

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

RESEARCH INTERESTS

- Reservoir Characterization, Production Optimization & Uncertainty Quantification
- Improved/Enhanced Oil Recovery (IOR/EOR) in Conventional & Unconventional Resources
- Blue Hydrogen with Carbon Capture, Utilization & Storage (CCUS)
- Big Data Analytics, Top-Down Modeling, Data Assimilation & Evolutionary Optimization
- ESG and Sustainable Energy System

EDUCATION

Seoul National University, Seoul, Republic of Korea

Ph.D. in Petroleum Engineering · GPA: 4.05 / 4.30 Feb 26, 2013

M.S. in Civil, Urban, and Geosystems Engineering · GPA: 4.12 / 4.30 Feb 26, 2007

B.S. in Civil, Urban, and Geosystems Engineering · GPA: 4.01 / 4.30 (*summa cum laude*) Feb 25, 2005

WORK EXPERIENCE

Ewha Womans University, Seoul, Republic of Korea

Associate Dean HOKMA College of General Education Aug 2021 – Present

Department Head Department of Climate and Energy Systems Engineering Aug 2020 – Aug 2021

Associate Professor Department of Climate and Energy Systems Engineering Mar 2021 – Present

Department of Social Economy Mar 2021 – Present

Assistant Professor Department of Climate and Energy Systems Engineering Mar 2017 – Feb 2021

Department of Social Economy Sep 2019 – Feb 2021

- Petroleum Engineering & Carbon Capture, Utilization, and Storage
- Big Data Analytics Using Artificial Intelligence
- Social Value and Acceptance Coping with Climate Change and Energy Transition

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

Research Associate Center for Subsurface Modeling, Sep 2016 – Feb 2017
under Mary F. Wheeler, Ph.D. (mfw@ices.utexas.edu)

- Simulate and avoid CO₂ leakage at a geological carbon capture and storage field
- Integrate coupled flow-geomechanics simulators with global- and multi-objective optimization algorithms

Postdoctoral Fellow Center for Petroleum and Geosystems Engineering, Jan 2014 – Aug 2016
under Sanjay Srinivasan, Ph.D. (sanjays@psu.edu)

- Extended the model selection framework with multi-objective optimization based on Pareto-optimality
- Designed a semi-analytical model of thermal injection at heavy oil reservoirs and coupled the model with an evolutionary multi-objective optimization algorithm for unbiased uncertainty quantification

Seoul National University, Seoul, Republic of Korea

Research Associate Research Institute of Energy and Resources, Jun 2013 – Jan 2014
under Joe M. Kang, Ph.D. (jmkang@snu.ac.kr)

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Member, Korean Society for Computational Sciences and Engineering (KSCSE) Since 2018
- Lifetime Member, Korean Society of Mineral and Energy Resources Engineers (KSMER) Since 2017
- Lifetime Member, Korea Society of Petroleum Engineers (KSPE) Since 2019
- Member, Society for Industrial and Applied Mathematics (SIAM) Since 2015
- Member, Society of Petroleum Engineers (SPE) Since 2005
- Technical Research Personnel, Military Service of the Korea Army Mar 2009 – Feb 2012
- President, Student Association at Resources Engineering in Seoul National University 2006

JOURNALS & CONFERENCE REFEREED

- Reviewer, SPE Reservoir Evaluation & Engineering
- Reviewer, Computational Geosciences
- Reviewer, Computers and Fluids
- Reviewer, Energy Exploration & Exploitation
- Reviewer, International Conference on Ocean, Offshore & Arctic Engineering
- Reviewer, Journal of Petroleum Science and Engineering
- Reviewer, Mathematical Geosciences
- Reviewer, MDPI (e.g., Energies, Water, Sustainability, Colloids and Interfaces)
- Reviewer, Petroleum

INVITED TALKS

- Inha University, Department of Energy Resources Engineering Jun 3, 2022
- Energy & Mineral Resources Development Association of Korea (EMRD) May 17, 2022
- Energy & Mineral Resources Development Association of Korea (EMRD) Apr 28, 2022
- 3rd Machine Learning Workshop, Korea National Oil Corporation Dec 16, 2021
- Energy & Mineral Resources Development Symposium 2021 Dec 9, 2021
- Seoul National University, Department of Energy Resources Engineering Dec 1, 2021
- Dong-a University, Department of Energy Resources Engineering Dec 1, 2021
- Inha University, Department of Energy Resources Engineering Nov 13, 2021
- Exploration and Production (E&P) Technical Subgroup 3rd Technical Session, Korean-American Oil & Gas Engineers Association (KOEAA) Sep 23, 2021
- CCUS Workshop, Korea National Oil Corporation Jul 6-8, 2021
- Korea Institute of Geoscience and Mineral Resources Jun 17, 2021
- Sejong University, Department of Mineral Resources Engineering Feb 26, 2021
- Korea Institute for International Economic Policy Feb 25, 2021
- Kongju National University Feb 22, 2021
- Korea Institute of Geoscience and Mineral Resources, Pohang Branch Resources Engineering Plant Research Department Jan 25, 2021
- 2nd Machine Learning Workshop, Korea National Oil Corporation Dec 16, 2020
- Seoul National University, Department of Energy Resources Engineering Jul 21, 2020
- Korea Institute of Geoscience and Mineral Resources Jul 17, 2020
- Sejong University, Department of Mineral Resources Engineering May 22, 2020

