovation Global Forum**, to participate as a panelist and presenter, San Jose, CA, 13-14 July 2024. **– invitation**
8. M. Zeidouni, R. Hughes, I. Gupta, and S.I. Kam, "CCUS Research, Training, and Outreach activities at Craft & Hawkins Department of Petroleum Engineering, Louisiana State University," to be poster-presented at the 2024 SPE/PEDHA Workshop for "Fueling the Future: Petroleum Engineering Industry/Education in a New Era", University of Houston, Houston, TX, 8-9 Aug. 2024.
9. O. Olorode and S.I. Kam, "Multiscale Simulation of Energy Resources," to be poster-presented at the 2024 SPE/PEDHA Workshop for "Fueling the Future: Petroleum Engineering Industry/Education in a New Era", University of Houston, Houston, TX, 8-9 Aug. 2024.
10. B. Cepeda-Salgado and S.I. Kam, "Fractional Flow Analysis for Supercritical CO₂ Injection for Enhanced Oil Recovery and Underground Storage," presented at the 2nd Graduate Research Conference (podium), Baton Rouge, LA, 30 April 2024.
11. H. Fleifel and S.I. Kam, "Downward Displacement of a Long Gas Bubble in a Vertical Well," presented at the 2nd Graduate Research Conference (poster), Baton Rouge, LA, 30 April 2024.
12. B. Cepeda-Salgado and S.I. Kam, "Evaluation of CO₂ Foam Process for Enhanced Oil Recovery and CO₂ Storage Potential," presented at **Energy Transition Research Symposium**, Baton Rouge, LA, 6 October 2023.
13. S.I. Kam, "CO₂ EOR and Carbon Capture Utilization and Storage (CCUS): Field-Scale Application of Mobility-Control CO₂ Foams," proceeding; presented at **the 36th annual US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2023)**, Dallas, TX, 2-5 August 2023.
14. B. Cepeda-Salgado and S.I. Kam, "Analysis of Saturation Wave Propagation during Supercritical CO₂ EOR and Storage Processes: With and Without Foaming Agents," presented at **the 26th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 22-24 July 2023.
15. H. Fleifel and S.I. Kam, "Understanding Mechanisms of Bullheading Well Control Process by Using Transient Numerical Simulations" presented at **the 26th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 22-24 July 2023.
16. S.I. Kam, "Now We Have Two Challenges – Meeting the Energy Demands and Helping the Environment with Sustainability," presented at **the 1st World Conference of Korean Scientists and Engineers**, Seoul, South Korea, 4-7 July 2023. **– invitation**
17. B. Cepeda-Salgado, G.S. Lee, and S.I. Kam, "Evaluation of Pilot-Scale Surfactant and Foam Remediation Processes for LNAPL Removal," presented at **the 18th Annual International Symposium on Environment (Athens Institute for Education and Research)**, Athens Greece, 10-13 July 2023.

18. H. Fleifel and S.I. Kam, "Lessons learned from Simulation Fit to Field-scale Bullheading Experiments" presented at **the 2023 AADE National Tech Conference & Exhibition**, Midland, TX, 4-5 April, 2023. – invitation; Second Prize Winner of the Student Presentation
19. B. Cepeda-Salgado (S.I. Kam as a supervisor), Educational and Research Experience at LSU, presented/participated as a Fulbright panelist at **the 2023 LSU International Culture Exchange**, Baton Rouge, LA, 1 April 2023.
20. B. Cepeda-Salgado (S.I. Kam as a supervisor), "Foams: From Rheology to Applications," presented at **the 8th IEW Research Fair**, Baton Rouge, LA, 16 November 2022. – First Prize Winner
21. B. Cepeda-Salgado, H. Fleifel, G.S. Lee, and S.I. Kam, "How Machine-Learning Algorithms Can Help Reduce Subsurface Uncertainty: Lessons Learned from Pilot-Scale Surfactant Flooding," presented at **the 25th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 22-24 August 2022.
