Curriculum Vitae

Baehyun Min, PhD

Professor of Climate and Energy Systems Engineering

College of Engineering, Ewha Womans University · Seoul, Republic of Korea

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Research interests

Reservoir characterization, geoenergy production optimization and uncertainty quantification
Improved and enhanced oil recovery in conventional and unconventional reservoirs
Carbon capture, utilization and storage (CCUS), and underground hydrogen production and storage
Big data analysis, top-down modeling, data assimilation and evolutionary optimization
Environmental, social and governance (ESG) assessment and climate risk modeling

Education

Seoul National University · Seoul, Republic of Korea

26 Feb 2013	PhD, Energy Systems Engineering (petroleum engineering) · GPA 4.05/4.30
26 Feb 2007	MS, Civil, Urban, and Geosystems Engineering · GPA 4.12/4.30
25 Feb 2005	BS, Civil, Urban, and Geosystems Engineering · GPA 4.01/4.30, summa cum laude

Academic appointments

Ewha Womans University · Seoul, Republic of Korea

Mar 2026–present	Professor · Climate and Energy Systems Engineering
Mar 2021–Feb 2026	Associate Professor · Climate and Energy Systems Engineering
Mar 2017–Feb 2021	Assistant Professor · Climate and Energy Systems Engineering
Aug 2023–Jul 2024	Department Head · Climate and Energy Systems Engineering
Aug 2020–Aug 2021	Department Head · Climate and Energy Systems Engineering
Aug 2021–Jul 2024	Adjunct Professor · HOKMA College of General Education
Aug 2021–Jul 2023	Associate Dean · HOKMA College of General Education
Sep 2019–present	Adjunct Professor · Interdisciplinary Program in Social Economy

The University of Texas at Austin · Austin, Texas, USA

2016–Feb 2017	Research Associate, Center for Subsurface Modeling Advisor: Mary F. Wheeler, mfw@ices.utexas.edu
Jan 2014–Aug 2016	Postdoctoral Fellow, Center for Petroleum and Geosystems Engineering Advisor: Sanjay Srinivasan, sanjays@psu.edu

Seoul National University · Seoul, Republic of Korea

Jun 2013–Jan 2014	Research Associate, Research Institute of Energy and Resources
Jun 2010–May 2013	Researcher, Research Institute of Energy and Resources Advisor for both appointments: Joe M. Kang, jmkang@snu.ac.kr

Research and professional service

Scholarly output

76 journal articles and 134 conference papers, talks and posters through November 2026.

Coauthor of 2050 Hydrogen Energy (December 2021).

Four Korean patents on optimization algorithms and one Korean software registration for oil and gas field history matching (Seoul National University Integrated Reservoir Management System, December 2015).

Technical skills

Expertise in CMG IMEX, GEM and STARS, and SLB MEPO Multiple Realization Optimizer and ECLIPSE. Proficient in SLB Petrel, Stanford Geostatistical Modeling Software (SGeMS), C/C++ and MATLAB.

Honors and awards

Nov 2025	Distinguished Paper Award, Korean Society of Mineral and Energy Resources Engineers (KSMER)
Nov 2025	Early Career Award, Korean Society of Petroleum Engineers (KSPE)
Mar 2024	Early-Career Ewha Fellow, Ewha Womans University (EWU)
2022	16th Early Career Award, KSMER
Mar 2022	2022 Research Excellence Award, EWU
Oct 2021	SPE Technical Reviewer Outstanding Service Award, Society of Petroleum Engineers (SPE)
Nov 2019	Outstanding Paper Award, KSMER
Sep 2016	Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (2016012796)
Aug 2008	Outstanding Paper Award, Symposium of Overseas Energy & Mineral Resources Development, Energy & Mineral Resources Development Association of Korea

Professional societies and service

Since 2015	American Geophysical Union (AGU), member
Since 2019	International Association for Mathematical Geosciences (IAMG), life member
Since 2018	Korean Institute of Gas (KIGAS), member and director for resources (Jan 2020–Dec 2021)
Since 2018	Korean Society for Computational Sciences and Engineering (KSCSE), member
Since 2017	Korean Society of Mineral and Energy Resources Engineers (KSMER), life member and director of general affairs (since Jan 2026)
Since 2019	Korean Society of Petroleum Engineers (KSPE), life member and editor-in-chief (since Jan 2023)
Since 2015	Society for Industrial and Applied Mathematics (SIAM), member
Since 2005	Society of Petroleum Engineers (SPE), member and officer of the Korea Section (since Feb 2020)
Since Oct 2025	IEA Greenhouse Gas R&D Programme (IEAGHG), Executive Committee member
Since Oct 2026	Korea Institute of Energy Technology Evaluation and Planning (KETEP), advisor on long-term climate and energy technologies
Mar 2009–Feb 2012	Technical research personnel, Republic of Korea Army military service

2006	President, Resources Engineering Student Association, Seoul National University

Peer review

SPE Journal, Computational Geosciences, Computers & Fluids, Energy Exploration & Exploitation, International Conference on Ocean, Offshore and Arctic Engineering, Journal of Petroleum Science and Engineering, Mathematical Geosciences, Petroleum, and MDPI journals including Energies, Water, Sustainability, and Colloids and Interfaces.

Invited talks

12 May 2025	4th Data Science for Energy Transition Workshop, University of Houston
8 May 2025	22nd KOEA Annual Forum, Korean American Oil & Gas Engineers Association (KOEA)
8 Jan 2025	Houston Office, Korea National Oil Corporation (KNOC)
12 Dec 2024	2024 Korea Energy Forum – Supply Chain Development for Decarbonization, Consulate General of the Republic of Korea in Houston & KOEA
15 Nov 2024	Louisiana State University, Craft and Hawkins Department of Petroleum Engineering
20 Sep 2024	University of Houston, Department of Petroleum Engineering
7 Feb 2024	On Dream Society
18 Nov 2023	Member’s Office Building, National Assembly
24 Oct 2023	The 9th Viet Nam-Korea Joint Committee Meeting on Science and Technology
1 Sep 2023	Seoul National University, Department of Energy Resources Engineering
3 Jun 2022	Inha University, Department of Energy Resources Engineering
17 May 2022	Energy & Mineral Resources Development Association of Korea (EMRD)
28 Apr 2022	Energy & Mineral Resources Development Association of Korea (EMRD)
16 Dec 2021	3rd Machine Learning Workshop, Korea National Oil Corporation
9 Dec 2021	Energy & Mineral Resources Development Symposium 2021
1 Dec 2021	Seoul National University, Department of Energy Resources Engineering
1 Dec 2021	Dong-a University, Department of Energy Resources Engineering
13 Nov 2021	Inha University, Department of Energy Resources Engineering
23 Sep 2021	Exploration and Production (E&P) Technical Subgroup 3rd Technical Session, KOEA
6–8 Jul 2021	CCUS Workshop, Korea National Oil Corporation
17 Jun 2021	Korea Institute of Geoscience and Mineral Resources
26 Feb 2021	Sejong University, Department of Mineral Resources Engineering
25 Feb 2021	Korea Institute for International Economic Policy
22 Feb 2021	Kongju National University
25 Jan 2021	Korea Institute of Geoscience and Mineral Resources, Pohang Branch Resources Engineering Plant Research Department
16 Dec 2020	2nd Machine Learning Workshop, Korea National Oil Corporation
21 Jul 2020	Seoul National University, Department of Energy Resources Engineering
17 Jul 2020	Korea Institute of Geoscience and Mineral Resources
22 May 2020	Sejong University, Department of Mineral Resources Engineering

