

APPLIED MATHEMATICS AND STATISTICS

GRADUATE DIRECTOR: XIAOLIN LI
DEPARTMENT CHAIR: JAMES GLIMM

❖ Grants, Fellowships and Awards

- Balius, Trent E.** (2009) National Research Service Award, \$29,717. *National Cancer Institute*, National Institutes of Health, Bethesda, MD.
- Balius, Trent E.** (2010) Chemical Computing Group Excellence Award, \$1,125. Computers in Chemistry Division, *American Chemical Society*, Washington, D.C..
- Fujimoto, Yukiji K.** (2009) Sigma Xi Travel Award. *Sigma Xi*, Research Triangle Park, NC.
- Han, Hao** (2009) Government Scholarship, \$12,600. *Chinese Scholarship Council*, Beijing, China.
- Jiang, Lingling** (2009) Government Scholarship, \$12,600. *Chinese Scholarship Council*, Beijing, China.
- Jiang, Tao.** (2009) Student Poster Award. *Laufer Center for Computational Biology and Genome Sciences*, Stony Brook University, Stony Brook, NY.
- Lin, Ruonan** (2009) Government Scholarship, \$12,600. *Chinese Scholarship Council*, Beijing, China.
- Zhou, Xiaoping** (2009) Government Scholarship, \$12,600. *Chinese Scholarship Council*, Beijing, China.

❖ Singly Authored Publications/Research Reports/Reviews

- Ji, Xiaomei.** (2009) An Optimal Order Error Estimate of a Linear Finite Element Method for Smooth Solutions of 2D Systems of Conservation Laws. *Journal of Computational Analysis and Applications 11*: 364-382.

❖ Jointly Authored Publications/Research Reports/Reviews

- Chen, J.J., **Ahn, H.J.**, Steinhardt, G.F. (2009) Is Age at Toilet Training Associated with the Presence of Vesicoureteral Reflux or the Occurrence of Urinary Tract Infection. *Journal of Urology 182*(1): 268-71.
- Ahn, K.**, Gordon, D., Finch, S.J. (2009) Increase of Rejection Rate in Case-Control Studies with the Differential Genotyping Error Rates. *Statistical Applications in Genetics and Molecular Biology 8*(1): Article 25.
- Balius, Trent E.**, Rizzo, Robert C. (2009) Quantitative Prediction of Fold Resistance for Inhibitors of EGFR. *Biochemistry 48*(35): 8435-8448
- Owonikoko, Taofeek K., Ramalingam, Suresh S., Kanterewicz, Beatriz, **Balius, Trent E.**, Belani, Chandra P., Hershberger, Pamela A. (2010) Vorinostat increases carboplatin and paclitaxel activity in non-small cell lung cancer cells. *International Journal of Cancer 126*(3): 743-755
- McGillick, Brian E., **Balius, Trent E.**, Mukherjee, Sudipto, Rizzo, Robert C. (In Press) Origins of Resistance to the HIVgp41 Viral Entry Inhibitor T20. *Biochemistry*.
- Kimhy, D., Delespaul, P., Ahn, H., **Cai, S.**, Shikhman, M., Lieberman, J. A., Malaspina, D., and Sloan, R. P. (In Press) Concurrent measurement of “real world” stress and arousal in individuals with psychosis: Assessing the feasibility and validity of a novel methodology. *Schizophrenia Bulletin* Doi: 19,1093/schbul/sbp028.