22. H. Fleifel and S.I. Kam, "Improving Gas-Lift Process with Liquid Co-Injection: Is Liquid Co-Injection Always Helpful to Reduce Maximum Injection Pressure?" presented at **the 25th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 22-24 August 2022. – First Prize Winner of the Student Presentation
23. S.I. Kam, "Green and Net Zero," **the 2022 SK Innovation Global Forum**, Panelist, San Jose, CA, 11-12 June 2022. – invitation
24. M. Izadi, B. Cepeda-Salgado, and S.I. Kam, "Mechanistic Modeling of Foam-Assisted EOR Simulations: Comparing Two Key Foam Generation Mechanisms," **OTC 31885** presented at **the 2022 Offshore Technology Conference**, Houston, TX, 2-5 May 2022.
25. H. Fleifel, C.J. Thiberville, and S.I. Kam, "Multi-valued Problems Associated with Liquid-assisted Gas-lift Processes and Its Implication for Production Enhancement," **OTC 32075** presented at **the 2022 Offshore Technology Conference**, Houston, TX, 2-5 May 2022.
26. H. Fleifel, Y. Wang, and S.I. Kam, "Modeling and Transient Simulation of Foam-Assisted Bullheading Processes in MPD and UBD Applications," presented at **the 2022 AADE National Fluids Conference & Exhibition**, Houston, TX, 9-10 April, 2022. – invitation
27. S.I. Kam, "Carbon Capture Utilization and Storage (CCUS): Optimization of Field-Scale CO2 Sequestration through Mobility-Control Foams," presented at the 34th annual US-Korea Conference on Science, Technology, and Entrepreneurship (UKC 2021), Los Angeles, CA, 15-18 December 2021.
28. Y. Wang, J. Chen, S.I. Kam, and A. Bao, "Optimizing Multi-Stage Hydraulic Fracturing Treatments for Economical Production in Permian Basin Using Machine Learning," presented at the 20th IEEE International Conference on Machine Learning and Applications (Virtual), 13-15 December 2021.
29. S.I. Kam, "Offshore Oil and Gas Production Facilities and Basic Concepts for Flow Assurance," presented at the Special On-line Conference/Seminar Series by Seoul National University (Virtual), 17-18 November 2021.
30. B. Cepeda-Salgado, H. Fleifel, G.S. Lee, and S.I. Kam, "Pilot-Scale In-Situ NAPL Remediation by Using Surfactant and Foam Processes in a Military Base," presented at the 2021 ASA, CSSA, SSSA International Annual Meeting, SSSA Division (Soil Science Society of America): Soils and Environmental Quality, Salt Lake City, Utah (Virtual), 7-10 November 2021.
31. S.I. Kam, "Now We Have Two Challenges – Meeting the Energy Demands and Helping the Environments," invited presentation at the 2021 SK Innovation Global Forum, Session speaker and panelist, San Francisco, CA, 2-3 October 2021. – invitation
32. H. Fleifel, G.S. Lee, and S.I. Kam, "Evaluation of Surfactant and Foam Processes for In-Situ NAPL Remediation in a Military Base, South Korea," presented at **the InterPore 13th Annual Meeting**, (MS2) Porous Media for a Green World: Water & Agriculture at InterPore2021 (Virtual), 31 May - 4 June 2021.
33. C. Thiberville and S.I. Kam, "Use of Smart Pigging for Pipeline Leak Detection: Mathematical Modeling and Comparison with Transient Simulations," presented at **the 24th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 9-13 November 2020. – First Prize Winner of the Student Presentation (Sharon H. Neveu Teaching Award)
34. Y. Wang and S.I. Kam, "Foam-Assisted Bullheading Well Control: Modeling Based on Field-scale Foam Circulation Data," presented at **the 24th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 9-13 November 2020.

35. S.I. Kam, "Interaction between Bubbles and Solids," presented at **the Special Workshop of Foam Flow and Rheology in Porous Media in honor of Professor William R. Rossen (virtual conference)**, Delft, The Netherlands, 23 October 2020.
