Gurpreet Singh

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Research Profile	Google Scholar Researchgate	

Modeling Skills

Oil & gas: water, gas, and chemical flooding, unconventional reservoirs.
Environmental: CO_2 sequestration, groundwater remediation, contaminant migration.
Subsurface modeling: multiphase flow, reactive transport, geomechanics.
Discretization schemes: finite difference, finite volume, finite elements.
Algorithms: time-concurrency, parallel algorithms, distributed computing.

Software Skills

Programming: Fortran, C/C++, Python, MPICH, OpenMP, OpenCL.
Machine Learning: Tensorflow, Keras, Scipy, Scikit-learn, Pandas.
Reservoir Simulator Development: IPARS, UTCOMP, PSim.
Reservoir Simulation Toolboxes: CMG, ECLIPSE, UTCHEM.
Interpreted Languages: R, Octave, Matlab.

Education

Ph.D., Petroleum Engineering, **UT Austin**. Fall 2014
Thesis: *Coupled Flow and Geomechanics Modeling for Fractured Poroelastic Reservoirs*
Quantifying interaction between hydraulic and naturally occurring fractures is critical for evaluating production/injection and optimal well placement scenarios. I developed coupled fractured-reservoir flow and geomechanics model that provides better recovery estimates by capturing an accurate description of physics.

M.S., Petroleum Engineering, **Penn State**. Fall 2008
Thesis: *Finite Volume Analysis of Two Phase Flow Split at T-junctions*
Formation of gas condensate during natural gas transmission through pipeline networks drastically increases compression costs. I developed a two-fluid finite volume model to predict condensed liquid pathways and suggest liquid removal scenarios to reduce pressure losses.

B. Tech., Chemical Engineering, **GGS Indraprastha University** Summer 2007
Delhi, India.

Professional Experience

Adjunct Faculty, The University of Texas at Austin

Lecturer Aug 2019 to Present

- Introduction to Numerical Methods (BME 313L), Dept. of Biomedical Engineering
- Computational Engineering (COE 311K), Dept. of Aerospace Engineering

Computational Hydraulics Group, ICES

Research Scientist Jan 2019 to Nov 2020

- Developed a low memory consumption Singular Value Decomposition (SVD) algorithm for big data applications with error bounds and convergence guarantees.
- Developed an interpretable neural network for blind source separation and classification of subsurface, biomedical, and satellite image data.
- Developed a two-stage hybrid neural network approach to extract Pareto optimal solutions for multi-objective minimization problems to aid data-informed decision making.

Center for Subsurface Modeling, ICES

Research Associate (Applied Mathematics) Mar 2017 to Dec 2018

- Developed a space-time domain decomposition approach with a time-concurrent, parallel solution algorithm for multiphase flow and reactive transport problems in subsurface porous media.
- Developed model order reduction techniques for practical problems of interest in subsurface porous media.
- Developed an approximate Jacobian non-linear solver that outperforms conventional preconditioners (CPR and two-stage).
- Project management and reporting for federal grants (DOE, NSF).

Postdoctoral Research Fellow (Applied Mathematics) Dec 2014 to Mar 2017

- Developed adaptive homogenization approach for upscaling heterogeneous porous medium for computational efficiency and accuracy.
- Developed a computationally efficient and accurate fully implicit framework for subsurface reactive flow and transport processes.
- Extended the parallel framework in IPARS by modularizing MFMFE scheme to handle complex subsurface flow and transport processes.
- Assisted in planning and writing of federal grant proposals.

Research Assistant May 2011 to Dec 2014

- Developed an EOS compositional flow model using advanced spatial discretization (MFMFE).
- Developed and implemented coupled flow and geomechanics model for fractured poroelastic reservoirs.

ConocoPhillips May 2010 to Aug 2010

Reservoir Simulation Development Team, Houston, TX

- Evaluated phase behavior capabilities of in-house reservoir simulator PSim.
- Developed a standalone phase-behavior model (PBM) for screening reservoir fluids.
- Suggested by-pass strategies for low temperature and low pressure CO_2 floods.

Gas Flooding Joint Industrial Project, PGE Jan 2009 to April 2010

Research Assistant

- Designed estimators to reduce computational costs associated with PBM for complex hydrocarbon fluids.
- Developed a reduced compositional space parameterization approach for PBM.