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

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

SCHOLARSHIPS

- Brain Korea 21 Fellowship Mar 2008 – Feb 2011
- Seoul National University (SNU) Lecture & Research Scholarship Sep 2006 – Feb 2008
- Korea National Oil Corporation Fellowship Sep 2005 – Aug 2006
- SNU Superior Academic Performance Scholarship Mar 2005 – Aug 2005
- SNU Development Fund Scholarship Sep 2004 – Feb 2005
- SNU Eminence Scholarship Sep 2003 – Aug 2004
- SNU Superior Academic Performance Scholarship Sep 2001 – Aug 2003

TEACHING EXPERIENCE

Ewha Womans University, Seoul, Republic of Korea

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- G16519 Petroleum Production Systems Fall 2019
- G16511 Climate and Energy Lecture Series II Fall 2019
- G17674 Fundamentals on Petroleum and Gas Engineering Spring 2019-2021
- G17613 Computational Geosciences and Optimization Fall 2018, 2020
- 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 for Climate and Energy Systems Engineering Spring 2021
- 38535 Introduction to Carbon Capture & Storage Spring 2019-2021
- 38523 Introduction to Energy Resources Fall 2018-2021
- 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 Engineer Mathematics Fall 2017
- 36339 Computer Programming & Lab Fall 2017
- 20406 Calculus Spring 2017

Seoul National University, Seoul, Republic of Korea

- *Guest Lecturer* of 459.622 Advanced Reservoir Engineering (Instructor: Joe. M. Kang). Spring 2013
- *Teaching Assistant* of 465.313 Petroleum and Gas Engineering and Experiment (Instructor: Joe. M. Kang). Spring 2010
- *Teaching Assistant* of 459.623 Well Testing (Instructor: Joe. M. Kang). Spring 2009
- *Teaching Assistant* of 400.409 Energy Engineering (Instructor: Joe. M. Kang) Fall 2006, 2007

LANGUAGE

- Korean, English

CURRENT RESEARCH PROJECTS

10 projects at Ewha Womans University, Seoul, Korea

- Graduate School of Atmosphere-Climate Data Analysis (Researcher) Jun 2022
Funded by the Korea Meteorological Institute (KMI) – Dec 2026
- Froniter-1.5D (Researcher) Jun 2022
Funded by Private Companies (Hanwha Total) – May 2023
- Development of Packaging Design and Integrated Demonstration Technology for Oil Production Plant (Co Principal Investigator, Co-PI) Funded by the Korea Agency for Infrastructure Technology Advancement (KAIA) Apr 2022
– Dec 2028
- Development on Improvement of CO₂ Storage Efficiency Technology (Co-PI) Funded by the Ministry of Trade, Industry and Energy (MOTIE) Nov 2021
– Oct 2025
- Needs Assessment of Educational Programs of Health Care, Climate Change, and Job Creation for Community Capacity Building in Vietnam (Researcher) May 2021
Funded by National Research Foundation of Korea (NRF) – Jan 2022

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Building Conceptual Design for Mid-size Integrated CCS Demonstration (Co-PI) Apr 2021
Funded by MOTIE – Dec 2023
- Development of Cascading Outages and Restorations Strategies of Power System Feb 2021
considering Non-Synchronous Generators (Researcher) – Jan 2024
Funded by the Korea Electric Power Corporation Research Institute (KEPRI)
- Regional Climate Sensitivity for East Asia (Researcher) Jul 2019
Funded by NRF – Jun 2022
- Development of automated decision support system based on deep learning guided by Mar 2019
reservoir big data for optimal operation during the life cycle of the oilfield (PI) – Feb 2023
Funded by NRF
- Priority Research Centers Program: A study on connection between long-term Earth's Jun 2018
climate change and short-term regional environmental change (Researcher) – Feb 2027
Funded by NRF