36. C.J. Thiberville, Y. Wang, and S.I. Kam, "Optimization of Liquid-assisted Gas Lift Processes for Production Enhancement by Using Transient Computer Simulations," SPE 201585 presented at the **2020 SPE Annual Technical Conference and Exhibition** (virtual), 27-29 October, 2020.
37. Y. Wang, C. Thiberville, and S.I. Kam, "Numerical Modeling, Simulation and Lab Testing of Foam-Assisted Mud Cap Drilling Processes Dealing with Non-Newtonian Foam Rheology," SPE 200513 presented at **the 2020 SPE/IADC Managed Pressure Drilling & Underbalanced Operations Conference & Exhibition**, Denver, CO, 29-30 October, 2020.
38. C.J. Thiberville, Y. Wang, P.J. Waltrich, W.C. Williams, and S.I. Kam, "Modeling of Smart Pigging for Pipeline Leak Detection: From Mathematical Formulation to Large-scale Application," SPE 198648 presented at **the Gas & Oil Technology Showcase and Conference**, Dubai, UAE, 21-23 October, 2019.
39. C. Thiberville, Y. Wang, and S.I. Kam, "Simulation of Foam-Assisted Mud Cap Drilling Processes," presented at **the 23rd Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 26-28 August 2019. – **First Prize Winner of the Student Presentation**
40. R. Wang, Y. Wang, M. Tyagi, Y. Chen, and S.I. Kam, "Predicting Transient Wellbore Temperature Profile by Using Multi-Dimensional CFD Analysis for Offshore Wells," presented at **the 23rd Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 26-28 August 2019.
41. S.I. Kam, "CO₂ capture, Storage and Utilization," **the Annual SK Global Forum**, panelist, Jersey City, New Jersey, 15-16 June 2019. – **invitation**
42. C. Thiberville, invited IADC student ambassador promoting research group's activities on "Foam-Assisted Drilling and Unloading Processes," **the IADC World Drilling 2019 Conference and Exhibition**, Milan, Italy, 19-20 June, 2019. – **invitation**
43. C. Thiberville, P. Waltrich, W. Williams, and S.I. Kam, "Novel Technology of Smart Pigging for Pipeline Leak Detection: Mathematical Formulation of the Concept," presented at **the 2019 Pipeline Simulation Interest Group (PSIG) Conference**, London, UK, 14-17 May, 2019. – **special invitation to the 2019 Recipient of the Don Schroeder PSIG Scholarship**
44. S.I. Kam, "Shaping the Energy Future: The Story After 2014 and How We Have Evolved So Far," presented at **the 2019 Korean-American Ocean and Energy Association Annual Meeting**, keynote speaker and panelist, Houston, TX, 9 May, 2019. – **invitation**
45. M. Izadi, P.H. Nguyen, H. Fleifel, D. Ortiz, and S.I. Kam, "Optimization of CO₂ Foam EOR Processes: A Case Study from Lab-scale Model Fit to Field-scale Development Planning," OTC 29291 presented at **the 2019 Offshore Technology Conference**, Houston, TX, 6-9 May, 2019.
46. C. Thiberville, Y. Wang, and S.I. Kam, "Foam-Assisted Mud Cap Drilling Processes: Concept and Numerical Modeling for Field Applications," presented at **the AADE National Technical Conference and Exhibition**, Denver, CO, 9-10 April, 2019. – **invitation**
47. C. Thiberville, P. Waltrich, W. Williams, and S.I. Kam, "Novel Technology of Smart Pigging for Pipeline Leak Detection: Mathematical Formulation of the Concept," presented at **the 22nd Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 27-29 August 2018.
48. M. Izadi, P.H. Nguyen, D.P. Ortiz Maestre, and S.I. Kam, "Evaluation of Field EOR Potential for CO₂ and Water Coinjection: Simulation Study to Investigate Foaming Effect," presented at **the 22nd Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 27-29 August 2018.
