

# Małgorzata Peszyńska

## PUBLICATIONS and PRESENTATIONS

### PUBLICATIONS

#### Published in journals, books, and proceedings (chronological order)

Peer-reviewed journal publications: [3, 4, 5, 7, 8, 18, 19, 21, 24, 27, 28, 29, 30, 31, 32]

Peer-reviewed proceedings: [2, 6, 9, 12, 14, 17, 22, 26]

Proceedings: [10, 11, 13, 16, 15, 20, 23, 25]

Thesis: [1]

Reports and other (separate chronological order): [33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43]

#### Published in journals, books, and proceedings (chronological order)

- [1] M. Peszyńska, *Fluid flow through fissured media. Mathematical analysis and numerical approach*, Ph.D. Thesis, University of Augsburg, 1992, Augsburg, Germany.
- [2] \*M. Peszyńska, *Finite element approximation of a model of nonisothermal flow through fissured media*, in Finite Element Methods, M. Krizek, P. Neittaanmaki, R. Stenberg (Eds), Lecture Notes in Pure and Applied Mathematics **164** (1994), pp. 357–366, Marcel Dekker.
- [3] \*M. Peszyńska, *Analysis of an integro-differential equation arising from modelling of flows with fading memory through fissured media*, J. Partial Diff. Eqs. **8** (1995), pp. 159–173.
- [4] \*M. Peszyńska, *On a model for nonisothermal flow in fissured media*, Differential and Integral Equations **8** (1995), no. 6, pp. 497–1516.
- [5] \*M. Peszyńska, *Finite element approximation of diffusion equations with convolution terms*, Math. Comp. **65** (1996), no. 215, pp 1019-1037.
- [6] \*M. Peszyńska, *Memory effects and microscale*, Proceedings of IFIP Conference “Modelling and Optimization of Distributed Parameter Systems with Application in Engineering”, Warsaw, July 17-21, 1995 Proceedings: K. Malanowski, Z. Nahorski, M. Peszyńska (Eds.), Chapman & Hall, 1996.
- [7] \*J. Douglas, Jr., M. Peszyńska, R. E. Showalter, *Single phase flow in partially fissured media*, Transport in Porous Media **28**, pp. 285–306, 1997.
- [8] \*M. Peszyńska, R. E. Showalter, *A Transport Model with Adsorption Hysteresis*, Differential and Integral Equations, **11** (1998), no.2, 327–340.
- [9] M. Peszyńska, *A Differential Model of Adsorption Hysteresis with Applications to Chromatography*, III Coloquio sobre Ecuaciones Diferenciales Y Aplicaciones, May 1997, Vol. II, Angel Domingo Rueda, Jorge Guinez, eds., 1998 Universidad del Zulia.
- [10] M. Wheeler, T. Arbogast, S. Bryant, J. Eaton, Q. Lu, M. Peszyńska, I. Yotov, *Parallel Multiblock/Multidomain Approach for Reservoir Simulation*, SPE 51885, 15th SPE Reservoir Simulation Symposium, Houston, TX, Feb. 14-17, 1999.
- [11] S.E. Minkoff, C.M. Stone, J.G. Arguello, S. Bryant, J. Eaton, M. Peszyńska, M.F. Wheeler, *Staggered in Time Coupling of Reservoir Flow Simulation and Geomechanical Deformation: Step 1 - One-Way Coupling*, SPE 51920, 15th SPE Reservoir Simulation Symposium, Houston, TX, Feb. 14-17, 1999.
- [12] \*M. Peszyńska, Q. Lu, M. F. Wheeler, *Coupling different numerical algorithms for two-phase fluid flow*, MAFELAP 1999, Brunel University, June 1999, The Mathematics of Finite Elements and Applications X, MAFELAP X, J.R. Whiteman, Ed., Elsevier, 2000, pp. 205-214, August 1999.
- [13] M. Peszyńska, Q. Lu, M. F. Wheeler, *Multiphysics Coupling of Codes*, Computational Methods in Water Resources, L.R. Bentley, J.F. Sykes, C.A. Brebbia, W.G. Gray, and G.F. Pinder, Eds., A.A. Balkema, 2000, pp. 175-182.
- [14] M. F. Wheeler, J. A. Wheeler, M. Peszyńska, *A Distributed Computing Portal for Coupling Multi-Physics and Multiple Domains in Porous Media*, Computational Methods in Water Resources, L.R. Bentley, J.F. Sykes, C.A. Brebbia, W.G. Gray, and G.F. Pinder, Eds., A.A. Balkema, 2000, pp. 167-174.
- [15] M.F. Wheeler, , M. Peszyńska, X. Gai, O. El-Domeiri, *Modeling Subsurface Flow on PC Cluster*, High Performance Computing 2000, A. Tentner, Ed., SCS, pp. 318-323.
- [16] Q. Lu, M. Peszyńska, M.F. Wheeler, *A Parallel Multi-Block Black-Oil Model in Multi-Model Implementation*, (TICAM Report 01-34), SPE 66359, SPE Reservoir Simulation Symposium, Houston, TX, Feb. 11-14, 2001, in revised form [19].
- [17] \*M. Peszyńska, *Advanced Techniques and Algorithms for Reservoir Simulation, III: Multiphysics coupling for two phase flow in degenerate conditions*, IMA Volumes in Mathematics and its Applications, Volume 131: Resource Recovery, Confinement, and Remediation of Environmental Hazards, Eds.: J. Chadam, A. Cunningham, R.E. Ewing, P. Ortolova, and M.F. Wheeler, pp 21-40, Springer-Verlag, 2002.
- [18] \*M. Peszyńska, M. F. Wheeler, I. Yotov, *Mortar upscaling for multiphase flow in porous media*, Comp. Geosciences (6), pp. 73-100, 2002.
- [19] \*Q. Lu, M. Peszyńska, M. F. Wheeler, *A Parallel Multi-Block Black-Oil Model in Multi-Model Implementation*, SPE Journal 7(3), pp. 278-287, September 2002, SPE 79535, revised form of [16].