13 Jan 2020	Korea Institute of Geoscience and Mineral Resources, Pohang Branch Resources Engineering Plant Research Department
19 Dec 2019	Chosun University, Department of Energy and Resource Engineering
16 Dec 2019	1st Machine Learning Workshop, Korea National Oil Corporation
6 Dec 2019	Seoul National University, Department of Energy Resources Engineering
4 Oct 2019	CCS Workshop, Inha University, Department of Energy Resources Engineering
20 Aug 2019	Exploration and Production (E&P) Technical Subgroup 3rd Technical Session, Korean-American Oil & Gas Engineers Association (KOEA)
1 Aug 2019	Seoul National University, Faculty Association
10 Jul 2019	Seoul National University, Department of Energy Resources Engineering
21 Dec 2018	Winter Machine Learning Workshop, Korean Society for Computational Sciences and Engineering
29 Nov 2018	Sejong University, Department of Mineral Resources Engineering
30 Oct 2018	KAIST, Department of Civil and Environmental Engineering
26 Oct 2018	Inha University, Department of Energy Resources Engineering
29 Sep 2018	Dong-A University, Department of Energy and Mineral Resources Engineering
16 Mar 2018	Yonsei University, Department of Earth System Sciences
12 Jan 2018	POSCO ICT
26 Dec 2017	Korea Institute of Geoscience and Mineral Resources
24 Nov 2017	Seoul National University, Department of Energy Systems Engineering
12 Jun 2017	Inha University, Department of Energy Resources Engineering
5 May 2017	Inha University, Department of Energy Resources Engineering
5 Apr 2017	Samsung Heavy Industries
17 Mar 2017	Korea Institute of Geoscience and Mineral Resources
4 Jan 2017	Sejong University, Department of Mineral Resources Engineering
29 Dec 2016	Seoul National University, Department of Energy Systems Engineering
23 Dec 2016	Ewha Womans University, Division of Sustainable Systems Engineering
25 May 2016	The University of Texas at Austin, Bureau of Economic Geology
4 Jan 2016	Kangwon National University, Department of Energy and Resources Engineering
28 Dec 2015	Seoul National University, Department of Energy Systems Engineering
11 Feb 2014	The University of Texas at Austin, Department of Petroleum and Geosystems Engineering
30 Apr 2013	Hanyang University, Department of Energy and Mineral Resources Engineering

Scholarships

Mar 2008–Feb 2011	Brain Korea 21 Fellowship
Sep 2006–Feb 2008	Seoul National University (SNU) Lecture & Research Scholarship
Sep 2005–Aug 2006	Korea National Oil Corporation Fellowship
Mar 2005–Aug 2005	SNU Superior Academic Performance Scholarship
Sep 2004–Feb 2005	SNU Development Fund Scholarship
Sep 2003–Aug 2004	SNU Eminence Scholarship

Sep 2001–Aug 2003 SNU Superior Academic Performance Scholarship

Teaching

Ewha Womans University

G18822 Carbon Capture, Utilization, and Storage System · *Fall 2026*

G16519 Energy Production Systems · *Fall 2019, 2021, 2022, Spring 2024*

G16511 Climate and Energy Lecture Series II · *Fall 2019*

G17674 Fundamentals of Petroleum and Gas Engineering · *Spring 2019, 2021, 2023*

G17613 Computational Geosciences and Optimization · *Fall 2018, 2020, 2023*

G17604 Applied Geostatistics · *Spring 2018, 2020*

G16510 Climate and Energy Lecture Series I · *Spring 2018, 2019*

G16469 Atmospheric Science Seminar II · *Fall 2017*

38541 Spatial Information Modeling · *Spring 2021–2024*

38535 Carbon Capture, Utilization & Storage · *Spring 2019–2026*

38523 Carbon Energy · *Fall 2018–2026*

38518 Basic Engineering Design for Climate and Energy Systems Engineering · *Spring 2018*

38517 Career Development in Climate and Energy Systems · *Spring 2018*

38417 Carbon and Hydrological Cycle · *Fall 2017–2019*

36573 Engineering Mathematics Practicals · *Fall 2017*

36341 Engineering Mathematics · *Fall 2017*

36339 Computer Programming & Lab · *Fall 2017*

20406 Calculus · *Spring 2017*

Seoul National University

Guest lecturer, 459.622 Advanced Reservoir Engineering (Instructor: Joe M. Kang) · *Spring 2013*

Teaching assistant, 465.313 Petroleum and Gas Engineering and Experiment (Instructor: Joe M. Kang) · *Spring 2010*

Teaching assistant, 459.623 Well Testing (Instructor: Joe M. Kang) · *Spring 2009*

Teaching assistant, 400.409 Energy Engineering (Instructor: Joe M. Kang) · *Fall 2006, 2007*

Languages

Korean and English

Research projects

Current projects at Ewha Womans University

Project and consortium terms as of November 2026.

Oct 2026–Sep 2032 Data-driven Analysis and Multiphysics Investigation of Geological Carbon Storage with the FluidFlower Research Methodology (DAISy)
Research Council of Norway · International partner

Sep 2026–Aug 2029 Energy-Depleted Survival in the Era of Climate Disasters and Multiple Risks among Young Adults in Single-Person Households: AI Based Detection, Early Warning, and Proactive Social Safety Net Development
National Research Foundation of Korea (NRF) · Participating researcher

Aug 2026–Aug 2029 Integrated Assessment of Economic Viability and Carbon Reduction for Underground Hydrogen Storage Systems in Depleted Gas Fields
NRF · Principal investigator

Jan 2026–Dec 2029 International Cluster of Excellence in Sustainable Subsurface Research (ICE-SSR)
Research Council of Norway · International partner

Oct 2025–Sep 2028 IEAGHG TCP
Ministry of Climate, Energy and Environment (MCEE) · Co-principal investigator

Jul 2025–Dec 2028 Development of an Integrated CCS System for Network Optimization and Safety Assurance
MCEE · Co-principal investigator

Mar 2025–Nov 2026 Integrated Modeling of Climate Transition and Physical Risks
Korea Institute of Geoscience and Mineral Resources (KIGAM) · Principal investigator

Mar 2023–Feb 2027 Optimal Design of Geological CO_2 Storage System using the Advanced Deep-Learning-based Automated Decision Support System
NRF · Principal investigator

Jun 2022–Dec 2026 Graduate School of Atmosphere-Climate Data Analysis
Korea Meteorological Institute (KMI) · Participating researcher