PAST PROJECTS

15 projects at Ewha Womans University, Seoul, Korea

- Froniter-1.5D (Researcher) Jun 2021
Funded by Private Companies (SK Innovation, Samsung Biologics, CJ, Shinhan Bank, KB Bank) – May 2022
- Needs Assessment of Educational Programs of Health Care, Climate Change, and Job May 2021
Creation for Community Capacity Building in Vietnam (Researcher) – Jan 2022
Funded by National Research Foundation of Korea (NRF)
- Nurturing of Technical Manpower for Realizing a Sustainable Energy Society (Researcher) Dec 2020
Funded by Ewha Womans University (EWU) – May 2022
- Machine Learning-based Analysis on Gas Hydrate (Researcher) Mar 2021
Funded by the Korea Institute of Geoscience and Mineral Resources (KIGAM) – Dec 2021
- Study on Application of Machine Learning to Well Logging (PI) Jun 2020
Funded by KIGAM – Nov 2020
- Converged Future-oriented Humans Cultivation Research for Earth Sustainability Jul 2019
(Researcher) Funded by Ewha Womans University – Dec 2020
- Evaluation of Significant Factors Affecting CO₂-EOR in a Carbonate Reservoir Jul 2019
(Principal Investigator) Funded by Korea Gas Corporation (KOGAS) – Oct 2019
- Geology-Data-Driven Oil Recovery Prediction Using Deep Learning Techniques for Optimal Oct 2018
Operations of Offshore Oil Fields in Vietnam (Principal Investigator) Funded by NRF – Sep 2021
- Analysis of flow-stress relationship in multiphase flow based on multi-objective optimization Mar 2017
for efficient carbon sequestration (Principal Investigator) Funded by NRF – Feb 2019
- Flow-geomechanics analysis in multiphase flow incorporated with multi-objective Mar 2017
optimization in heterogeneous porous media (PI) Funded by NRF – Feb 2019
- Development of an evolutionary multi-objective optimization algorithm incorporated with Mar 2017
adaptive mesh refinement (PI) Funded by EWU – Feb 2019
- Optimal design of surfactant alternating CO₂ injection technique for the improvement of Dec 2017
enhanced oil recovery and CO₂ injectivity (PI) Funded by NRF – Dec 2018
- Development of a multiple realization optimizer coupled with a deep learning based proxy Sep 2017
model (PI) Funded by KOGAS – Aug 2018
- Survey on CCS-EOR (PI) Funded by KIGAM Nov 2017
– Jan 2018
- Survey on digital oil field market (PI) Funded by POSCO ICT Dec 2017
– Dec 2017

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

5 projects at The University of Texas at Austin, Austin, Texas, USA

- BIGDATA: Collaborative Research: IA: F: Fractured Subsurface Characterization Using High Performance Computing and Guided by Big Data (Researcher) Jan 2016
– Jan 2019
Funded by National Science Foundation (NSF)
- Simulation of Pulse Testing for Leakage Detection at a CO₂-EOR Field (Researcher) Feb 2016
– May 2016
Funded by the Bureau of Economic Geology
- Frontiers of Subsurface Energy Security (Researcher) Jan 2014
– May 2015
Funded by Department of Energy (DOE)
- Error Estimation, Data Assimilation and Uncertainty Quantification for Multiphysics and Multiscale Processes in Geological Media (Researcher) Aug 2012
– Aug 2016
Funded by NSF
- South Louisiana Enhanced Oil Recovery/Sequestration Demonstration Project (Researcher) Jan 2014
– Jul 2014
Funded by DOE

10 projects at Seoul National University, Seoul, Republic of Korea

- Rate Transient Analysis for Shale Gas Reservoirs in North America (Researcher) Mar 2013
– Dec 2013
Funded by Korea National Oil Corporation (KNOC)
- Development Plan Research upon Consideration of Domestic and Foreign Environment (Researcher) Mar 2012
– Jan 2013
Funded by Korea Gas Corporation (KOGAS)
- Wedge Wells Technology for Additional Oil Sands Recovery (Researcher) Mar 2012
– Aug 2012
Funded by KNOC
- Study for Heavy Oil Production Technology in Canada (II) (Researcher) Apr 2011
– Oct 2011
Funded by KNOC
- Reserve Estimation for the O field in North America (Researcher) Dec 2011
– Feb 2012
Funded by STX Energy
- Production Performance Evaluation and Wellbore System Development for Multi-Reservoir (Researcher) Jun 2010
– May 2015
Funded by Korea Institute of Energy Technology Evaluation and Planning
- Enhanced Oil Recovery on H field (Researcher) Jun 2010
– Oct 2010
Funded by KNOC
- Simulation Study on New Production Scheme on the B Oil Sand Field (Researcher) Apr 2008
– Dec 2009
Funded by KNOC
- Estimation of Reservoir Permeability by Integrating Core and Logging Data (Researcher) Apr 2007
– Dec 2007
Funded by KNOC
- Optimization of Infill Well Location Using Artificial Neural Network (Researcher) Jun 2006
– Dec 2006
Funded by KNOC