- [20] M. Peszyńska, S. Sun, *Reactive transport model coupled to multiphase flow models*, Computational Methods in Water Resources, S. M. Hassanizadeh, R.J. Schotting, W.G. Gray, and G.F. Pinder, Eds., Elsevier, 2002, pp. 923-930.
- [21] \*M.F. Wheeler, M. Peszyńska, *Computational Engineering and Science Methodologies for Modeling and Simulation of Subsurface Applications*, Advances in Water Resources, 25 (8-12): 1147-1173, Aug-Dec 2002
- [22] \*M. Peszyńska, E.W. Jenkins, M.F. Wheeler, *Boundary conditions for fully implicit two-phase flow model*, "Recent Advances in Numerical Methods for Partial Differential Equations and Applications", Xiaobing Feng and Tim P. Schulze, eds., Contemporary Mathematics Series (306), 2002, pp 85-106, American Mathematical Society.
- [23] M. F. Wheeler, M. Peszyńska, B. Rivière, *Computational Science Issues in Modeling Oil and Gas Production*, Proceedings of the 8th European Conference on the Mathematics of Oil Recovery-ECMOR VIII, EAGE.
- [24] \*S. Minkoff, C. M. Stone, S. Bryant, M. Peszyńska, M. F. Wheeler, *Coupled Fluid Flow and Geomechanical Deformation Modeling*, Journal of Petroleum Science and Engineering (2003), vol 38/1-2 pp 37 - 56.
- [25] J. Saltz, U. Catalyurek, T. Kurc, M. Gray, S. Hastings, S. Langella, S. Narayanan, R. Martino, S. Bryant, M. Peszynska, M. Wheeler, A. Sussman, M. Beynon, C. Hansen, D. Stredney, and D. Sessana. *Driving Scientific Applications by Data in Distributed Environments*, Proceedings of International Conference on Computational Science (ICCS 2003) Part IV, Melbourne, Australia (June 2-4, 2003). Lecture Notes in Computer Science, Vol. 2660, pp. 355-364, 2003.
- [26] \*M. Peszyńska, *Multiphysics Coupling of Three-Phase and Two-Phase Models of Flow in Porous Media*, in "Analysis and Simulation of Multifield Problems", Eds: Wolfgang Wendland, Messoud Efendiev, Lecture Notes in Applied and Computational Mechanics **12**, Springer-Verlag, 2003.
- [27] \*S. Minkoff, C. M. Stone, S. Bryant, M. Peszyńska, *Coupled Geomechanics and Flow Simulation for Time-Lapse Seismic Modeling*, Geophysics **69**, No 1, 2004. pp 200-211.
- [28] \*V. Bhat, V Matossian, M. Parashar, M. Peszyńska, M. Sen, P. Stoffa and M. F. Wheeler, *Autonomic Oil Reservoir Optimization on the Grid, Concurrency and Computation: Practice and Experience (17)*, 2005, pp 1-26.
- [29] \*Tahsin Kurc, Umit Catalyurek, Xi Zhang, Joel Saltz, Ryan Martino, Mary Wheeler, Malgorzata Peszynska, Alan Sussman, Christian Hansen, Mrinal Sen, Roustam Seifoullaev, Paul Stoffa, Carlos Torres-Verdin, Manish Parashar, *A Simulation and Data Analysis System for Large Scale, Data-Driven Oil Reservoir Simulation Studies, Concurrency and Computation: Practice and Experience (17)*, 2005, pp 1441-1467.
- [30] \*M. Peszyńska, *Mortar adaptivity in mixed methods for flow in porous media*, International Journal of Numerical Analysis and Modeling (**2**), No 3, 2005, pp 241-282.
- [31] \*M. Peszyńska, *The total compressibility condition and resolution of local nonlinearities in an implicit black-oil model with capillary effects*, Transport in Porous Media, (**63**), Number 1, April 2006, pp 201 - 222
- [32] \*M. Peszyńska, R. E. Showalter, *Multiscale elliptic-parabolic systems for flow and transport*, Electron. J. Diff. Eqns., Vol. 2007(2007), No. 147, pp. 1-30.