Jun 2018–Feb 2027 Priority Research Centers Program: A Study on Connection Between Long-Term Earth's Climate Change and Short-Term Regional Environmental Change
NRF · Participating researcher

Past projects at Ewha Womans University

Jun 2024–Dec 2024 Research on Modeling and Simulation of CO_2 Mineralization
Korea National Oil Corporation (KNOC) · Principal investigator

Mar 2024–Aug 2025 Review of the Suitability of the R&D in the Feasibility Study for the CCS Demonstration of the Depleted Gas Field
Korea Development Institute (KDI) · Researcher

Mar 2023–Aug 2023 K-Taxonomy Project
Private Companies · Researcher

Nov 2022–Jun 2023 Intelligent Proxy Model Development for Smart Prediction in CCUS Enabled Blue Hydrogen Project
NRF · Principal investigator

Apr 2022–Dec 2025 Development of Packaging Design and Integrated Demonstration Technology for Oil Production Plant
Korea Agency for Infrastructure Technology Advancement (KAIA) · Co-principal investigator

Jun 2022–May 2023 Frontier-1.5°
Private Companies (Hanwha Total) · Researcher

Nov 2021–Apr 2026 Development on Improvement of CO_2 Storage Efficiency Technology
MOTIE · Co-principal investigator

Jun 2021–May 2022 Frontier-1.5°
Private Companies (SK Innovation, Samsung Biologics, CJ, Shinhan Bank, KB Bank) · Researcher

May 2021–Jan 2022 Needs Assessment of Educational Programs of Health Care, Climate Change, and Job Creation for Community Capacity Building in Vietnam
National Research Foundation of Korea (NRF) · Researcher

Apr 2021–Dec 2023 Building Conceptual Design for Mid-size Integrated CCS Demonstration
MOTIE · Co-principal investigator

Feb 2021–Jan 2024	Development of Cascading Outages and Restorations Strategies of Power System considering Non-Synchronous Generators Korea Electric Power Corporation Research Institute (KEPRI) · Researcher
Dec 2020–May 2022	Nurturing of Technical Manpower for Realizing a Sustainable Energy Society Ewha Womans University (EWU) · Researcher
Mar 2021–Dec 2021	Machine Learning-based Analysis on Gas Hydrate KIGAM · Researcher
Jun 2020–Nov 2020	Study on Application of Machine Learning to Well Logging KIGAM · Principal investigator
Jul 2019–Dec 2020	Converged Future-oriented Humans Cultivation Research for Earth Sustainability Ewha Womans University · Researcher
Jul 2019–Oct 2019	Evaluation of Significant Factors Affecting CO_2-EOR in a Carbonate Reservoir Korea Gas Corporation (KOGAS) · Principal investigator
Jul 2019–Jun 2022	Regional Climate Sensitivity for East Asia NRF · Researcher
Mar 2019–Feb 2023	Development of automated decision support system based on deep learning guided by reservoir big data for optimal operation during the life cycle of the oilfield NRF · Principal investigator
Oct 2018–Sep 2021	Geology-Data-Driven Oil Recovery Prediction Using Deep Learning Techniques for Optimal Operations of Offshore Oil Fields in Vietnam NRF · Principal investigator
Mar 2017–Feb 2019	Analysis of flow-stress relationship in multiphase flow based on multi-objective optimization for efficient carbon sequestration NRF · Principal investigator
Mar 2017–Feb 2019	Flow-geomechanics analysis in multiphase flow incorporated with multi-objective optimization in heterogeneous porous media NRF · Principal investigator
Mar 2017–Feb 2019	Development of an evolutionary multi-objective optimization algorithm incorporated with adaptive mesh refinement EWU · Principal investigator
Dec 2017–Dec 2018	Optimal design of surfactant alternating CO_2 injection technique for the improvement of enhanced oil recovery and CO_2 injectivity NRF · Principal investigator
Sep 2017–Aug 2018	Development of a multiple realization optimizer coupled with a deep learning based proxy model KOGAS · Principal investigator
Nov 2017–Jan 2018	Survey on CCS-EOR KIGAM · Principal investigator
Dec 2017–Dec 2017	Survey on digital oil field market POSCO ICT · Principal investigator

Past projects at The University of Texas at Austin

Jan 2016–Jan 2019	BIGDATA: Collaborative Research: IA: F: Fractured Subsurface Characterization Using High Performance Computing and Guided by Big Data National Science Foundation (NSF) · Researcher
Feb 2016–May 2016	Simulation of Pulse Testing for Leakage Detection at a CO_2-EOR Field Bureau of Economic Geology · Researcher

Jan 2014–May 2015 Frontiers of Subsurface Energy Security
Department of Energy (DOE) · Researcher

Aug 2012–Aug 2016 Error Estimation, Data Assimilation and Uncertainty Quantification for Multiphysics and Multiscale Processes in Geological Media
NSF · Researcher

Jan 2014–Jul 2014 South Louisiana Enhanced Oil Recovery/Sequestration Demonstration Project
DOE · Researcher

Past projects at Seoul National University

Mar 2013–Dec 2013 Rate Transient Analysis for Shale Gas Reservoirs in North America
Korea National Oil Corporation (KNOC) · Researcher

Mar 2012–Jan 2013 Development Plan Research upon Consideration of Domestic and Foreign Environment
Korea Gas Corporation (KOGAS) · Researcher

Mar 2012–Aug 2012 Wedge Wells Technology for Additional Oil Sands Recovery
KNOC · Researcher

Apr 2011–Oct 2011 Study for Heavy Oil Production Technology in Canada (II)
KNOC · Researcher

Dec 2011–Feb 2012 Reserve Estimation for the O field in North America
STX Energy · Researcher

Jun 2010–May 2015 Production Performance Evaluation and Wellbore System Development for Multi-Reservoir
Korea Institute of Energy Technology Evaluation and Planning · Researcher

Jun 2010–Oct 2010 Enhanced Oil Recovery on H field
KNOC · Researcher

Apr 2008–Dec 2009 Simulation Study on New Production Scheme on the B Oil Sand Field
KNOC · Researcher

Apr 2007–Dec 2007 Estimation of Reservoir Permeability by Integrating Core and Logging Data
KNOC · Researcher

Jun 2006–Dec 2006 Optimization of Infill Well Location Using Artificial Neural Network
KNOC · Researcher

Journal articles

An asterisk marks a corresponding author. Articles are listed in reverse chronological order.

76. Thanh, H.V.* and **Min, B.***, 2027. Uncertainty-Aware Deep Segmentation of FluidFlower CO_2 Plumes for Geological Carbon Storage Monitoring. Journal of Rock Mechanics and Geotechnical Engineering 19(6) (In Press).

75. Jo, S., **Min, B.***, Jo, H., and Kim, T.-W.*, 2027. Adaptive Multi-Well Injection Scheduling for Geological CO_2 Storage in a Field-Scale Depleted Gas Reservoir Using Deep Reinforcement Learning. Journal of Rock Mechanics and Geotechnical Engineering 19(1) (In Press).