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

47 JOURNAL PUBLICATIONS

1. Kim, M., Kwon, S., Ji, M., Shin, H., and Min, B.*, 2023 (*Corresponding Author). Multi-Lateral Horizontal Well with Dual-Tubing System to Improve CO₂ Storage Security and Reduce CCS Cost. *Applied Energy* 330 (Part B), 120368.
2. Park, G., Kwon, S., Ji, M., Lee, S., Choi, S., Kim, M., and Min, B.*, 2022. Research on the Generation of High-Resolution Logging Data using a Deep-Learning Algorithm. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 58(4): 353-363.
3. Ji, M., Keon, 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.
4. 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): 1-10.
5. Lee, H.W., Kim, M., Min, B.*, and Choi, J.H.* Machine-Learning-Based Water Quality Management of River with Serial Impoundments in the Republic of Korea. *Journal of Hydrology: Regional Studies* 41, 101069.
6. Jo, S., Jeong, D.*, 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.
7. 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.
8. Cho, J., Min, B.*, Kwon, S., Park, G., and Lee, K.S., 2021. Compositional Modeling with Formation Damage to Investigate the Effects of CO₂-CH₄ Water Alternating Gas (WAG) on Performance of Coupled Enhanced Oil Recovery and Geological Carbon Storage. *Journal of Petroleum Science and Engineering* 205, 108795.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. Cho, J., Min, B., Jeong, M., Lee, Y., and Lee, K.S. 2021. Modeling of CO₂-LPG WAG with Asphaltene Deposition to Predict the Coupled Enhanced Oil Recovery and Storage Performance. *Scientific Reports* 11, 2082.
16. 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.
17. Chu, M.-G., Min, B.*, Kwon, S., Park, G., Kim, S., and Huy, N.X., 2020. Determination of an Infill Well Placement using a Data-driven Multi-modal Convolutional Neural Network. *Journal of Petroleum Science and*

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Engineering* 195, 106805.
18. Kim, S., Lee, K.B., Lim, J., Jeong, H., and Min, B.*, 2020. Development of Ensemble Smoother–Neural Network and its Application to History Matching of Channelized Reservoirs. *Journal of Petroleum Science and Engineering* 191, 107159.
 19. Jang, I.S., Oh, S.E., Kang, H.J., Na, J.W., and Min, B.*, 2020. Multi-Well Placement Optimisation using Sequential Artificial Neural Networks and Multi-Level Grid System. *International Journal of Oil, Gas and Coal Technology* 24(4): 445-465.
 20. Piao, J., Han, W.S., Kang, P.K., Min, B., Han, G., and Park, J.G., 2020. A Hybrid Optimization Methodology for Indicating Optimal Operating Conditions for Carbon Dioxide Injection in Geologic Carbon Sequestration. *International Journal of Greenhouse Gas Control* 98, 103067.
 21. Cho, J.H., Park, G., Kwon, S., Lee, K.S., Lee, H.S., and Min, B*. 2020. Compositional Modeling to Analyze the Effect of CH₄ on Coupled Carbon Storage and Enhanced Oil Recovery Process. *Applied Sciences* 10(12), 4272.
 22. Min, B.*, Kwon, S., Park, G., Jeong, D., and Lee, H.S. 2020. Current Status and Prospects of Artificial Intelligence in the Oil and Gas Exploration and Production Business. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 57(3): 295–308.
 23. Jeong, H., Sun, A., Jeon, J., Min, B. Efficient Ensemble-based Stochastic Gradient Methods for Optimization under Geological Uncertainty. *Frontiers in Earth Science* 8, 108.
 24. Kwon, S., Park, G., Min, B.*, Kim, K., Lee, T., and Han, J. Study on Preliminary Economic Evaluation for Assessment of CO₂-EOR Efficiency in Carbonate Reservoirs. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 57(2): 185–194.
 25. Kim, S., Kim, K.H., Min, B., Lim, J., and Lee, K.B., 2020. Generation of Synthetic Density Log Data Using Deep Learning Algorithm at the Golden Field in Alberta, Canada. *Geofluids* 2020, 5387183.
 26. Lee, Y., Jeon, H., Lee, K., Min, B., and Choi, Y.-S., 2019. A Review on Disaster Response through Critical Discourse Analysis of Newspaper Articles - Focused on the November 2017 Pohang Earthquake. *Journal of the Society of Disaster Information* 15(2): 223–238.
 27. Kim, S., Min, B.*, Kwon, S., and Chu, M., 2019. History Matching of a Channelized Reservoir using a Serial Denoising Autoencoder Integrated with ES-MDA. *Geofluids* 2019, 3280961.
 28. Chung, S., Park, C., Min, B., Jang, I.S., and Kang, J.M., 2019. Optimization of Steam and Gas Push to Prevent Water Influx from a Top-Water-Bearing Area into a Vapor Chamber. *International Journal of Oil, Gas and Coal Technology* 20 (3): 304–326.
 29. Lee, K.B., Kim, S.I., Choe, J., Min, B., and Lee, H.S., 2019. Iterative Static Modeling of Channelized Reservoirs using History-Matched Facies Probability Data and Rejection of Training Images. *Petroleum Science* 16 (1): 127–147.
 30. Min, B., Sun, A., Wheeler, M.F., and Jeong, H., 2018. Utilization of Multiobjective Optimization for Pulse Testing Dataset from a CO₂ EOR/Sequestration Field. *Journal of Petroleum Science and Engineering* 170: 244–266.
 31. Lee, J., Min, B.*, Jo, S., and Kim, J., 2018. Optimization of SAGD Process Using Multi-Objective Optimization Algorithm. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 55 (5): 421–430.
 32. Jeong, H., Sun, A., Lee, J., and Min, B., 2018. A Learning-Based Data-Driven Forecast Approach for Predicting Future Reservoir Performance. *Advances in Water Resources* 118: 95–109.
 33. Kim, S., Min, B.*, Lee, K.B., and Jeong, H., 2018. Integration of an Iterative Update of Sparse Geologic Dictionaries with ES-MDA for History Matching of Channelized Reservoirs. *Geofluids* 2018, 1532868.
 34. Lee, S., Min, B. *, and Wheeler, M.F., 2018. Optimal Design of Hydraulic Fracturing in Porous Media using the Phase Field Fracture Model Coupled with Genetic Algorithm. *Computational Geosciences* 22 (3): 833–849.
 35. Kim, J., Kang, J.M., Park, C., Ahn, S., and Min, B., 2017. History Matching of Gas Production Rates Integrated an Artificial Neural Network with Distance-Based Candidate Selection. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 54 (4): 416–428.