## Reports and other articles (chronological order)

- [33] M. Peszyńska, *The domain decomposition module for parallel realization of the algorithm for boundary value problems solving*, (in Polish), University of Warsaw, Research Report R.R.I.14, Warsaw, 1989.
- [34] M. Niezgodka, A. Siemińska-Lewandowska, B. Przygodzka, P. Kowalski, M. Peszyńska, and A. Trykozko, *A study of artificial freezing ground techniques for the needs of underground construction in Warsaw*, (in Polish), Systems Research Institute, Polish Academy of Sciences, Warsaw, April 1990.
- [35] M. Peszyńska, *The numerical implementation of SAM (Schwarz Additive Method) for discrete parabolic problems*, University of Warsaw, Research Report R.R.I.14, II.5.2, Warsaw 1990.
- [36] M.F. Wheeler, M. Peszyńska, C. Dawson, *Multiphysics couplings for environmental problems*, Proceedings of the DOD Users Group Conference, 2000, Albuquerque, New Mexico.
- [37] M. Peszyńska, Steve Bryant, Shuyu Sun, Tara LaForce and Shawn Snider, *Modeling of Couplex1 case with IPARS TRCHEM module*, TICAM Report 01-31, 2001.
- [38] M. Peszyńska and Shuyu Sun, *Multiphase Reactive Transport Module TRCHEM in IPARS*, TICAM Report 01-32, 2001.
- [39] Q. Lu, M. Peszyńska and Gai Xiuli, *Implicit Black-oil Model in IPARS Framework*, TICAM Report 01-33, 2001.
- [40] Mary F. Wheeler, J. Saltz, M. Peszyńska, *Addressing Domestic Energy Shortages with Reservoir Simulations*, National Partnership for Advanced Computational Infrastructure (NPACI) Partnership Report 2002, Eds.: R. Graham.
- [41] Mary F. Wheeler, S. L. Bryant, R. Martino, M. Peszyńska, A. Sussmann, J. Saltz, M. Parashar, *Exploiting Aging Oil Fields with Advanced Computational Tools*, Envision (Quarterly Science Magazine) **18**, No. 1, (2002), Eds.: R. Graham.
- [42] M. Peszyńska, A. Doud, and M. F. Wheeler, *Stochastic reservoir simulations with GSLIB and two-phase and black-oil models under IPARS*, TICAM Report 03-30, 2003.
- [43] (featured in:) Nick Houtman, "The Glass Half Full (roughly speaking). It takes a model to measure subsurface water.", Oregon State University TERRA magazine, Summer 2007. <http://www.oregonstate.edu/terra>

## SELECTED PRESENTATIONS since 1998 (chronological order):

1. (Colloquium) *Hysteresis in Porous Media*, Southwest Texas State University, February 1998
2. *IPARS Multiblock Multi-Model*, Industrial Aff. Meeting, CSM, University of Texas at Austin, October 27, 1998