74. Thanh, H.V.* and **Min, B.***, 2026. From Observability to Forecast Value: A Persistence-Anchored Benchmark across Two Thermal Energy Storage Experiments in Fractured Rock and a High-Temperature Aquifer. Energy, article 143232 (in press).

73. Khan, B., Kanta, A.H., Khan, Al-A., Rahman, S., Salam, A., Jiang, J.-J., Aziz, A.A., Gautam, S.*, and **Min, B.***. Insights into Potential Health Risk of Heavy Metals from Farmed Fish and Fish Feed in renowned fish-growing region of Bangladesh. Scientific Reports (In Press).

72. Gautam, S.*, Rakshith, B.L., **Min, B.***, Jose, D., Mathew, J., Subith, D., P, H., Asirvatham, L.G., Joy, J. Exploratory Assessment of Soil-Water Quality and Microbial Indicators across Land-Use Conditions in a Rural Watershed of India. Scientific Reports (In Press).

71. Thanh, H.V.* and **Min, B.***, 2026. From Digital Rock to Geological Carbon Storage Decisions: Time-Resolved Carbon Dioxide Saturation Prediction with Deep Ensembles. Engineering Applications of Artificial Intelligence 182(Part 4): 116165.

70. Chae, M., Kim, T.-W.*, Jo, S., Thanh, H.V., and **Min, B.***, 2026. Impacts of Operational Controls on Hydrogen Recovery Factor in a Depleted Gas Reservoir for Underground Hydrogen Storage. Energy 362: 142246.

69. Gautam, S.*, Rakshith, B.L.*, Joy, J., Jacob, A., Subith, D., Ashlin, A., Asirvatham, L.G., Jose, D., and **Min, B.***, 2026. Microplastics and intI1 Antibiotic Resistance-Associated Marker in Rural Water Systems: An Exploratory GIS-Based Environmental Assessment. Frontiers in Microbiology 17: 1912851.

68. **Min, B.**, Jang, M., Ahn, Y., Kim, C., Chae, M., Lee, J., Kim, M., and Kim, T.-W.*, 2026. Full-Chain Commercialization Trends in CCUS and Implications for Korea: A Review Based on IEAGHG Technical Reports. Journal of the Korean Institute of Mineral and Energy Resources Engineers 63(4): 480-499.

67. Athira S.L., Swarnalatha K., Gautam, S.*, and **Min, B.***, 2026. Thermochemical Upcycling of Banana Stem Fibers into Biochar and Activated Carbon for Rapid, High-capacity Removal of Methylene Blue from Water. Scientific Reports 16: 24322.

66. Choi, S., Chae, M., Yoon, S., Kim, T.-W.*, Jo, S., Choi, Ian B., Jo, H., and **Min, B.***, 2026. Integrated Design and Optimization for a Unified Carbon Capture and Storage System Using a Machine-Learning-Assisted Multi-Objective Optimization Framework. Journal of CO_2 Utilization 106: 103402.

65. Lee, J., Jang, M., Ahn, Y., Kim, C., Chae, M., Kim, M., and **Min, B.***, 2026. Probabilistic Estimation of CCS Costs Using Monte Carlo Simulation. Journal of the Korean Institute of Mineral and Energy Resources Engineers 63(1): 31-41.

64. Lee, H., Kim, M., Choi, J.*, and **Min, B.***, 2026. Assessing the Impact of Land Use and Land Cover on Predicting In-stream Total Phosphorus using GIS and Machine Learning Models. Ecological Informatics 93: 103598.

63. Kim, T.-W., Kim, K.-J., Lee, Y.-K.*, Jo, S., Choi, S., Choi, Ian B., and **Min, B.***, 2025. Optimizing Transportation and Storage Design for CO_2 Geological Sequestration Using Multi-Objective Optimization and Nodal Analysis: A Case Study from the Gunsan Basin, South Korea. International Journal of Energy Research 2025: 6686996.

62. Ahn, Y., Choe, J., and **Min, B.***, 2025. History Matching of a Three-Dimensional Channelized Reservoir using a Beta-Convolutional Variational Autoencoder and Ensemble Smoother with Multiple Data Assimilation. Engineering Applications of Artificial Intelligence 159(Part A): 111620.

61. Arvis, A. and **Min, B.***, 2025. Updated screening criteria for enhanced oil recovery methods and their application to the T Oilfield in eastern Mongolia. Scientific Reports 15: 34670.

60. Jang, M. and **Min, B.***, 2025. Stochastic Forecasting of Long-Term Greenhouse Gas Emissions and Energy Transitions: A Comparative Analysis of the US, EU, China, and Korea. Energy 327: 136376.

59. Chae, M., Choi, S., Yoon, S., Kim, T.-W., and **Min, B.***, 2025. Modeling and Simulation of an Integrated CO_2 Transport-Injection-Storage System for Geological Sequestration in a Depleted Gas Field. Journal of the Korean Institute of Mineral and Energy Resources Engineers 62(2): 111–127.

58. Kim, Y., **Min, B.**, Sun, A.Y., Ren, B., and Jeong, H., 2025. Learning-based Pattern-Data-Driven Forecast Approach for Predicting Future Well Responses. Journal of Petroleum Exploration and Production Technology 15, 32.

57. Jin, H.-K., Park, J.-Y., Park, S.-Y., Son, B.-K., **Min, B.**, and Lee, K.-B., 2025. Effect of Preprocessing on Performances of Machine Learning-based Mineral Composition Analysis on Gas Hydrate Sediments, Ulleung Basin, East Sea. Petroleum Science 22(1): 151–162.

56. Kwon, S., Ji, M., Kim, M., Leung, J.Y., and **Min, B.***, 2025. Determination of Sequential Well Placements using a Multi-modal Convolutional Neural Network Integrated with Evolutionary Optimization. Mathematics 13(1): 36.

55. Yoon, S., Ahn, Y., Kwon, T.-H., Seo, J., Kim, H., and **Min, B.***, 2024. Core-Scale Modeling and Simulation Study on Carbon Mineralization and Rock Property Changes Induced by CO_2 Solution Injection into Basalt. Journal of the Korean Institute of Mineral and Energy Resources Engineers 61(6): 480–499.

54. Choi, S., Kim, T.-W.*, Choi, B., and **Min, B.***, 2024. Design of Integrated CO_2 Transportation-Injection-Storage System based on Multi-Objective Optimization. Journal of the Korean Institute of Mineral and Energy Resources Engineers 61(5): 347–362.

53. Kim, S., Shin, H., Park, C.H., **Min, B.**, Chung, S.H., Lee, K.B., 2024. Analysis of Non-condensable Gas Injection Timing in eMSAGP Method for Oil Sands Reservoir with Thief Zone. Journal of the Korean Institute of Mineral and Energy Resources Engineers 61(3): 182–190.

52. Jang, M., Yoon, S., Jung, S., **Min, B.***, 2024. Simulating and Assessing Carbon Markets: Application to the Korean and the EU ETSs. Renewable & Sustainable Energy Reviews 195: 114346.