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

36. Min, B., Kannan, K., and Srinivasan, S., 2017. Quick Screening of Pareto-Optimal Operating Conditions for Expanding Solvent-Steam Assisted Gravity Drainage Using Hybrid Multi-Objective Optimization Approach. *Energies* 10 (7) 966: 1–21.
37. Nwachukwu, A., Min, B.*, and Srinivasan, S., 2017. Model Selection for CO₂ Sequestration using Surface Deformation and Injection Data. *International Journal of Greenhouse Gas Control* 56: 67–92.
38. Min, B., Park, C., Jang, I.S., Kang, J.M., and Chung, S., 2016. Development of a Robust Multi-Objective History Matching for Reliable Well-based Production Forecasts. *Energy Exploration & Exploitation* 34 (6): 795–809.
39. Min, B., Park, C., Jang, I.S., Kang, J.M., and Chung, S., 2015. Development of Pareto-Based Evolutionary Model Integrated with Dynamic Goal Programming and Successive Linear Objective Reduction. *Applied Soft Computing* 35: 75–112.
40. Kim, J., Kim, U., Kang, J.M., Suk, H., and Min, B.*, 2015. Development of a Bottomhole Pressure Calculator and its Application to Shale Gas Wells. *Journal of the Korean Institute of Mineral and Energy Resources Engineers* 52 (3): 335–342.
41. Min, B., Kang, J.M., Chung, S., Park, C., and Jang, I.S., 2014. Pareto-Based Multi-Objective History Matching with Respect to Individual Production Performance in a Heterogeneous Reservoir. *Journal of Petroleum Science and Engineering* 122: 551–566.
42. Kim, H., Park, C., Min, B., Chung, S., and Kang, J.M., 2014. Multiphase Flow Simulation for In Situ Combustion to Investigate Hydraulic Heterogeneity and Air Injection Rate Affecting Oil Production. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 36: 2328–2337.
43. Kam, D., Park, C., Min, B., and Kang, J.M., 2013. Optimal Operation Strategy of Injection Pressures in Solvent-Aided Thermal Recovery for Viscous Oil in Sedimentary Reservoirs. *Petroleum Science & Technology* 31: 2378–2387.
44. Park, C., Kang, J.M., and Min, B., 2013. Compound Real Options Incorporated with a Stochastic Approach for Evaluating an Uncertainty in Petroleum Exploration. *Energy Sources, Part B: Economics, Planning, and Policy* 8 (3): 252–262.
45. Min, B., Park, C., Kang, J.M., Park, H.J., and Jang, I.S., 2011. Optimal Well-Placement based on Artificial Neural Network Incorporating the Productivity Potential. *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 33 (18): 1726–1738.
46. Park, H.J., Lim, J.S., Roh, J.Y., Kang, J.M., and Min, B., 2010. Production-System Optimization of Gas Fields using Fuzzy/Genetic Approach. *SPE Journal* 15 (2): 417–425.
47. Kam, D.J., Min, B., Chung, S., Park, C., Kang, J.M., Kim, J.Y., Jang, I.S., and Choi, Y.R., 2009. Optimization of Steam Injection Pressure in SAGD using Artificial Neural Network. *Journal of the Korean Society for Geosystem Engineering* 46 (2): 143–150.

1 BOOK PUBLICATION

1. Baek, M.S., Kim, J.S., Lee, K.B., Min, B., Lee, J.S., Kim, K.H., and Cheon, Y.H., Dec. 2021. 2050 Hydrogen Energy, Raonbook, Seoul, Republic of Korea.