3. (Invited Talk) *Multiple Numerical Methods in a Multiblock Framework*, SIAM Conf. on Geosciences in San Antonio, March 24-28, 1999
4. (Invited Talk) *Domain Decomposition for Multiphase Flow: Interface Coupling of Different Numerical and Physical Models*, MAFELAP 1999, Brunel University, June 1999
5. (Invited Talk) *Multimodel Multiphysics Implementation under IPARS framework*, Minisymposium on “Computational Methods in Geoscience Applications” at the Society for Engineering Science 36th Annual Technical Meeting, Austin, TX, Oct. 25-27, 1999
6. (Invited Talk) Industrial Aff. Meeting, CSM, University of Texas at Austin, October 27, 1999
7. (Invited Talk) *Coupling of different multiphase flow models in IPARS framework*, Institute of Mathematics and Applications, Workshop on Resource Recovery, February 2000, Minneapolis
8. (Invited Talk) *Mathematical Issues in the Coupling of Single Phase Flow and Two-Phase Flow Models*, Texas PDE, March 25-26, 2000
9. (Invited Talk) *Coupling of different fluid flow codes for multiphase flow and transport*, Conference “Finite Elements in Flow 2000”, Austin, April 30-May 4, 2000
10. (Invited Talk) *Multiphysics Coupling of Codes*, XIII International Conference on Computational Methods in Water Resources, Calgary, Alberta, Canada, June 25-29, 2000
11. (Invited Talk) *Mathematical Issues in the Coupling of Multiphase Flow Models*, Minisymposium on “Mathematical Modeling and Numerical Simulation of Subsurface and Surface Flow Problems” at SIAM Annual Meeting, July 10-14, 2000, Puerto Rico
12. (Colloquium) Schlumberger Research Center, Ridgefield, Connecticut, July 2000
13. (Demonstration) “*Visualize to optimize (oil production)*”, National Science Foundation ACCESS center, Sept. 2000
14. (Invited Talk) *Developments in IPARS Multimodel, Multiphysics and Visualization Tools*, Industrial Aff. Meeting, CSM, October 11, 2000
15. (Invited Talk) *Parallel Clusters and Subsurface Modeling*, Session “The Future of Massively Parallel PC Clusters in Supercomputing” at NPACI All-Hands Meeting, San Diego, CA, February 6-9 2001
16. (Invited Talk) *Modeling with multiphysics couplings for multiphase flow*, Minisymposium on “Multiphysics Couplings for Geosciences” at Sixth SIAM Conference on Mathematical and Computational Issues in the Geosciences, Boulder, CO, June 10-14 2001
17. (Invited Talk) *Numerical issues for hysteresis in porous media*, Minisymposium on “Modeling, Analysis and Simulation of Hysteresis in Porous Media” at Sixth SIAM Conference on Mathematical and Computational Issues in the Geosciences, SIAM Geosciences, Boulder, CO, June 10-14 2001
18. (Invited Talk) *Upscaling and boundary conditions for multiphase flow in IPARS multiphysics*, Industrial Aff. Meeting, CSM, October 30, 2001
19. (Invited Plenary Talk) *Coupling of models for multiphase flow and transport in porous media with multiple scales*, IMA Minisymposium: Numerical Methods in the Geosciences, March 13-15, 2002
20. (Invited Talk) International Conference on Multifield Problems, University of Stuttgart, April 8-10, 2002
21. (Colloquium) Faculty of Mathematik and Informatik, University of Saarbrücken. April 11, 2002
22. (Participant) NSF-KDI workshop “Research Study of Scientific Collaboration”, April 26-28, 2002 in New Orleans.
23. (Colloquium) University of Colorado in Denver, June 17, 2002
24. (Invited Talk) Computational Methods in Water Resources XIV, Delft, June 2002
25. (Invited Talk) “*Coupling of models for multiphase flow and transport in porous media with multiple scales*”, SIAM 50<sup>th</sup> Anniversary Meeting, Philadelphia, July 8-12, 2002, Minisymposium on “Mathematical Modeling and Simulation in the Geosciences”,
26. (Invited Talk) “*Nonlinear solver for phase transitions with capillary effects in an implicit three-phase three-component black-oil model of flow in porous media*”, SIAM 50<sup>th</sup> Anniversary Meeting, Philadelphia, July 8-12, 2002, Minisymposium on “Numerical Methods for Fully Implicit Formulations of Nonlinear Systems”
27. (Participant) ACTS (DOE Advanced Computational Software Collection) Collection Workshop, Robust and High Performance Tools for Scientific Computing, Lawrence Berkeley National Laboratories, Sep. 4-7, 2002