49. S.I. Kam, "Energy Industry – What Happened in the Past and Where It Is Heading To," invited presentation at **the Annual SK Global Forum**, Keynote speaker and panelist, Manhattan, New York, 9-10 June 2018. – **Special invitation**
50. Y. Wang, C. Thiberville, and S.I. Kam, "Modeling of Foam-Assisted Wellbore Cleanup and Drilling Processes with Both Dry- and Wet-Foam Rheological Properties," SPE 191263 presented at **the SPE Trinidad and Tobago Section Energy Resources Conference**, Port of Spain, Trinidad and Tobago, 25 -27 June, 2018.
51. M. Izadi and S.I. Kam, "Bubble Population Balance Modeling to Predict Propagation Distance of CO₂ Foams in Enhanced Oil Recovery Processes," SPE 191202 presented at **the SPE Trinidad and Tobago Section Energy Resources Conference**, Port of Spain, Trinidad and Tobago, 25 - 27 June, 2018.
52. M. Izadi and S.I. Kam, "How to Predict CO₂ Foam Propagation Distance by Using Bubble Population Balance Model", poster-presented at **the InterPore 10th Annual Meeting and Jubilee**

Session of "Fundamentals and Applications of Foam in Permeable Media", New Orleans, LA, 14-17 May 2018.

53. M. Izadi and S.I. Kam, " Modeling Study: Mechanism of Foam Propagation in Porous Media at Different Levels of Minimum Mobilization Pressure Gradient," presented at **the 2017 American Geophysical Union (AGU) Fall Meeting**, New Orleans, LA, 11-15 December 2017.
54. H. von Holt, S.I. Kam, and W.C. Williams, "Theoretical Evaluation of Foam Proppant Carriers," presented at **the 2017 American Geophysical Union (AGU) Fall Meeting**, New Orleans, LA, 11-15 December 2017.
55. D.P. Ortiz Maestre, M. Izadi and S.I. Kam, "Modeling and Simulation of Nanoparticle-Stabilized Supercritical CO₂ Foams for EOR Applications," presented at **the 2017 LAGCOE Conference**, Lafayette, LA, Oct. 26, 2017.
56. C.J. Thiberville, Y. Wang, P. Waltrich, W.C. Williams, and S.I. Kam, "Evaluation of Software-based Early Leak Warning System in the Gulf-of-Mexico Subsea Flowlines," SPE 187417 presented at **the 2017 SPE Annual Technical Conference and Exhibition**, San Antonio, TX, 9-11 Oct. 2017.
57. C.J. Thiberville, P. Waltrich, W.C. Williams, and S.I. Kam, " Simulation Study for Evaluating a Deepwater Pipeline Leak: Improving Leak Detection Technology," presented at **the 21st Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 21-23 August 2017. = **Honorable Mention (Student Oral Presentation)**
58. M. Izadi and S.I. Kam, "A Guide to Supercritical CO₂ Foam Field Design and Implementation," presented at **the 21st Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 21-23 August 2017. -**Honorable Mention (Student Oral Presentation)**
59. P.J. Waltrich, M.S. Capovilla, W. Lee, P.C. de Souza, M. Zulqarnain, R.G. Hughes, M. Tyagi, W. Williams, S.I. Kam, A. Archer, J. Singh, H. Nguyen, J. Duhon, and C. Griffith, "Experimental Evaluation of Wellbore Flow Models Applied to Worst-Case-Discharge Calculations," SPE 184444 presented at **the 2017 SPE Health, Safety, Security, Environment & Social Responsibility Conference**, New Orleans, LA, 18-20 April, 2017.