Teaching Experience

Advanced Petrophysics, Teaching Assistant Aug 2010 to May 2011
Petroleum & Geosystems Engineering, The University of Texas at Austin
Renewable Energy Resources, Teaching Assistant Jan 2008 to Dec 2008
Energy & Mineral Engineering, The Pennsylvania State University

Selected Publications

1. **Singh, G.** and Wheeler, M.F. "A Space Time Domain Decomposition Approach using Enhanced Velocity Mixed Finite Element Method", *Journal of Computational Physics*, Vol. 374, pp. 893-911, December 2018.
2. **Singh, G.**, Pencheva, G., and Wheeler, M.F. "An Approximate Jacobian Nonlinear Solver for Multiphase Flow and Transport", *Journal of Computational Physics*, Vol. 375, pp. 337-351, December 2018.
3. Jung, H., **Singh, G.**, Espinoza, D.N., and Wheeler, M.F. "Quantification of a Maximum Injection Volume of CO_2 without Geomechanical Perturbations Using a Compositional Fluid Flow Reservoir Simulator" , *Advances in Water Resources*, Vol. 112, pp. 160-169, February 2018.

4. Girault, V., Wheeler, M.F., Kumar, K., and **Singh, G.** "Mixed Formulation of a Linearized Lubrication Fracture Model', *Contributions to Partial Differential Equations and Applications*, Springer, 2018.

5. **Singh, G.**, Leung, W., and Wheeler, M.F. "Multiscale Methods for Model Order Reduction of Non Linear Multiphase Flow Problems", *Computational Geosciences*, November 2018.

6. **Singh, G.**, Amanbek, Y., and Wheeler, M.F. "Adaptive Numerical Homogenization for Non-Linear Multiphase Flow and Transport", *ICES Report 17-13*, June 2017.

7. Almani, T, Kumar, K., **Singh, G.** and Wheeler, M.F. "Stability of Multirate Explicit Coupling of Geomechanics with Flow in a Poroelastic Medium", ICES Report 16-12, May 2016. (submitted to Computers and Mathematics with Applications)

8. Wick, T., **Singh, G.**, and Wheeler, M.F., "Fluid-Filled Fracture Propagation using a Phase-Field Approach and Coupling to a Reservoir Simulator." *SPE Journal*, SPE-168597, Vol. 21, no. 3, pp. 981-999, June 2016.

9. **Singh, G.** and Wheeler, M.F. "Compositional Flow Modeling Using Multipoint Flux Mixed Finite Element Methods." *Computational Geosciences*, Vol. 20, no. 3, pp 421-435, June 2016.

10. Venkatraman, A, Vivas, F.A., Okuno, R., **Singh, G.**, Lake, L., and Wheeler, M.F. "Modeling Impact of Aqueous Ions on Solubility of CO2 and its Implications for Sequestration." SPE-181634-MS, *SPE Annual Technical Conference and Exhibition*, Dubai, January 2016.

11. **Singh, G.**, Ganis, B., and Wheeler, M.F. "A Parallel Framework for a Multipoint Flux Mixed Finite Element Equation of State Compositional Flow Simulator." *ECMOR XV*, 15th European Conference on Mathematics of Oil Recovery, Amsterdam, Netherlands, August 2016. (accepted in Computational Geosciences)

12. Alamni, T., Kumar, K., **Singh, G.**, and Wheeler, M.F. "Convergence and Error Analysis of Fully Discrete Iterative Coupling Schemes for Coupling Flow with Geomechanics." *ECMOR XV*, 15th European Conference on Mathematics of Oil Recovery, Amsterdam, Netherlands, August 2016.

13. Almani, T., Dogru, A.H., Kumar, K., **Singh, G.**, and Wheeler, M.F. "Convergence of Multirate Iterative Coupling of Geomechanics with Flow in a Poroelastic Medium." *Saudi Aramco Journal of Technology*, Spring 2016.

14. Almani, T., Kumar, K., Dogru, A.H., **Singh, G.**, and Wheeler, M.F. "Convergence Analysis of Multirate Fixed-Stress Split Iterative Schemes for Coupling Flow with Geomechanics." *Computer Methods in Applied Mechanics and Engineering*, Vol. 311, pp 180-207, November 2016.