51. Vo, T.H., Zhang, H., Dai, Z., Zhang, T., Tangparitkul, S., **Min, B.***, 2024. Data-Driven Machine Learning Models for the Prediction of Hydrogen Solubility in Aqueous Systems of Varying Salinity: Implications for Underground Hydrogen Storage. International Journal of Hydrogen Energy 55: 1422–1433.

50. Al-Mudhafar, W.J., Vo, T.H., Wood, D.A., **Min, B.***, 2024. Stochastic Lithofacies and Petrophysical Property Modeling for Fast History Matching in Heterogeneous Clastic Reservoir Applications. Scientific Reports 14: 22.

49. Vo, T.H., Dashtgoli, D.S., Zhang, H., and **Min, B.***, 2023. Machine-Learning-Based Prediction of Oil Recovery Factor for Experimental CO_2-Foam Chemical EOR: Implications for Carbon Utilization Projects. Energy 278 Part A: 127860.

48. Ji, M., Kwon, S., Choi, S., Kim, M., Choi, B., and **Min, B.***, 2023. Numerical Investigation of CO_2-Carbonated Water-Alternating-Gas on Enhanced Oil Recovery and Geological Carbon Storage. Journal of CO_2 Utilization 74: 102544.

47. Kim, M., Kwon, S., Ji, M., Shin, H., and **Min, B.***, 2023. Multi-Lateral Horizontal Well with Dual-Tubing System to Improve CO_2 Storage Security and Reduce CCS Cost. Applied Energy 330(Part B): 120368.

46. Park, G., Kwon, S., Ji, M., Lee, S., Choi, S., Kim, M., and **Min, B.***, 2022. Generation of High-Resolution Well Log Data by Using a Deep-Learning Algorithm. Journal of the Korean Institute of Mineral and Energy Resources Engineers 59(5): 543–561.

45. Ji, M., Kwon, S., Kim, M., Kim, S., and **Min, B.***, 2022. Generation of Synthetic Compressional Wave Velocity Based on Deep Learning: A Case Study of Ulleung Basin Gas Hydrate in the Republic of Korea. Applied Sciences 12(17): 8775.

44. Kim, B., Jeong, J.Y., **Min, B.***, and Nam, M.J.*, 2022. Applicability Analysis on Estimation of Spectral Induced Polarization Parameters Based on Multi-objective Optimization. Geophysics and Geophysical Exploration 25(3): 99–108.

43. Lee, H.W., Kim, M., Son, H.W., **Min, B.***, and Choi, J.H.*, 2022. Machine-Learning-Based Water Quality Management of River with Serial Impoundments in the Republic of Korea. Journal of Hydrology: Regional Studies 41: 101069.

42. Jo, S., Jeong, H.*, **Min, B.***, Park, C., Kim, Y., Kwon, S., and Sun, A., 2022. Efficient Deep-Learning-Based History Matching for Fluvial Channel Reservoirs. Journal of Petroleum Science and Engineering 208: 109247.

41. Jeong, D., Yoshioka, K., Jeong, H., and **Min, B.***, 2021. Sequential Short-Term Optimization of Gas Lift using Linear Programming: A Case Study of a Mature Oil Field in Russia. Journal of Petroleum Science and Engineering 205: 108767.

40. Cho, J., **Min, B.***, Kwon, S., Park, G., and Lee, K.S., 2021. Compositional Modeling with Formation Damage to Investigate the Effects of CO_2-CH_4 Water Alternating Gas (WAG) on Performance of Coupled Enhanced Oil Recovery and Geological Carbon Storage. Journal of Petroleum Science and Engineering 205: 108795.

39. Kwon, S., Ji, M., Park, G., **Min, B.***, and Jeong, H., 2021. Analysis on Data Disclosure and Reservoir Model of the Volve Oilfield in the North Sea. Journal of the Korean Institute of Mineral and Energy Resources Engineers 58(4): 353–363.

38. Huy, N.X., Dung, T.Q., Trang, N.T.T., Hoang, C.M., **Min, B.**, Delia, A.A.-M., and Binh, K.N., 2021. Modelling the Petroleum Generation and Migration of Tertiary Source Rocks in the Deepwater of Phu Khanh Basin, Offshore Vietnam. International Journal of Oil, Gas and Coal Technology 28(2): 137–159.

37. Kwon, S., Park, G., Jang, Y., Cho, J., Chu, M.-G., and **Min, B.***, 2021. Determination of Oil Well Placement using Convolutional Neural Network Coupled with Robust Optimization under Geological Uncertainty. Journal of Petroleum Science and Engineering 201: 108118.

36. Ji, M., Kwon, S., Park, G., **Min, B.***, and Huy, N.X., 2021. Prediction of Water Saturation from Well Log Data using Deep Learning Algorithms. Journal of the Korean Institute of Mineral and Energy Resources Engineers 58(3): 215–226.

35. Park, G., Kwon, S., Ji, M., **Min, B.***, Huy, N.X., Kim, K., Kim, S., and Lee, K.B., 2021. A Review on Deep Learning Applications to Logging Data for Modeling Gas-Hydrate-Bearing Sediments. Journal of the Korean Institute of Mineral and Energy Resources Engineers 58(3): 161–178.

34. Oh, B., Kim, Y., Lee, W., Jang, Y., **Min, B.**, and Jeong, H., 2021. Optimization of Well Operation in a Carbonate Reservoir Using Stochastic Simplex Approximate Gradient. Journal of the Korean Institute of Mineral and Energy Resources Engineers 58(3): 119–129.

33. Cho, J., **Min, B.**, Jeong, M., Lee, Y., and Lee, K.S. 2021. Modeling of CO_2-LPG WAG with Asphaltene Deposition to Predict the Coupled Enhanced Oil Recovery and Storage Performance. Scientific Reports 11: 2082.

32. Jang, Y., Park, G., Kwon, S., and **Min, B.***, 2020. Analysis of Hydraulic Fracture Propagation using a Mixed Mode and a Uniaxial Strain Model Considering Geomechanical Properties in a Naturally Fractured Shale Reservoir. Geofluids 2020: 6690848.

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64. Cho, J., Park, G., Kwon, S., Lee, K.S., Lee, H., and **Min, B.**, 2020. Compositional Modeling to Analyze the Effects of CH_4 on Coupled Carbon Storage and Enhanced Oil Recovery. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.

63. Jang, Y., **Min, B.**, and Lee, S., 2020. Integration of High-Fidelity Hydro-Mechanical Model-Based Phase Field for Productivity Evaluation at a Shale Gas Reservoir. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.

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61. Kim, M., Shin, H., and **Min, B.**, 2020. Machine Learning-Based Prediction of the Shale Barrier Size and Spatial Location Using Key Features of SAGD Production Curves. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.

60. Kwon, S., Park, G., Jang, Y., Cho, J., Chu, M.-g., and **Min, B.**, 2020. Selection of an Oil Well Placement using Convolutional Neural Network and Robust Optimization. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.