60. C.J. Thiberville, P. Waltrich, W.C. Williams, and S.I. Kam, " Vertical and Horizontal Flow Loop Tests for Field Scale Drilling and Production Applications," presented at the **2016 Offshore Korea Technical Conference**, Busan, Korea, 19-20 October, 2016. - **invitation**
61. M. Izadi and S.I. Kam, " Mechanistic Model for Supercritical CO₂ Foam EOR: How to Fit to Laboratory Experimental Data," presented at the **20th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 17-18 August, 2016. -**Honorable Mention (Student Oral Presentation)**
62. D. Ortiz, M. Izadi and S.I. Kam, " An Overview of Worldwide Offshore EOR Applications," presented at the **20th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 17-18 August, 2016. -**Honorable Mention (Student Oral Presentation)**
63. E. Pagan, W.C. Williams, S.I. Kam, and P. Waltrich, "Modeling Churn-Annular Two-Phase Flows in Vertical Pipes for Small and Large Diameters," presented at **the 2016 Multiphase North America**, Banff, Canada, 8-10 June, 2016.
64. Y. Wang, P. Waltrich, W.C. Williams, and S.I. Kam, " An Improved Foam Model for Fracturing and Drilling Applications by Combining Wet- and Dry-Foam Rheological Properties," presented at the **AADE National Technical Conference and Exhibition**, Houston, TX, 12-13 April, 2016. - **invitation**
65. S. I. Kam, "The Shale Gas Revolution and Its Impact," presented at **the International EFVT Conference** (Environmentally Friendly Vehicle Technology), plenary session speaker, Daejeon, South Korea, Nov. 11-13, 2015.
66. W. Lee, S. Lee, and S.I. Kam, "Dimensionality-Dependent Foam Rheological Properties: How to Go from Linear to Radial Geometry for Foam Modeling and Simulation," SPE 175015 presented at the **2015 SPE Annual Technical Conference and Exhibition**, Houston, 28-30 September, 2015.
67. A. Edrisi and S.I. Kam, "New Foam Drilling Hydraulics Calculations by Using Two Foam Flow Regimes," SPE 174769 presented at the **2015 SPE Annual Technical Conference and Exhibition**, Houston, 28-30 September, 2015.
68. M. Izadi and S.I. Kam, "Model Fit to Foam Propagation Experiments in Variable Core Cross-Sectional Areas," presented at the **19th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 18-20 August, 2015.
69. Y. Wang, A. Edrisi, P. Waltrich, W.C. Williams and S.I. Kam, "Foam Drilling Hydraulics Calculations Using Two Foam-Flow Regimes," presented at the **19th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 18-20 August, 2015.

70. S. Lee and S.I. Kam, "MoC-based Modeling and Simulation of Foam EOR Processes in Multi-layered System," OTC 25716 presented at **the Offshore Technology Conference**, Houston, 4-7 May, 2015.
71. A. Edrisi and S.I. Kam, "Improved Drilling Hydraulics Calculations for Foam Drilling," presented at **the AADE National Fluids Conference and Exhibition**, Houston, 15-16 April, 2014. -invitation
72. W. Lee, M. Tyagi, D.S. Jun, M.C. Ryu, and S.I. Kam, "Flow Assurance in Subsea Pipelines: Evaluation and Management of Hydrate Formation for Condensate Reservoirs using OLGA," presented at the **17th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 21-22 August, 2013.
73. A. Edrisi and S.I. Kam, "New Foam Hydraulics Model for Deepwater Drilling?" presented at the **17th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 21-22 August, 2013.
74. S. Lee, G. Lee, and S.I. Kam, "Surfactant Preflush in Foam Enhanced Oil Recovery Processes – What Difference Does It Make?" presented at the **17th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 21-22 August, 2013.