91 CONFERENCE PAPERS, TALKS, or POSTERS

1. Kwon, S., Ji, M., Kim, M., Leung, J., and Min, B.*, 2022. Efficient Design of Warm-VAPEX using a Neural Network Coupled with a Multi-objective Optimization Algorithm for an Oilsands Reservoir in Alberta, Canada. AGU Fall Meeting 2022, Chicago, IL, USA, 12–16 Dec.
2. Ji, M., Kwon, S., Choi, S., Choi, B., and Min, B.*, 2022. Numerical Investigation of CO₂ Carbonated Water-Alternating-Gas on Oil Recovery and Geological Carbon Storage. AGU Fall Meeting 2022, Chicago, IL, USA, 12–

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

16 Dec.

3. Arvis, A., Ji, M., Choi, B., and Min, B.*, 2022. Modeling of Carbonated Water Injection at a Saline Aquifer as an Efficient Carbon Capture and Storage Solution. AGU Fall Meeting 2022, Chicago, IL, USA, 12–16 Dec.
4. Park, J., Kim, S., Lee, K.B., Jin, H., Ahn, T.W., and Min, B., 2022. The Effect of Feature Extraction on Machine Learning-based Gas Hydrate Saturation Prediction Model from CT Image. AGU Fall Meeting 2022, Chicago, IL, USA, 12–16 Dec.
5. Jang, M., Lee, S., Kim, S., Yoon, S., Jung, S., Hwang, J., Min, B.*, 2022. Research on Modeling Financial Risk of Climate Change. 2022 Fall Joint Conference of KSMER/KSRM/KSPE, Jeongseon-gun, Republic of Korea, 2–4 Nov.
6. Ji, M., Kwon, S., Choi, B., and Min, B.*, 2022. Performamnce Evaluation of CO₂ Carbonated Water-Alternating-Gas on Enhanced Oil Recovery and Geological Carbon Storage. 2022 Fall Joint Conference of KSMER/KSRM/KSPE, Jeongseon-gun, Republic of Korea, 2–4 Nov.
7. Kim, M., Kwon, S., Ji, M., Shin, H., and Min, B.*, 2022. Multi-Lateral Horizontal Well with Dual-Tubing System to Improve CO₂ Storage Security and Reduce CCS Cost. 2022 Fall Joint Conference of KSMER/KSRM/KSPE, Jeongseon-gun, Republic of Korea, 2–4 Nov.
8. Kwon, S., Ji, M., Min, K., and Min, B.*, 2022. Sequential Determination of Well Placements using Multi-modal Convolutional Neural Network for the Optimal Primary Recovery at an Oil Reservoir. 21st Annual Conference of the International Association for Mathematical Geosciences (IAMG), Nancy, France, 29 Aug.–3 Sep.
9. Ji, M., Kwon, S., Lee, K.B., Kim, S., and Min, B.*, 2022. Generation of Synthetic Compressional Travel Time using Well-Logging-Learning Model and Its Application to the Ulleung Basin Gas Hydrate Field, Republic of Korea. 21st Annual Conference of the IAMG, Nancy, France, 29 Aug.–3 Sep.
10. Min, B.*, 2022. Global and Korea's Efforts for Carbon Capture, Utilization, and Storage (CCUS). International Conference on Energy, Aquatech and Sustainability, Ansan, Republic of Korea, 3–5 Aug.
11. Kim, M., Kwon, S., Ji, M., and Min, B.*, 2022. Multi-Lateral Horizontal Well with Dual-Tubing System for Improving CO₂ Storage Security and Reducing CCS Cost. 2022 Geoconvention, Calgary, AB, Canada, 20–22 Jun.
12. Kim, M., Kwon, S., Ji, M., Lee, S., and Min, B.*, 2022. Introduction of Hybrid Steam/Solvent In-Situ Recovery Methods and Case Study of Commercial Oil Sands Projects. 2022 Spring Conference and Exhibition of the Korean Society of Mechanical Engineers (Plant Sector), Jeju, Republic of Korea, 8–10 Jun.
13. Jang, Y., Lee, S., and Min, B.*, 2022. Productivity Assessment at a Tight Gas Reservoir Using a Phase-Field based Hydro-Mechanical Model. 2022 Spring Conference and Exhibition of the Korean Society of Mineral and Energy Resources Engineers, Daejeon, Republic of Korea, 19–21 May.
14. Jang, Y., Min, B.*, Lee, S., 2021. Assessment of Hydrocarbon Productivity Using a Hydraulic-Mechanical Model with Phase-Field Approach in a Fractured Reservoir. 2021 AGU Fall Meeting, New Orleans, LA, USA, 13–17 Dec.
15. Cho, J., Min, B.*, Kwon, S., Park, G., and Lee, K.S., 2021. Modeling of CO₂-CH₄ Water Alternating Gas with Asphaltene Deposition for Estimating Coupled Performance of Enhanced Oil Recovery and Geological Carbon Storage. 2021 AGU Fall Meeting, New Orleans, LA, USA, 13–17 Dec.
16. Kim, M., Min, B.*, and Shin, H., 2021. Multi-Lateral Horizontal Well with Dual-Tubing System for Reducing the CCS Cost and Improving CO₂ Storage Security. 2021 AGU Fall Meeting, New Orleans, LA, USA, 13–17 Dec.
17. Kwon, S., Park, G., Ji, M., Choi, S., and Min, B.*, 2021. Optimal Placement of Infill Wells at a Petroleum Reservoir based on Time-series Forecasting using Multi-modal Convolutional Neural Network. 2021 AGU Fall Meeting, New