59. Park, G., Kwon, S., Ji, M., Kim, K., Kim, S., Lee, K., and **Min, B.**, 2020. Review of Well Logging Analysis using Neural Networks. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.

58. Kim, S., Lee, K.B., Lim, J., Jeong, H., and **Min, B.**, 2020. Improvement of History Matching Performance by Ensemble Smoother from Pseudo-ensemble Smoother using Convolutional Encoder-Decoder. 11th International Geostatistics Congress, Toronto, Canada, 17–21 Aug.

57. **Min, B.**, Chu, M., Kwon, S., Park, G., Kim, S., and Huy, N.X., 2019. Determination of Infill Well Placement at a Petroleum Reservoir Using a Data-driven Multi-modal Convolutional Neural Network with Sequential Training. 2019 AGU Fall Meeting, San Francisco, USA, 9–13 Dec.

56. Kwon, S., Chu, M., Park, G., **Min, B.**, and Lim, J., 2019. Optimal Structure of a Data-driven Multi-modal Convolutional Neural Network for Determination of Infill Well Placement at a Petroleum Reservoir. 2019 AGU Fall Meeting, San Francisco, USA, 9–13 Dec.

55. Kim, K., Han, J., Lee, T., **Min, B.**, Kwon, S., and Park, G., 2019. A Preliminary Evaluation of the CO_2 EOR Efficiency in Carbonate Reservoirs. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.

54. Arvis, A., Chon, B., **Min, B.**, and Ahn, T., 2019. Analysis of EOR Screening Based on the Reservoir Characteristics of the Mongolian “A” Field. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.

53. Kim, S., Lee, K.B., Lim, J., Jeong, H., and **Min, B.**, 2019. Ensemble Smoother-Neural Network for History Matching of a Channelized Gas Reservoir. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.

52. Park, G., Han, W., **Min, B.**, Kim, K.-Y., and Kim, T., 2019. Using Hybrid Multi-Objective Optimization to Indicate the Optimal Injection Conditions in Geologic CO_2 Sequestration. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.

51. Kim, S., **Min, B.**, and Choe, J., 2019. Application of a Serial Denoising Autoencoder for Geological Plausibility of a Channelized Reservoir in History Matching. Petroleum Geostatistics 2019, Florence, Italy, 2–6 Sep.

50. **Min, B.**, Chu, M., Kwon, S., Park, G., Kim, S., and Huy, N.X., 2019. Optimization of Infill Well Placement Using a Data-driven Multi-modal Convolutional Neural Network with Sequential Training. 20th Annual Conference of the International Association for Mathematical Geosciences, State College, Pennsylvania, 10–16 Aug.

49. **Min, B.**, Kim, S., Chu, M., Kwon, S., and Park, G., 2019. History Matching of a Channelized Gas Reservoir using a Serial Denoising Autoencoder Coupled with ES-MDA. 20th Annual Conference of the International Association for Mathematical Geosciences, State College, Pennsylvania, 10–16 Aug.

48. Yoon, H., Kim, J., and **Min, B.**, 2019. Investigation on Accuracy of Various Fractional Step Methods in Poroelasticity. 2019 Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Daejeon, Republic of Korea, 9–10 May.

47. Chu, M., **Min, B.**, Kwon, S., Park, G., and Yoon, H., 2019. Improving the Predictability of Multi-modal Convolutional Neural Network using Sequential Training for Infill-well Placement Optimization. 2019 Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Daejeon, Republic of Korea, 9–10 May.

46. Yoon, H., Kim, J., and **Min, B.**, 2019. Investigation on Accuracy of Various Fractional Step Methods in Poroelasticity. 2019 Spring Conference of the Korean Institute of Gas, Daegu, Republic of Korea, 8–10 May.

45. Chu, M., **Min, B.**, Kwon, S., Park, G., and Yoon, H., 2019. Improving the Predictability of Multi-modal Convolutional Neural Network using Sequential Training for Infill-well Placement Optimization. 2019 Spring Conference of the Korean Institute of Gas, Daegu, Republic of Korea, 8–10 May.

44. **Min, B.**, Chu, M., Kwon, S., and Kim, S., 2018. Selection of a Vertical Infill Well Placement Using a Multi-Modal Convolutional Neural Network Trained Using Reservoir Simulation. AGU Fall Meeting, Washington D.C., District of Columbia, 10–14 Dec.

43. **Min, B.**, Kim, S., Kwon, S., and M. Chu. 2018. History Matching of a Channelized Gas Reservoir Using ES-MDA Integrated with an Unsupervised Serial Denoising Autoencoder. AGU Fall Meeting, Washington D.C., District of Columbia, 10–14 Dec.

42. **Min, B.**, Chu, M., Kwon, S., and Kim, S., 2018. Evaluation of Well Productivity using Multi-Modal Convolutional Neural Network. 2018 Fall Conference of the Korean Institute of Gas, Jeju Island, Republic of Korea, 8–9 Nov.

41. Chu, M., **Min, B.**, Kwon, S., and Kim, S., 2018. Selection of an Optimal Infill-well Location using a Multi-modal Convolutional Neural Network in the Channelized Reservoir. 2018 Fall Joint Conference of KSMER-KSRM-KSEG, Jeongseon, Republic of Korea, 7–9 Nov.

40. Kim, S., Chu, M., Kwon, S., and **Min, B.**, 2018. Utilization of Serial Denoising Autoencoder for Improvement of Geological Plausibility during History Matching of a Channelized Reservoir using Ensemble Data Assimilation Techniques. 2018 Fall Joint Conference of KSMER-KSRM-KSEG, Jeongseon, Republic of Korea, 7–9 Nov.

39. Kim, S. and **Min, B.**, 2018. Hybrid Sparse Dictionary Construction Using K-SVD and DCT for History Matching by ES-MDA. The 13th International EnKF Workshop, Bergen, Norway, 28–30 May.

38. Kim, S. and **Min, B.**, 2018. Construction of Hybrid Sparse Dictionary Matrices for History Matching using ES-MDA Coupled with Sparse Coding. 2018 Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Seoul, Republic of Korea, 17–18 May.

37. Chu, M., Kwon, S., and **Min, B.**, 2018. Well Placement Optimization using Multi-Modal Convolutional Neural Networks. 2018 Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Seoul, Republic of Korea, 17–18 May.

36. Jeong, H., Lee, H., and **Min, B.**, 2018. Fast Forecast of Future Reservoir Performance Using Machine Learning. Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Seoul, Republic of Korea, 17–18 May.

35. Lu, X., Lotfollahi, M., Ganis, B., **Min, B.**, and Wheeler, M.F., 2018. Integrated Compositional Simulation and Optimization for Gas Mobility Control Techniques during CO_2 Sequestration in Cranfield. InterPore 10th Annual Meeting and Jubilee, New Orleans, Louisiana, USA, 14–17 May.

34. Lu, X., Lotfollahi, M., Ganis, B., **Min, B.**, and Wheeler, M.F., 2018. An Integrated Flow-Geomechanical Analysis of Flue Gas Injection in Cranfield. SPE Improved Oil Recovery Conference, Tulsa, Oklahoma, USA, 14–18 Apr.