75. A. Roostapour, paper contest, "Foam-Assisted Deep Vadose Zone Remediation," the **2013 Regional SPE Student Paper Contest**, University of Texas at Austin, April 2013. - Represented LSU PE PhD division
76. A. Edrisi and S.I. Kam, "How to Improve Current Foam Drilling Hydraulics Calculations Using a New Concept of Two Foam Flow Regimes," presented at the **AADE National Technical Conference and Exhibition**, Oklahoma City, OK, 26-27 Feb 2013. - invitation
77. A. Edrisi and S.I. Kam, "Leak-Detection Modeling for Early Warning System: How to Identify a Leak Location Using Steady-State Leak-Detection Modeling for in Long Gas Pipelines," presented at the **2013 SPE Americas E&P Health, Safety, Security & Environmental Conference**, Galveston, TX 18-20 March 2013. -invitation; First Prize Winner of the Student Paper Contest (poster and oral)
78. S.I. Kam, "Addressing the Challenges of Future Offshore Projects," presented at the **1st Offshore Korea Conference and Exhibitions**, Busan Korea 14-16 Nov., 2012. - also an invited panelist
79. A. Edrisi, R.N. Gajbhiye, and S.I. Kam, "Experimental Study of Polymer-free and Polymer-added Foams for Underbalanced Drilling: Are Two Foam-Flow Regimes Still There?" SPE 162712 presented at the **2012 SPE Canadian Unconventional Resources Conference**, Calgary, Canada, 30 Oct. – 1 Nov., 2012.
80. A. Edrisi and S.I. Kam, "A New Foam Rheology Model for Shale-Gas Foam Fracturing Applications," SPE 162709 presented at the **2012 SPE Canadian Unconventional Resources Conference**, Calgary, Canada, 30 Oct. – 1 Nov., 2012. - OnePetro Top-5 Downloads in the past 30 days (450+ counts), May 2013
81. S. Lee, G.S. Lee, and S.I. Kam, "Modeling Foam Displacement in a Multi-layer System Using Three-phase Fractional Flow Analysis," presented at the **16th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 15-16 August, 2012.
82. A. Edrisi and S.I. Kam, "New Concept of Two Foam Flow Regimes in Pipes: How to Build a Foam Model Consistently?" presented at the **16th Annual Gulf of Mexico Deepwater Technical Symposium, New Orleans**, LA, 15-16 August, 2012.
83. G.S. Lee, J.Y. Uhm, Y.I. Kim, and S.I. Kam, "Demonstration of In-situ Remediation Using a Low Concentration Surfactant in a Shallow Aquifer," presented at **the 2012 International Conference on Environmental Science and Technology**, Houston TX, June 25-29, 2012.
84. A. Edrisi and S.I. Kam, "Modeling Foam Flow in Pipes Using Two Foam-Flow Regime Concept in Drilling Application," presented at **the AADE Technical Conference and Exhibitions**, Houston, 9-11 April, 2012. -invitation
85. A. Roostapour and S.I. Kam, "Anomalous Foam Fractional Flow Solutions at High Injection Foam Quality," SPE 152907 presented at the **18th SPE Improved Oil Recovery Symposium**, Tulsa, OK, 14-18 April, 2012.
86. G.S. Lee, J.Y. Uhm, Y.I. Kim, J.h. Choi, and S.I. Kam, "Evaluation of Surfactant Enhanced Aquifer Remediation Processes for Trichloroethylene Recovery in a Field-Scale Three-dimensional Sandpack," poster-presented at the **Geological Society of America Annual Meeting**, Minneapolis, MN, 9-12 October, 2011.
87. S. Lee and S.I. Kam, "Modeling Foam Displacement in Porous Media," presented at the **15th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 11-12 August, 2011.

88. A. Edrisi and S.I. Kam, "Finding Leak Location from Steady-State Gas Pipeline Leak-Detection Modeling: Is It a Myth?" presented at the **15th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 11-12 August, 2011. – First Prize Winner of the Student Oral Presentation Session
89. R.N. Gajbhiye and S.I. Kam, "Effect of Inclination Angles on Two Foam Flow Regimes in Pipes," oral/poster presentation at **2011 AADE National Technical Conference and Exhibition**, Houston, TX, 12-14 April, 2011. – Special invitation offered to the previous year's winners
90. S. Panchadhara (supervision by S.I. Kam), "Effect of Oil on Foam-Assisted Underbalanced Drilling Processes," – First Prize Winner of the Regional SPE Student Paper Contest, Texas A&M University, April 2011; First Prize Winner of the International SPE Student Paper Contest during SPE ATCE, Denver, October 2011 (MS division) SPE 152373, 2011
91. A. Edrisi and S.I. Kam, "Mechanistic Leak Modeling For Single-Phase Gas Pipelines: Lessons Learned From Fit to Field-Scale Experimental Data," poster-presented at the **14th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 18-19 August, 2010. – First Prize Winner of the Student Poster Presentation Session
92. R.N. Gajbhiye and S.I. Kam, "The Effect of Oil on Foam-Assisted Underbalanced Drilling Processes," poster-presented at the **14th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 18-19 August, 2010.