15. Ganis, B., Girault, V., Mear, M., **Singh, G.**, and Wheeler, M.F. "Modeling Fractures in a Poroelastic Medium." *Oil & Gas Science and Technology*, 2013.

16. Al Hinai, O., **Singh, G.**, Pencheva, G., Al Mani, T., and Wheeler, M.F., "Modeling Multiphase Flow with Non-planar Fractures." *SPE Reservoir Simulation Symposium*, SPE 163305, Woodlands, TX, 2013.

17. **Singh, G.**, Pencheva, G., Kumar, K, Wick, T., Ganis, B., and Wheeler, M.F., "Impact of Accurate Fractured Reservoir Flow Modeling on Recovery Predictions." *SPE Hydraulic Fracturing Technology Conference*, SPE 188630, Woodlands, TX, 2014.

18. **Singh, G.**, Wick, T., Wheeler, M.F., Pencheva, G., and Kumar K. "Coupled Flow and Geomechanics Modeling for Fractured Poroelastic Reservoirs." *ICES Report 14-17*, July 2014.

19. Wick, T., **Singh, G.**, and Wheeler, M.F., "Pressurized-Fracture Propagation using a Phase-Field Approach Coupled to a Reservoir Simulator." *SPE Hydraulic Fracturing Technology Conference*, SPE 168597, Woodlands, TX, 2014.

20. Karpyn, Z.T., Piri, M., and **Singh, G.** "Experimental Investigation of Immiscible Fluid Structures in a Water-Wet Bead Pack using X-ray Microtomography." *Water Resources Research*, Vol. 46, no. 4, April 2010.

Under Review

1. G. Singh, S. Gupta, M. Lease, C. Dawson "Streaming Singular Value Decomposition for Big Data Applications", arXiv:2010.14226, October, 2020.

2. G. Singh, S. Gupta, M. Lease, C. Dawson "TIME: A Transparent, Interpretable, Model-Adaptive and Explainable Neural Network for Dynamic Physical Processes", arXiv:2003.02426, March, 2020.

3. G. Singh, S. Gupta, M. Lease, C. Dawson "Prevention is Better than Cure: Handling Basis Collapse and Transparency in Dense Networks", arXiv:2008.09878, August, 2020.

Conference & Invited Talks

1. G. Singh, and M. F. Wheeler, A Domain Decomposition Approach for Local Mesh Refinement in Space and Time, SPE Annual Technical Conference, Dallas, Texas, September 24-26, 2018.

2. G. Singh, Y. Amanbek, and M. F. Wheeler,Adaptive Homogenization for Upscaling Heterogeneous Porous Medium, *SPE Annual Technical Conference*, San Antonio, Texas, October 9-11, 2017.

3. Jung, H., Singh, G., Espinoza, D.N., and Wheeler, M.F. An Integrated Case Study of the Frio CO2 Sequestration Pilot Test for Safe and Effective Carbon Storage using a Compositional Flow Model, SPE-182710-MS, *SPE Reservoir Simulation Symposium*, February 2017.

4. Y. Amanbek, G. Singh, and M. F. Wheeler, *Modeling flow and transport using Enhanced Velocity Mixed Finite Element Method and Numerical Homogenization*, Finite Element Rodeo, University of Houston, Houston, Texas, March 3-4, 2017.

5. Y. Amanbek, G. Singh, and M. F. Wheeler, *Multiscale Mehods for Flow and Transport in Porous Media*, SIAM Conference on Computational Science and Engineering (CSE17), Atlanta, Georgia, Feb 26 - Mar 3, 2017.

6. T. Wick, M. F. Wheeler, S. Lee, A. Mikelic, P. Mittal, T. Heister, G. Singh, and G. Pencheva *Phase-Field Fracture Propagation: Modeling and Numerical Methods*, Conference on the Mathematics of Finite Elements and Applications, MAFELAP 2016, Brunel, UK, June 14-17, 2016.

7. T. Almani, K. Kumar, G. Singh, and M. F. Wheeler, *Multirate undrained splitting for coupled flow and geomechanics in porous media, Numerical Mathematics and Advanced Applications*, Proceedings of the ENUMATH 2015, accepted.