28. (Invited Talk) *Dynamic Data-Driven Reservoir Simulation with IPARS*, Industrial Aff. Meeting, CSM, October 23, 2002
29. (Invited Talk) *Co-processing Viz for IPARS: Interactive Demo*, Industrial Aff. Meeting, CSM, October 23, 2002
30. (Demonstration) *NPACI and TACC booths*, Supercomputing 2002, Baltimore, Nov. 16-22, 2002
31. (Colloquium) University of Laramie, Math Dept., February 11, 2003
32. (Colloquium) Oregon State University, Dept. of Math., February 27, 2003
33. SIAM Conference on Mathematical and Computational Issues in the Geosciences (GS03), March 17-20, 2003,
  - (Invited Talk): *Multiscale and adaptive modeling for multiphase multicomponent flow*
  - (Invited Talk): Breaking the “input-run-output” paradigm in reservoir simulation
  - (co-author, with Sen et al) *Time-Lapse Seismic Simulations for Reservoir Studies*,
  - (co-author, with Minkoff et al) *Coupled Flow and Mechanics for Time-Lapse Seismic Modeling*
  - (co-author, with Charles M. Stone) *A Coupling Approach for Fluid Flow and Nonlinear Geomechanical Deformation Modeling*
  - (co-author, with Shuyu Sun et al) *Numerical computation of ANDRA-Couplex1 test case using locally conservative methods*

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34. (Colloquium) Portland State University, Dept. of Math., February 13, 2004
35. (Invited Talk) Hydrophiles, Oregon State University, March 10, 2004
36. (Seminar) Math. Grad. Students Research Seminar, OSU, Oregon State University, June 1, 2004
37. (Invited Talk) SIAM Annual Meeting, Portland, July 12-16, 2004, *Geostatistical simulations with a black-oil model*
38. (Seminar) *Mathematics of Adsorption*, Mathematics REU at OSU program, Oregon State University, July 21, 2004

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39. (Applied Mathematics and Computation Seminar) Oregon State University, October 1, 2004 *Introduction to porous and fractured media* (with Ralph Showalter).
40. (Applied Mathematics and Computation Seminar) Oregon State University, November 5, 2004 *Introduction to heterogeneous multiphase flow*
41. (Applied Mathematics and Computation Seminar) Oregon State University, January 28, 2005, *Nonlocal (memory) terms in flow and transport*
42. (Colloquium) *Adaptive numerical methods for flow in porous media*, New Mexico State University, Department of Mathematics, February 3, 2005
43. (Seminar) *Multi-\* Mathematics*, Math. Grad. Students Research Seminar, OSU, Oregon State University, February 9, 2004
44. (Seminar), Applied Mathematics and Computation Seminar, Oregon State University, April 29, 2005, *Primer on domain decomposition methods for flow and transport. I*
45. (Seminar), Applied Mathematics and Computation Seminar, Oregon State University, June 3, 2005, *Secondary diffusion*
46. (Invited, co-author, with Ralph Showalter), SIAM Conference on Mathematical and Computational Issues in the Geosciences, Avignon, June 7-10, 2005, minisymposium on Multiscale Methods), *Diffusion models with secondary flux*
47. (Seminar) *Mathematics of Adsorption*, Mathematics REU at OSU program, Oregon State University, July 27, 2005

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48. (Plenary keynote speaker), Workshop on “Modeling Coupled Processes in Porous Media” in Utrecht, Sept. 19-20, 2005
49. (Invited speaker), AMS Regional Meeting, University of Oregon, Nov. 12-13, 2005 (minisymposium on PDEs and applications), *Adaptive modeling and upscaling*
50. (Colloquium) Mathematics Colloquium, OSU, Nov 22, 2005, *Adaptive modeling in porous media*
51. (Seminar), Applied Mathematics and Computation Seminar, OSU, Dec. 2, 2005 and Jan. 13, 2006, *Lagrange multipliers and LBB condition in discrete mixed methods for Darcy and Stokes flow. Part I and Part II*
52. (Colloquium), Physics Colloquium, OSU, April 17, 2006, *Adaptive modeling of flow and transport in multi-scale porous media*