93. A. Roostapour and S.I. Kam, "Anomalous Fractional Flow Solutions for Foams in Improved and Enhanced Oil Recovery Processes," poster-presented at the **14th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 18-19 August, 2010. – Second Prize Winner of the Student Poster Presentation Session
94. S.I. Kam, "Field-scale Foam/Surfactant-Assisted Remediation Studies in Korea" and "Mechanistic Foam Modeling and Simulation by Using Foam Catastrophe Theory," invited speaker at the **2010 Technical Meeting for Foam-Based Delivery Methods**, Pacific Northwest National Lab, Richland, Washington, 7-8 June, 2010
95. G.S. Lee, J.S. Jang, J.Y. Uhm, U.Y. Kim, U.Y., and S.I. Kam, "A Field Study of Surfactant-Enhanced In-situ Remediation by Using Horizontal Wells and Trench in a Hilly Terrain," poster-presented at **International Conference on Green Remediation**, Amherst, Massachusetts, 15-17 June, 2010.
96. R.N. Gajbhiye and S.I. Kam, "Characterizing Foam Rheology for Underbalanced Drilling Processes," selected and invited for oral/poster presentation at **2010 AADE Fluids Technical Conference and Exhibition**, Houston, TX, 6-7 April, 2010. – Third Prize Winner of the Student Oral/Poster Paper Contest
97. S.I. Kam, "Foams for Subsurface Remediation Processes – Modeling and Simulations," presented at Applied Research for the Spill Response Community in **The CLEAN GULF 2009 Conference**, New Orleans, LA, 17-19 November, 2009.
98. R.N. Gajbhiye and S.I. Kam, "Characterization of Foam Flow in Pipes and Its Implication to Underbalanced Drilling Processes," poster-presented at the **13th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 27-28 August, 2009. – First Prize Winner of the Poster Session
99. A. Edrisi, R.N. Gajbhiye, and S.I. Kam, "Mechanistic Leak Detection Modeling in Subsea Pipelines: Fundamentals and Challenges," presented at the **13th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 27-28 August, 2009.
100. A. Afsharpoor, A. Roostapour, and S.I. Kam, "Simulation of Foam Displacements in Porous Media by Using Foam Catastrophe Theory," poster-presented at the **13th Annual Gulf of Mexico Deepwater Technical Symposium**, New Orleans, LA, 27-28 August, 2009.
101. M. Namdar-Zanganeh, S.I. Kam, T. La Force, and W.R. Rossen, "The Method of Characteristics Applied to Oil Displacement by Foam," SPE 121580 presented at the **2009 SPE EUROPEC/EAGE Conference**, Amsterdam, Netherlands, 8-11 June, 2009.
102. A. Afsharpoor (supervision by S.I. Kam), "Mechanistic Simulation of Gas Injection during Surfactant-Alternating-Gas (SAG) Processes Using Foam Catastrophe Theory," the **2008 Regional SPE Student Paper Contest**, University of Texas at Austin, April 2008. – Represented LSU PE MS division
103. M. Namdar-Zanganeh, T. La Force, S.I. Kam, T.L.M. van der Heijden, and W.R. Rossen, "Fractional-flow Theory of Foam Displacements with Oil," presented at the **11th European Conference on the Mathematics of Oil Recovery (ECMOR)**, Bergen, Norway, 8-11 September, 2008.