8. M. F. Wheeler, A. Mikelic, T. Wick, G. Singh, and S. Lee *Modeling Physical Processes from Hydraulic Fracturing to Long-term Production*, ICERM, The Institute for Computational and Experimental Research in Mathematics, Brown University, 2015.

9. M. F. Wheeler, A. Mikelic, T. Wick, S. Lee, and G. Singh *Coupling Flow and Mechanics in a Fractured Porous Medium*, IMA Workshop on Hydraulic Fracturing, University of Minesota, May 12, 2015.

10. T. Almani, K. Kumar, G. Singh and M. F. Wheeler *Multirate Fixed-Stress Split and Undrained-Split Flow-Mechanics Coupling Schemes: Analysis and Numerical Validation*, Finite Element Rodeo, College Station, Texas A&M, March 4-5, 2016.

11. Y. Amanbek, G. Singh and M. F. Wheeler *Upscaling Flow and Transport using Two-Scale Homogenization*, Finite Element Rodeo, College Station, Texas A&M, March 4-5, 2016.

12. V. Girault, M. F. Wheeler, K. Kumar, B. Ganis, G. Singh, and M. Mear *Discretization of a Linearized Lubrication Fracture Model in a Poroelastic Medium*, Computational and Applied Mathematics Colloquim, Rice University, Houston, October 17, 2016.

13. G. Singh, G. Pencheva, A. Venkatraman, Y. Amanbek, and M. F. Wheeler *A Fully Implicit Framework for Coupled Reactive Flow and Transport*, 26th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 1-2, 2016.

14. G. Singh, Y. Amanbek, A. Venkatraman, G. Pencheva, and M. F. Wheeler, *Coupled Reactive Flow and Transport for Porous Media Applications*, CPGE 2016 Research Showcase in Petroleum and Geosystems Engineering, The University of Texas at Austin, September 6, 2016.

15. G. Singh, A. Venkatraman, G. Pencheva, and M. F. Wheeler, *A Fully Implicit Reactive Flow Formulation for Low Salinity Waterflooding Process*, ECMOR XV, 15th European Conference on Mathematics of Oil Recovery, Amsterdam, Netherlands, August 2016.

16. G. Singh, Y. Amanbek, and M. F. Wheeler, *Upscaling Reservoir Properties using Single Well Tracer Tests*, Computational Methods in Water Resources. University of Toronto, Canada, June 2016.

17. T. Almani, K. Kumar, G. Singh and M. F. Wheeler *On the Analysis of Multirate Iterative and Explicit Coupling Schemes for Coupling Flow with Geomechanics*, Computational Methods in Water Resources. University of Toronto, Canada, June 2016.

18. G. Singh, Y. Amanbek, M. F. Wheeler, *Addressing Challenges in Flow Modeling for Fractured Reservoirs*, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, October 30-31, 2015.

19. M. F. Wheeler, G. Singh, S. Lee, and T. Wick, *Diffusive Zone Fracture Modeling For Porous Media Applications*, SIAM Conference on Mathematical & Computational Issues in Geosciences. Stanford University, California, July 2015.

20. G. Pencheva, G. Singh, K. Kumar, C. Yuan, X. Yang, and M. F. Wheeler, *Modeling of Chemical Enhanced Oil Recovery on General Hexahedral Grids*, SIAM Conference on Mathematical and Computational Issues in Geosciences. Stanford University, California, July 2015.

21. G. Singh, M. F. Wheeler, G. Pencheva, K. Kumar, and T. Wick, *Coupled Flow and Geomechanics for Fractured Poroelastic Reservoirs*, SIAM Conference on Mathematical and Computational Issues in Geosciences. Stanford University, California, July 2015.

22. T. Almani, K. Kumar, G. Singh, and M. F. Wheeler, *Convergence Analysis of Multirate Coupling Schemes for Coupled Flow and Geomechanics*, SIAM Conference on Mathematical and Computational Issues in Geosciences. Stanford University, California, July 2015.

23. G. Singh, K. Kumar, G. Pencheva, and M. F. Wheeler, *Addressing Subsidence Issues using Coupled Flow and Geomechanics in Fractured Reservoirs*, CPGE 2014 Research Showcase in Petroleum and Geosystems Engineering, The University of Texas at Austin, November 6-7, 2014.