33. **Min, B.** and Lee, S., 2017. Numerical Analysis on Optimization of Hydraulic Fracturing using a Phase-field Fracture Propagation Model Coupled with Genetic Algorithm. 2017 Fall Joint Conference of KSMER-KSRM-KSEG, Busan, Republic of Korea, 1–3 Nov.

32. **Min, B.**, Wheeler, M.F., and Sun, A., 2017. Utilization of Multi-Objective Optimization for Pulse Testing Dataset from a Geological CO_2 Sequestration Site. SIAM Geosciences, Erlangen, Germany, 11–14 Sep.

31. **Min, B.**, 2017. Compositional Simulation of Pulse Tests for Monitoring a Migration of CO_2 Plume at Cranfield, Mississippi, USA. 2017 Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Yeosu, Republic of Korea, 25–26 May.

30. **Min, B.**, Wheeler, M.F., and Sun, A., 2017. Parallel Multiobjective Optimization for the Coupled Compositional/Geomechanical Modeling of Pulse Testing. SPE Reservoir Simulation Conference, Montgomery, Texas, 20–22 Feb.

29. **Min, B.**, Wheeler, M.F., Sun, A., 2016. Multi-Objective Optimization of Pulse Testing Results using Parallel Compositional Simulations for Reservoir Characterization of a CO_2-EOR Field in Mississippi. AGU Fall Meeting, San Francisco, California, 12–16 Dec.
28. Ping, J., Al-Hinai, O., Srinivasan, S., Wheeler, M.F., and **Min, B.**, 2016. History Matching for Fractured Reservoirs using Mimetic Finite Differences and Ensemble Kalman Filter. AGU Fall Meeting, San Francisco, California, 12–16 Dec.
27. **Min, B.**, 2016. Application of Evolutionary Optimization Algorithms to Optimal Design of Hydraulic Fracturing and Subsurface Modeling of Carbon Sequestration Sites. The 25th Annual Industrial Affiliates Meeting of the Center for Subsurface Modeling at the University of Texas at Austin, Austin, Texas, 1–2 Nov.
26. **Min, B.**, Srinivasan, S., Wheeler, M.F., and Nwachukwu, A., 2016. Selection of Geologic Models based on Pareto-Optimality using Surface Deformation and CO_2 Injection Data at the In Salah Gas Project, Central Algeria. SPE Annual Technical Conference and Exhibition, Dubai, Arab Emirates, 26–28 Sep.
25. Suk, H., **Min, B.**, Kang, J.M., and Jeong, C., 2016. Prediction of Facies Distribution in a Clastic Reservoir using a Hidden Markov Model Combined with an Expectation-Maximization Algorithm. Proceedings of the ASME International Conference on Ocean, Offshore and Arctic Engineering. 19–24 Jun.
24. **Min, B.**, Kang, J.M., Chung, S., Chu, M., Jo, S., Leem, J., Lim, S., and Suk, H., 2016. Development of Integrated Reservoir Management Software based on Multi-Evolution Algorithm. Spring Conference and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Wonju, Republic of Korea, 14–15 Apr.
23. **Min, B.**, Srinivasan, S., Wheeler, M.F., and Nwachukwu, A., 2016. Selection of Geologic Models based on Pareto-Optimality using Surface Deformation and CO_2 Injection Data. Geological CO_2 Storage IAP at the University of Texas at Austin, Austin, Texas, 18 Feb.
22. Nwachukwu, A., Srinivasan, S., Wheeler, M.F., and **Min, B.**, 2016. Application of Model Selection for History Matching the In Salah CO_2 Sequestration Field in Algeria. Geological CO_2 Storage IAP at the University of Texas at Austin, Austin, Texas, 18 Feb.
21. **Min, B.**, Nwachukwu, A., Srinivasan, S., and Wheeler, M.F., 2015. Model Selection Coupled with a Particle Tracking Proxy using Surface Deformation Data for Monitoring CO_2 Plume Migration. AGU Fall Meeting, San Francisco, California, 14–18 Dec.
20. Tavakoli, R., Ping, J., **Min, B.**, Srinivasan, S., and Wheeler, M.F., 2015. History Matching and Parameter Estimation for a CO_2 Sequestration Field Project using Ensemble-based Algorithms. AGU Fall Meeting, San Francisco, California, 14–18 Dec.
19. **Min, B.**, 2015. Application of Multi-Objective Optimization to Reservoir Characterization and Production Optimization. The 24th Annual Industrial Affiliates Meeting of the Center for Subsurface Modeling at the University of Texas at Austin, Austin, Texas, 3–4 Nov.
18. **Min, B.**, Srinivasan, S., and Wheeler, M.F., 2015. Pareto-Optimization of Expanding Solvent Steam Assisted Gravity Drainage Using an Improved Semi-Analytical Model. CPGE2015− Research Showcase in Petroleum and Geosystems Engineering, Austin, Texas, 8 Sep.
17. **Min, B.**, Kannan, K., Srinivasan, S., and Wheeler, M.F., 2015. Predicting and Optimizing the Performance of the Expanding Solvent Steam Assisted Gravity Drainage (ES-SAGD) Process using an Improved Semi-Analytical Surrogate Model. SIAM Conference on Mathematical and Computational Issues in the Geosciences, Stanford, California, USA, 29 Jun.–2 Jul.
16. Suk, H., Kang, J.M., Chung, S., and **Min, B.**, 2015. A Prediction of Reservoir Facies from Well Log Data using hidden Markov Models. Spring Conference & Exhibition of Korean Society of Mineral and Energy Resources Engineers, Daejeon, Republic of Korea, 29–30 Apr.