104. A. Afsharpoor and S.I. Kam, "Mechanistic Simulation of Surfactant-Alternating-Gas Process Using Foam-Catastrophe Theory," presented at the **European Conference on Foams, Emulsions and Applications**, Noordwijk, The Netherlands, 8-10 July, 2008.
105. M. Bogdanovic and S.I. Kam, "Experimental Study of Foam Flow in Pipes: Two Distinct Flow Regimes," presented at the **European Conference on Foams, Emulsions and Applications**, Noordwijk, The Netherlands, 8-10 July, 2008.
106. R.N. Gajbhiye and S.I. Kam, "Leak Detection in Subsea Pipeline: A Mechanistic Modeling Approach With Fixed Pressure Boundaries," OTC 19347 presented at the **2008 Offshore Technology Conference**, Houston, TX, 4-8 May, 2008.
107. D.J. Mayberry and S.I. Kam, "The Use of Fractional Flow Theory for Foam Displacement in Presence of Oil," SPE 100964 presented at the **SPE Asia Pacific Oil & Gas Conference**, Adelaide, Australia, 11-13 September, 2006.
108. Z.F. Dholkawala and S.I. Kam, "Modelling of Foam Rheology in Porous Media," presented at the **5th IWA Symposium on Water Reclamation and Reuse Sustainability**, Jeju, Korea, 8-11 Nov., 2005.
109. Z.F. Dholkawala, H.K. Sarma, and S.I. Kam, "Application of Fractional Flow Theory to Foams in Porous Media," presented at the **Special Workshop** of "From the Reservoir to the Market: An Integrated and Global Optimisation Approach to Finding Petroleum Engineering and Geoscience Solutions," Adelaide, Australia, 16-17 Sep, 2005.
110. S.I. Kam and J. Choe, "Implication of Foam Generation Surface on Shallow Groundwater Remediation," presented at the **5th International Symposium on Advanced Environmental Monitoring**, Seoul, Korea, 28-30 April, 2004.
111. S.I. Kam, Q.P. Nguyen, Q. Li, and W.R. Rossen, "Dynamic Simulation with an Improved Model for Foam Generation," SPE 90938 presented at the **SPE Annual Technical Conference and Exhibition**, Houston, TX, USA, 26-29 Sept., 2004.
112. S.I. Kam, Q.P. Nguyen, Q. Li, and W.R. Rossen, "Dynamic Simulation of Foam Generation in Porous media," presented at the **European Conference on Foams, Emulsions and Applications**, Paris, France, 5-8 July, 2004.
113. S.I. Kam, W.W. Frenier, S.N. Davies, and W.R. Rossen, "Experimental Study of High-Temperature Foam for Acid Diversion," SPE 82266 presented at the **SPE European Formation Damage Conference**, The Hague, The Netherlands, 13-14 May 2003.
114. S.I. Kam and W.R. Rossen, "A Model for Foam Generation in Homogeneous Media," SPE 77698 presented at the **SPE Annual Technical Conference and Exhibition**, San Antonio, TX, USA, 29 Sept.-2 Oct., 2002.
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118. L. Cheng, S.I. Kam, M. Delshad, and W.R. Rossen, "Simulation of Dynamic Foam-Acid Diversion Processes," SPE 68916 presented at the **SPE European Formation Damage Conference**, The Hague, The Netherlands, 21-22 May 2001.
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120. S.I. Kam and W.R. Rossen, "Diffusive Growth and Compressibility of Bubbles in Porous Media," presented at the **3rd European Conference on Foams, Emulsions and Applications**, Delft, The Netherlands, Proceeding p. 359-366, 2000. **-First prize winner in honor of Dr. Earnshaw**
121. S.I. Kam, P.A. Gauglitz, and W.R. Rossen, "Effective Compressibility of a Bubbly Slurry I. Mechanisms of Bubble Growth," presented at the **Gordon Research Conference** (Modeling of Flow in Permeable Media), Andover, New Hampshire, USA, 2-7 Aug. 1998.

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