24. G. Singh, K. Kumar, G. Pencheva, T. Wick, and M. F. Wheeler, *Coupled Flow and Geomechanics for Fractured Poroelastic Reservoirs*, 24th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 18-19, 2014.

25. M. F. Wheeler and G. Singh, *Compositional Flow Modeling using Multi-point Flux Mixed Finite Element Method*, ECMOR XIV, 14th European Conference on Mathematics of Oil Recovery, Sicily, Italy, September 2014.

26. V. Girault, K. Kumar, G. Pencheva, G. Singh, and M. F. Wheeler, *Coupled Flow and Geomechanics for a Fractured Poroelastic Medium*, SPE Large Scale Computing and Big Data Challenges in Reservoir Simulation Conference and Exhibition, Istanbul, Turkey, September 2014.

27. T. Wick, A. Mikelic, M. F. Wheeler and G. Singh, *Phase Field Modeling for Pressurized Crack Propagation in a Porous Medium*, International Conference on Porous Media, InterPore, Milwaukee, May 2014.

28. G. Singh, O. Al-Hinai, G. Pencheva, and M. F. Wheeler, *Modeling Flow with Non-planar Fractures*, Conference on Mathematics of Finite Elements and Applications, Brunel, U.K., June 10-14, 2013.

29. G. Singh, G. Pencheva, K. Kumar, and M. F. Wheeler *Flow Modeling for Fractured Poroelastic Reservoirs*, 23rd Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin,October 26-27, 2013.

30. G. Singh, G. Pencheva, and M. F. Wheeler *Fluid Flow Modeling using Multi-point Flux Mixed Finite Element Method*, 22nd Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, October 30-31, 2012.

31. G. Singh and R. T. Johns *Phase Behavior Calculations using Compositional Space Parameterization*, 4th Annual Meeting, Gas Flooding Joint Industrial Project, The University of Texas at Austin, October 8-9, 2009.

32. Z. T. Karpyn, M. Piri, G. Singh, and C. J. Landry *Characterization of Fluid Micro-structures in Porous Media and their Relation to Wettability*, AGU Fall Meeting, San Francisco, California, December 2009.

33. M. F. Wheeler, and G. Singh *Multiscale Modeling for Multiphase Flow in a Fractured Porous Medium*, Report. No. 30/2014, Colloquium on Computational Multiscale Methods, Mathematical Research Institute of Oberwolfach, Germany, June 22-28, 2014.

34. T. Almani, V. Girault, K. Kumar, G. Singh, G. Pencheva, and M. F. Wheeler *Convergence Analysis and Stability of Iterative Coupling Schemes for Coupled Flow and Geomechanics in Fractured Poroelastic Media*, 7th International Conference on Porous Media & Annual Meeting, May 18-21, 2015, Padova, Italy.

Research Posters

1. "Selective Time-stepping Adaptivity for Non-linear Reactive Transport Problems", Y. Amanbek, G. Singh, and M. F. Wheeler, SIAM Conference on Computational Science and Engineering (CSE17), Atlanta, Georgia, Feb 26- Mar 3, 2017.

2. "An Integrated Case Study of the Frio CO_2 Sequestration Pilot Test for Safe and Effective Carbon Storage Including Compositional Flow and Geomechanics", H. Jung, G. Singh, D. N. Espinoza, and M. F. Wheeler, 26th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 1-2, 2016.

3. "Adaptive Time-stepping for Non-Linear Reactive Transport Problems", Y. Amanbek, G. Singh and M. F. Wheeler, 26th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 1-2, 2016.

4. "A Comprehensive Case Study of the Frio CO_2 Sequestration Pilot Test for Safe and Effective Carbon Storage Including Compositional Flow and Geomechanics", H. Jung and D. N. Espinoza, G. Singh and M. F. Wheeler, 2016 Mastering the Subsurface Through Technology Innovation and Collaboration: Carbon Storage and Oil and Natural Gas Technologies Review Meeting, August 16-18, 2016, Pittsburgh.