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Orleans, LA, USA, 13–17 Dec.
18. Park, G., Kwon, S., Ji, M., and Min, B.*, 2021. High-Resolution Estimation of Porosity with Deep-Learning-Based Interpretation of Well Logging and Core data for Gas-Hydrate-Bearing Sediments in the Republic of Korea. 2021 AGU Fall Meeting, New Orleans, LA, USA, 13–17 Dec.
 19. Ji, M., Kwon, S., Park, G., Min, B.*, and Lee, K.B., 2021. Prediction of Shear Travel Time from Well Logging Data using an Ensemble Deep Learning. 2021 AGU Fall Meeting, New Orleans, LA, USA, 13–17 Dec.
 20. Min, B., 2021. Current Status and Prospects of CCUS (Carbon Capture, Utilization, and Storage). Energy & Mineral Resources development Symposium 2021, Yongsan, Republic of Korea, 9 Dec.
 21. Kim, M., and Min, B., 2021. Development of a Forecast Model of Cumulative Shale Oil Production at a West Canada Montoney Shale Reservoir using Cat2Vec. 2021 GAIDAS Fall Meeting, Busan, Republic of Korea, 28–29 Nov.
 22. Park, G., Kwon, S., Ji, M., Min, B. *, Kim, S., Kim, K., and Lee, K.B., 2021. High-resolution Estimation of Reservoir Parameters with a Deep-learning-based Interpretation of Well Logging. 2021 Fall Joint Conference of KSMER/KSRM/KSEG/KSPE, Busan, Republic of Korea, 25–26 Oct.
 23. Min, B., Kwon, S., Park, G., Lee, K.S., and Cho, J., 2021. Korea's Efforts for Carbon Capture, Utilization, and Storage. International Conference on Energy, Aquatech and Sustainability (ICEAS), Siheung, Republic of Korea, 11–13 Aug.
 24. Cho, J., Park, G., Kwon, S., Lee, K.S., and Min, B., 2020. Effects of CO₂-CH₄ Co-injection on the Performance of a Coupled Carbon Storage and Enhanced Oil Recovery Process. AGU Fall Meeting, San Francisco, USA, 1–17 Dec.
 25. Kwon, S. and Min, B., 2020. Determination of Oil-Well Placement at a Petroleum Reservoir using Sequential Convolutional Neural Network Coupled with Robust Optimization under Geological Uncertainty. AGU Fall Meeting, San Francisco, USA, 1–17 Dec.
 26. Jang, Y., Park, G., Kwon, S., and Min, B., 2020. Numerical Investigation for Hydraulic Fracturing with Mixed-Mode and its Interaction with Natural Fractures in a Shale Gas Reservoir. CouFrac 2020, Seoul, Republic of Korea, 11–13 Nov.
 27. Kwon, S., Park, G., Jang, Y., Cho, J., Chu, M.-g., and Min, B., 2020. Selection of Oil-Well Placement using Convolutional Neural Network Coupled with Robust Optimization. CouFrac 2020, Seoul, Republic of Korea, 11–13 Nov.
 28. Cho, J., Park, G., Kwon, S., Lee, K.S., Lee, H., and Min, B., 2020. Compositional Modeling to Analyze the Effects of CH₄ on Coupled Carbon Storage and Enhanced Oil Recovery. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.
 29. 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.
 30. Kim, M., Min, B., Kwon, S., Park, G., and Shin, H., 2020. Multi-lateral Horizontal Well with Dual-Tubing System for Improving the CO₂ Storage Efficiency. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.
 31. 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.
 32. Kwon, S., Park, G., Jang, Y., Cho, J., Chu, M.-g., and Min, B., 2020. Selection of an Oil Well Placement using

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Convolutional Neural Network and Robust Optimization. 2020 Fall Joint Conference of KSMER-KSRM, Wonju, Republic of Korea, 4–6 Nov.
33. 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.
 34. 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.
 35. 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.
 36. 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.
 37. Kim, K., Han, J., Lee, T., Min, B., Kwon, S., and Park, G., 2019. An Preliminary Evaluation of the CO₂ EOR Efficiency in Carbonate Reservoirs. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.
 38. 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.
 39. 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.
 40. 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 CO₂ Sequestration. 2019 Fall Joint Conference of KSMER-KSRM-KSEG, Jeju, Republic of Korea, 6–9 Nov.
 41. 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.
 42. 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.
 43. 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.
 44. 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.
 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 and Exhibition of Korean Society of Mineral and Energy Resources Engineers, Daejeon, Republic of Korea, 9–10 May.