53. (Invited talk), Lewis and Clark University, April 19, 2006, *Multi-\* Mathematics in Subsurface*
54. (Seminar), Introduction to Mathematics Research at OSU), April 26, 2006, *The purpose of Numerical Analysis is insight, not movies*
55. (Invited principal speaker) Mathematical and Numerical Treatment of Fluid Flow and Transport in Porous Media May 22-26, 2006 at University of Nevada, Las Vegas *Nonlocal models of transport in multiscale porous media: something old and something new.*
56. (Invited lead speaker) Northwest Consortium in Multiscale Mathematics Workshop on Multiscale Modeling of Materials, May 25 - 30, 2006 Tacoma, WA *Multiscale models of flow and transport in porous media: modeling and computational aspects.*
57. (Applied Mathematics and Computation Seminar) Oregon State University, June 2, 2006, “Nonlocal models of flow and transport: something old and something new, something borrowed ...”, with R. E. Showalter
58. (Applied Mathematics and Computation Seminar) Oregon State University, June 9, 2006, “Pore-scale simulations with a vorticity-stream function solver for Navier-Stokes equations”, with Kyle Augustson
59. (Seminar) *Multi-\* Mathematics and Careers*, Mathematics REU at OSU program, Oregon State University, Aug.8, 2006
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60. (Invited talk) *Adaptive multiscale methods for flow and transport in porous media*, Pacific Northwest Numerical Analysis Seminar (PNWNAS), Simon Fraser University, Sept. 30, 2006
61. (Applied Mathematics and Computation Seminar) Oregon State University, March 2, 2007 *Peaceman and Thiem well models or how to remove a logarithmic singularity from your numerical solution*
62. (Applied Mathematics and Computation Seminar) Oregon State University, March 16, 2007, *Wells continued: large scale computing, geostatistical simulations and optimization*
63. (Applied Mathematics and Computation Seminar), Oregon State University, April 13, 2007, *A-posteriori error estimate framework in finite element and finite difference methods*
64. (Colloquium) *Nonlocal models of transport in multiscale porous media* University of Pittsburgh, 4/19/2007,
65. (Seminar Talk) *How to remove a logarithmic singularity from a numerical solution and to maximize the number  $N_c$* , University of Pittsburgh (Applied Math Seminar), 4/19/2007,
66. (Invited Talk) *A-posteriori error estimator for mortar mixed methods for flow in porous media* Finite Element Circus, University of Maryland) 4/21/2007,
67. (Invited talk) *From Copernicus and Sklodowska-Curie to Banach, Schauder and Ulam*, OSU Academy of Lifelong Learning, invited talk), 4/26/2007
68. (Main speaker): Rocky Mountains Mathematics Conference: Main Speaker), 6/18-22/2007, 10h of talks:
  - i) *RMMC I: Flow and transport in porous media at multiple scales*
  - ii) *RMMC II: Well models, geostatistical simulations using wells*
  - iii) *RMMC III: How to include inertia and flow-rate dependent effects*
  - iv) *RMMC IV: Black oil model and total compressibility condition*
  - v) *RMMC V: Coupled processes in porous media*
69. (Invited talk) (Workshop on Multiscale Nonlinear Systems, Oregon State University, June 25-29, 2007), *Multiscale modeling of preferential flow, Part I, Part II* joint with R. E. Showalter
70. (Poster Presentation) *Nonlocal models of flow and transport* (joint with R. E. Showalter), Workshop on Multiscale Nonlinear Systems, Oregon State University, June 25-29, 2007
71. (Poster Presentation) *Upscaling non-Darcy flow* (joint with C. Garibotti), (Workshop on Multiscale Nonlinear Systems, Oregon State University, June 25-29, 2007),
72. (Poster Presentation) *Numerical modeling of dynamic capillary pressure* (joint with S.-Y. Yi) Workshop on Multiscale Nonlinear Systems, Oregon State University, June 25-29, 2007,
73. (Principal Speaker) *Survey of new continuum numerical multiscale approaches and limitations*, DOE Summer School on Multiscale Mathematics and High Performance Computing, Oregon State University, June 29-July 3, 2007
74. (co-author with R.E. Showalter and Son-Young Yi) *Modeling preferential flow in subsurface*, US Congress on Computational Mechanics, San Francisco, July 23-26, 2007