15. **Min, B.**, Kannan, K., and Srinivasan, S., 2014. Multi-Objective Optimization for ES-SAGD Process. The 23rd Annual Industrial Affiliates Meeting of the Center for Subsurface Modeling at the University of Texas at Austin, Austin, Texas, 18–19 Nov.
14. Kannan, K., **Min, B.**, and Srinivasan, S., 2014. ES-SAGD Design using Hybrid Multi-Objective Optimization Approaches. CPGE2014−Research Showcase in Petroleum and Geosystems Engineering, Austin, Texas, 6–7, Nov.
13. Moon, D.H., **Min, B.**, Lim, J.H., Chung, S., and Kang, J.M., 2014. Optimization of Infill Well Placement using Multi-Objective Genetic Algorithm Coupled with Real Options. Joint Fall Conference_KSMER KSRM KSEG MIRECO KNOC, Jeju Island, Republic of Korea, 6–8 Nov.
12. Kim, W.S., Kim, J.J., Park, J.H., Kang, J.M., **Min, B.**, Lee, H.Y., and Byun, J.H., 2013. Development of Rate Transient Analysis Tool for Shale Gas Reserve Estimation. Autumn Conference & Exhibition of Korean Society of Mineral and Energy Resources Engineers, Chuncheon, Republic of Korea, 17–18 Oct.
11. Song, J.H., Kang, J.M., Lee, H.Y., **Min, B.**, Jo, S.R., 2013. Modeling of Annular Flow in the Horizontal Pipe based on Dissipated Energy Minimization Theory. Autumn Conference & Exhibition of Korean Society of Mineral and Energy Resources Engineers, Chuncheon, Republic of Korea, 17–18 Oct.
10. Jeong, S.H., Chung, S., **Min, B.**, Kang, J.M., and Park, C., 2013. Optimal Operation of Fast-SAGD Process Considering Steam Channeling among Vapor Chambers. International Offshore and Polar Engineering Conference, Anchorage, Alaska, 30 Jun.–5 Jul.
9. **Min, B.**, Park, C., Jang, I.S., Lee, H.Y., Chung, S., and Kang, J.M., 2013. Multi-Objective History Matching Allowing for Scale-Difference and the Interwell Complication. EAGE Conference & Exhibition incorporating with SPE EUROPEC, London, UK, 10–13 Jun.
8. **Min, B.**, Chung, S., Kim, W.S., Kang, J.M., Song, C.H., and Yeo, M.J., 2012. Sensitivity Analysis for Heavy Oil Production: Case study on A field in Canada. Spring Conference & Exhibition of Korean Society for Geosystem Engineering, Jeju, Republic of Korea, 3–4 May.
7. Song, C.H., Seo, J.G., Yeo, M.J., Jin, G.H., **Min, B.**, and Chung, S., 2012. Methods to Control Water Coning in Heavy Oil Field with Bottom Aquifer. Spring Conference & Exhibition of Korean Society for Geosystem Engineering, Jeju, Republic of Korea, 3–4 May.
6. **Min, B.**, Park, C., Kang, J.M., Ahn, T.W., Chung, S., and Kim, S.Y., 2011. Optimal Injector Placement Coupled Multi-Objective Genetic Algorithm with a Black-Oil Simulator in Waterflooding Project. EAGE Conference & Exhibition incorporating with SPE EUROPEC, Vienna, Austria, 23–26 May.
5. D.J. Kam, Park, C., Kang, J.M., **Min, B.**, and Chung, S., 2011. Injection Strategy of Solvent-Aided Thermal Process for Optimal Bitumen Production in Oil Sand Reservoirs. EAGE Conference & Exhibition incorporating with SPE EUROPEC, Vienna, Austria, 23–26 May.
4. Chung, S., **Min, B.**, Park, C., Kang, J.M., and Kam, D.J., 2011. Operation Strategy of Steam and Gas Push in the Presence of Top Water Thief Zone. EAGE Conference & Exhibition incorporating with SPE EUROPEC, Vienna, Austria, 23–26 May.
3. **Min, B.** and Kang, J.M., 2006. Reservoir Performance Prediction using Artificial Neural Network. Autumn Conference & Exhibition of Korea Society for Energy Engineering, Jeju, Republic of Korea, 23 Nov.
2. Park, H.J., Lim, J.S., Kang, J.M., Roh, J.Y., and **Min, B.**, 2006. A Hybrid Artificial Intelligence Method for the Optimization of Integrated Gas Production System. Paper SPE 100997 presented at the SPE Asia Pacific Oil & Gas Conference and Exhibition, Adelaide, Australia, 11–13 Sep.
1. Park, H.J., Lim, J.S., Roh, J.Y., Kang, J.M., and **Min, B.**, 2006. Production System Optimization of Gas Fields using Hybrid Fuzzy/Genetic Approach. Paper SPE 100179 presented at the SPE EUROPEC/EAGE Annual Conference and Exhibition, Vienna, Austria, 12–15 Jun.

Research supervision

Postdoctoral researchers

Sep 2023–present	Youngbin Ahn, PhD
Jun 2022–present	Minchul Jang, PhD
Nov 2022–Jun 2023	Vo Thanh Hung, PhD (now at Waseda University, Japan, formerly at Taisei)
Sep 2020–Aug 2023	Min Kim, PhD (now at KNOC)
Mar 2020–May 2022	Jinhyung Cho, PhD (now at KEPCO)
Jan 2020–Apr 2022	Youngho Jang, PhD (now at KETEP)
Mar 2019–Jun 2019	Hyunchul Yoon, PhD (now at KIGAM)
Sep 2017–Feb 2019	Min-gon Chu, PhD (now at Samsung Electro-Mechanics, formerly at KNOC)
Feb 2018–Dec 2018	Sungil Kim, PhD (now at KIGAM)

Graduate researchers

Mar 2026–present	Jiin Lee, MS student
Sep 2025–present	Chaeyun Kim, PhD student
Mar 2025–present	Minkyung Chae, MS student
Mar 2025–Aug 2025	Suin Choi · PhD student Subsequently a PhD student at The University of Texas at Austin
Mar 2023–Feb 2025	Suin Choi · MS student
Mar 2025–Aug 2025	Soeun Yoon · PhD student Subsequently at POSCO International
Mar 2023–Feb 2025	Soeun Yoon · MS student
Sep 2019–present	Anuudari Arvis, PhD candidate
Mar 2021–Aug 2023	Minsoo Ji, Master of Engineering (now at POSCO International)
Mar 2019–Aug 2021	Gayoung Park, Master of Engineering
Mar 2018–Feb 2024	Seoyoon Kwon, PhD (now at SLB)

Undergraduate researchers

Jul 2025–Feb 2026	Jiin Lee
Jul 2025–Jan 2026	Yuna Hong
Jan 2025–Jan 2026	Myungjoo Kang
Jan 2025–Jan 2026	Kiwon Kim
Jan 2025–present	Minchae Kim
Jan 2025–Aug 2025	Jimin Kim
Jun 2024–Feb 2025	Ilyeo Park
Jan 2023–Feb 2025	Minkyung Chae
Jul 2024–Dec 2024	Yoonseo Oh (consultant at KEI Consulting)
Jul 2024–Dec 2024	Jooeun Seo (manager at SK Eternix)
Jul 2024–Dec 2024	Seyoung Yang (intern at Schneider Electric)
Jul 2024–Aug 2024	Yeram Jeong
Mar 2024–Oct 2024	Soyeon Shin (engineer at POSCO International)
Jan 2024–Aug 2024	Huiyun Jin
Jan 2024–Aug 2024	Eugene Suh
Apr 2023–Dec 2023	Sohyun Jang (ESG analyst at Samjong KPMG)
Jul 2022–Jun 2023	Seoyoung Jung
Jul 2022–Sep 2022	Seonju Kim (ESG analyst at Sejong)
Jul 2021–Aug 2021	Soyoung Kang
Jan 2020–Dec 2022	Seri Lee (ESG analyst at Sustinvest; formerly at SPC Group)
Jul 2019–Aug 2019	Youngeun Kim
Jul 2019–Aug 2019	Jiwon Choi (ESG analyst at Kim & Chang; formerly ESG analyst at Samjong KPMG; formerly ESG analyst at Samil PwC)
Jan 2019–Feb 2019	Songah Shin (now at SLB Japan)
Jan 2019–Feb 2019	Jeonghyun Kim