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

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.
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 of the Korean Institute of Gas, Daegu, Republic of Korea, 8–10 May.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
54. 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.
55. 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.
56. 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.
57. Lu, X., Lotfollahi, M., Ganis, B., Min, B., and Wheeler, M.F., 2018. Integrated Compositional Simulation and Optimization for Gas Mobility Control Techniques during CO₂ Sequestration in Cranfield. InterPore 10th Annual Meeting and Jubilee, New Orleans, Louisiana, USA, 14–17 May.
58. 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.
59. 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.
60. Min, B., Wheeler, M.F., and Sun, A., 2017. Utilization of Multi-Objective Optimization for Pulse Testing Dataset from a Geological CO₂ Sequestration Site. SIAM Geosciences, Erlangen, Germany, 11–14 Sep.

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

61. Min, B., 2017. Compositional Simulation of Pulse Tests for Monitoring a Migration of CO₂ 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.
62. 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.
63. Min, B., Wheeler, M.F., Sun, A., 2016. Multi-Objective Optimization of Pulse Testing Results using Parallel Compositional Simulations for Reservoir Characterization of a CO₂-EOR Field in Mississippi. AGU Fall Meeting, San Francisco, California, 12–16 Dec.
64. 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.
65. 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.
66. Min, B., Srinivasan, S., Wheeler, M.F., and Nwachukwu, A., 2016. Selection of Geologic Models based on Pareto-Optimality using Surface Deformation and CO₂ Injection Data at the In Salah Gas Project, Central Algeria. SPE Annual Technical Conference and Exhibition, Dubai, Arab Emirates, 26–28 Sep.
67. 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.
68. 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.
69. Min, B., Srinivasan, S., Wheeler, M.F., and Nwachukwu, A., 2016. Selection of Geologic Models based on Pareto-Optimality using Surface Deformation and CO₂ Injection Data. Geological CO₂ Storage IAP at the University of Texas at Austin, Austin, Texas, 18 Feb.
70. Nwachukwu, A., Srinivasan, S., Wheeler, M.F., and Min, B., 2016. Application of Model Selection for History Matching the In Salah CO₂ Sequestration Field in Algeria. Geological CO₂ Storage IAP at the University of Texas at Austin, Austin, Texas, 18 Feb.
71. 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 CO₂ Plume Migration. AGU Fall Meeting, San Francisco, Texas, 14–18 Dec.
72. Tavakoli, R., Ping, J., Min, B., Srinivasan, S., and Wheeler, M.F., 2015. History Matching and Parameter Estimation for a CO₂ Sequestration Field Project using Ensemble-based Algorithms. AGU Fall Meeting, San Francisco, Texas, 14–18 Dec.
73. 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.
74. Min, B., Srinivasan, S., and Wheeler, M.F., 2015. Pareto-Optimization of Expanding Solvent Steam Assisted Gravity

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

- Drainage Using an Improved Semi-Analytical Model. CPGE2015– Research Showcase in Petroleum and Geosystems Engineering, Austin, Texas, 8 Sep.
75. 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.
 76. 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.
 77. 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.
 78. 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.
 79. 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 KNOG, Jeju Island, Republic of Korea, 6–8 Nov.
 80. 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.
 81. 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.
 82. 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.
 83. 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.
 84. 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.
 85. 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.
 86. 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.
 87. 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

CURRICULUM VITAE – BAEHYUN MIN, Ph.D.

Associate Professor at Ewha Womans University, Seoul, Republic of Korea · 82-2-3277-6946 · bhmin01@ewha.ac.kr

EUROPEC, Vienna, Austria, 23–26 May.

88. 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.
89. 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.
90. 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.
91. 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.

ADVISED POSTDOCS

- | | |
|---|-----------------|
| • Vo Thanh Hung, Ph.D. | 2022.11–Present |
| • Minchul Jang, Ph.D. | 2022.06–Present |
| • Min Kim, Ph.D. | 2020.09–Present |
| • Jinhyung Cho, Ph.D. (Currently at KEPCO) | 2020.03–2022.05 |
| • Youngho Jang, Ph.D. (Currently at KETEP) | 2020.01–2022.04 |
| • Hyunchul Yoon, Ph.D. (Currently at KIGAM) | 2019.03–2019.06 |
| • Min-gon Chu, Ph.D. (Formerly at KNOC, Currently at Samsung Electro-Mechanics) | 2017.09–2019.02 |
| • Sungil Kim, Ph.D. (Currently at KIGAM) | 2018.02–2018.12 |

ADVISED GRADUATES

- | | |
|---------------------------------------|-----------------|
| • Gayoung Park, Master of Engineering | 2019.03–2021.08 |
|---------------------------------------|-----------------|

ADVISED UNDERGRADUATES

- | | |
|--|-----------------|
| • Seri Lee, Bachelor of Engineering (Currently at SPC Group) | 2020.01–2022.12 |
|--|-----------------|