5. "Multirate Iterative vs Explicit Coupling Schemes for Coupling Flow with Geomechanics in Fractured Reservoirs: Efficiency vs. Accuracy", T. Almani, K. Kumar, G. Singh and M. F. Wheeler, Computational Methods in Water Resources 2016, June 20-24, 2016.

6. "Analysis, Efficiency, and Accuracy of Multirate Iterative vs Explicit Coupling Schemes for Coupled Flow and Geomechanics", T. Almani, K. Kumar, G. Singh, and M. F. Wheeler, 8^{th} International Conference on Porous Media & Annual Meeting of the International Society for Porous Media (InterPore), Cincinnati, Ohio, May 9–12, 2016.

7. "Efficiency of Multirate Iterative vs Explicit Coupling Schemes for Coupled Flow and Geomechanics", T. Almani, K. Kumar, G. Singh, and M. F. Wheeler, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 3-4, 2015.

8. "Electromagnetic Simulations for Reservoir Characterization using Super-paramagnetic Nanoparticles", Y. Kim, L. L. Raja, G. Singh, and M. F. Wheeler, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 3-4, 2015.

9. "Frio CO_2 Injection Site Revisited: A Combined Laboratory and Numerical Approach", H. Jung, D. N. Espinoza, G. Singh, T. Almani, and and M. F. Wheeler, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 3-4, 2015.

10. "Quantifying Flowrates from Temperature and Pressure Measurements in Deepwater Wells", A. Venkatraman, G. Singh, M. F. Wheeler, R. Hasan, S. Patni and H. Elshahawi, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 3-4, 2015.

11. "Upscaling Reactive Flow and Transport using Two-Scale Homogenization", Y. Amanbek, G. Singh, C. J. van Duijn, and M. F. Wheeler, 25th Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin, November 3-4, 2015.

12. "Numerical Optimization Techniques for Iteratively Coupled Flow and Geomechanics Problems", with T. Almani, K. Kumar, G. Singh, and M. F. Wheeler, 7^{th} International Conference on Porous Media & Annual Meeting of the International Society for Porous Media (InterPore), Padova, Italy, May 18–21, 2015.

13. "Advanced Applications for MFMFE on General Hexahedral Grids," K. Kumar, G. Singh, C. Yuan, X. Yang, and M. F. Wheeler, 7^{th} International Conference on Porous Media & Annual Meeting of the International Society for Porous Media (InterPore), Padova, Italy, May 18-21, 2015.

14. "Numerical Optimization Techniques for Iteratively Coupled Flow and Geomechanics Problems," T. Almani, K. Kumar, G. Pencheva, and M. F. Wheeler, 7^{th} International Conference on Porous Media & Annual Meeting of the International Society for Porous Media (InterPore), Padova, Italy, May 18-21, 2015.

15. "Coupled Multiphase Reservoir Fracture Flow," G. Singh, G. Pencheva, K. Kumar, and M. F. Wheeler, 23rd Annual Industrial Affiliates Meeting, Center for Subsurface Modeling, The University of Texas at Austin,October 26-27, 2013.
16. "Characterization of Fluid Micro-structures in Porous Media," G. Singh and Z. T. Karpyn, Graduate Student Exhibition, Pennsylvania State University, February 2008.

Student Mentoring

1. *Yerlan Amanbek* (PhD, Computational Science, Engineering & Mathematics) Advisor: Dr. Mary F. Wheeler
2. *Hojung Jung* (PhD, Petroleum & Geosystems Engineering) Advisor: Dr. David N. Espinoza

Reviewer for Scientific Journals

1. *Applied Energy*, Elsevier.
2. *Computer Methods in Applied Mechanics and Engineering*, Elsevier.
3. *Neural Processing Letters*, Springer.
4. *Computational Geosciences*, Springer.
5. *Concurrency and Computation: Practice and Experience*, Wiley.
6. *Mathematical Geosciences*, Springer.
7. *Transport in Porous Media*, Springer.
8. *Society of Petroleum Engineers Journal.*
9. *Journal of Computational Physics*, Elsevier.
10. *Geofluids*, Hindawi.

Memberships

1. *Society of Industrial and Applied Mathematics*
2. *American Institute of Chemical Engineers*
3. *European Association of Geoscientists and Engineers*

(References available upon request)