- Carrascal, N.** and Green, D. F. (2010) Energetic decomposition with the generalized-Born and Poisson–Boltzmann solvent models: Lessons from association of G-protein components. *J. Phys. Chem. B* 114(15): 5096-5116.
- Chang S.W.**, Choi S.H., Li K., Saint-Fleur, R., Huang, C., Shen, T., Ahn, K., Gordon, D., Kim. W., Wu, R., Mendell, N.R., Finch, S.J. (2009) Growth mixture modeling as an exploratory analysis tool in longitudinal quantitative trait loci analysis. *BMC Proceedings* 3(Supplement 7): S112.
- Huang, C., Li, K., St. Fleur, R., **Chang, S.W.**, Choi, S.H., Shen, T., Shin, S.Y., Finch, S.J., and Mendell, N.R. (2009). Family based analysis of an MI endophenotype: Comparison of sampling designs. *BMC Proceedings* 3(Supplement 7): S120.
- Chen, Y.**, and Deng, Y. (2009) A Detailed analysis of communication load balance on BlueGene supercomputer. *Comp. Phys. Comm.* 180: 1251-1258.
- Jiao, X. and **Chen, Y.** (2009) Open-source software mexCGNS: MEX interface of CGNS (CFD General Notation System) for MATLAB and Octave. <http://code.google.com/p/mexcgns/>.
- Artifon, E., Kumar, A., Eloubeidi, M. A., **Chu, A.** et al. (2009) Prospective randomized trial of EUS versus ERCP-guided common bile duct stone removal: An interim report (with video). *Gastrointestinal Endoscopy* 69(2): 238-243.
- Wang, D., **Clark, B. L.**, and Jiao, X. (2009) An Analysis and Comparison of Parameterization-Based Computation of Differential Quantities for Discrete Surfaces. *Computer Aided Geometric Design* 26(5): 510-527.
- Jiao, X., Einstein, D. R., and **Dyedov, V.** (2010) Local Orthogonal Cutting Method for Computing Medial Curves and Its Biomedical Applications. *SIAM J. Sci. Comput.* 32(2): 947–969.
- Dyedov, V.**, Einstein, D. R., Jiao, X., Kuprat, A. P., Carson, J. P. and del Pin, F. (2009) Variational Generation of Prismatic Boundary-Layer Meshes for Biomedical Computing. *International Journal for Numerical Methods in Engineering* 79(8): 907–945.
- Jiao, X., Einstein, D. R., **Dyedov, V.**, and Carson, J. P. (2009) Automatic Identification and Truncation of Boundary Outlets in Complex Imaging-Derived Biomedical Geometries. *Medical & Biological Engineering & Computing* 47(9): 989-999.
- E.A. Feinberg, **Fei, Jun.** (2009) An inequality for variances of the discounted rewards. *Journal of Applied Probability* 46: 1209-1212.
- Wang, S., Samulyak, R., **Guo, T.** (2010) An embedded boundary method for parabolic problems with interfaces and application to multi-material systems with phase transitions. *Acta Mathematica Scientia* 30B(2): 499-521.
- Bolotnov, I., Behafarid, F., Shaver, D., **Guo, T.**, Wang, S., Hei, H., Anthal, S., Jansen, K., Samulyak, R., Podowski, M. (2010) Interaction of computational tools for multiscale multiphysics simulations of generation-IV reactors. *Proceedings of ICAPP 2010*: Paper 10141. San Diego, CA.
- Hu, J. and **Hu, P.** (2009) On the Performance of the Cross-Entropy Method. *Proceedings of the 2009 Winter Simulation Conference*: 459-468.
- Chang S.W., Choi S.H., Li K., Saint-Fleur, R., **Huang, C.**, Shen, T., Ahn, K., Gordon, D., Kim. W., Wu, R., Mendell, N.R., Finch, S.J. (2009) Growth mixture modeling as an exploratory analysis tool in longitudinal quantitative trait loci analysis. *BMC Proceedings* 3(Supplement 7): S112.
- Huang, C.**, Li, K., St. Fleur, R., Chang, S.W., Choi, S.H., Shen, T., Shin, S.Y., Finch, S.J., and Mendell, N.R. (2009). Family based analysis of an MI endophenotype: Comparison of sampling designs. *BMC Proceedings* 3(Supplement 7): S120.
- Irfan, M., **Iwerks, J.**, Kim, J., Mitchell, J.S.B. (2009) Guarding polyominoes. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.

- Lim, H., **Iwerks, J.**, Glimm, J., Sharp, D. (In Press) Nonideal Rayleigh-Taylor Mixing. *Proceedings of the National Academy of Sciences*.
- Sholokhova, Y., **Kim, D.**, Lindquist, W. B. (2009) Network flow modeling via lattice-Boltzmann based channel conductance. *Advances in Water Resources* doi:10.1016/j.advwatres.2008.10.016
- Montes, P., Memelli, H., Ward, C., **Kim, J.**, Mitchell, J.S.B., and Skiena, S.S. (2010) Optimizing restriction site placement for synthetic genomes. *Proc. 21st Annual Symposium on Combinatorial Pattern Matching*. New York, NY.
- Kim, J.**, Mitchell, J.S.B., and Zou, J. (2009) Routing parallel and merging lanes. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.
- Arkin, E.M., Fekete, S.P., **Kim, J.**, Mitchell, J.S.B., Sabhnani, G.R., and Zou, J. (2009) The pencil packing problem. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.
- Irfan, M., Iwerks, J., **Kim, J.**, Mitchell, J.S.B. (2009) Guarding polyominoes. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.
- Kim, J.**, Mitchell, J.S.B., and Zou, J. (2009) Approximating maximum flow in polygonal domains using spanners. *Proc. 21st Canadian Conference on Computational Geometry*: 115-118. University of British Columbia, Vancouver, BC.
- Kim, J.**, Kroeller, A., Mitchell, J.S.B., and Sabhnani, G. (2009) Scheduling aircraft to reduce controller workload. *Proc. 9th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems*. In Jens Clausen and Gabriele Di Stefano (Eds.), Dagstuhl Seminar Proceedings, Internationales Begegnungs- und Forschungszentrum fuer Informatik (IBFI). IT University of Copenhagen, Denmark.
- Kim, J.**, Zou, J., Mitchell, J.S.B., Krozel, J. (2009) Sensitivity of capacity estimation results subject to convective weather forecast errors. *Proc. AIAA Guidance, Navigation, and Control Conference*. American Institute of Aeronautics and Astronautics, Chicago, IL.
- Huang, C., **Li, K.**, St. Fleur, R., Chang, S.W., Choi, S.H., Shen, T., Shin, S.Y., Finch, S.J., and Mendell, N.R. (2009). Family based analysis of an MI endophenotype: Comparison of sampling designs. *BMC Proceedings* 3(Supplement 7): S120.
- Chang S.W., Choi S.H., **Li, K.**, Saint-Fleur, R., Huang, C., Shen, T., Ahn, K., Gordon, D., Kim. W., Wu, R., Mendell, N.R., Finch, S.J. (2009) Growth mixture modeling as an exploratory analysis tool in longitudinal quantitative trait loci analysis. *BMC Proceedings* 3(Supplement 7): S112.
- Lim, H.**, Iwerks, J., Glimm, J., Sharp, D. (In Press) Nonideal Rayleigh-Taylor Mixing. *Proceedings of the National Academy of Sciences*.
- Lim, N.**, Ahn, H., Moon, H., and Chen, J. J. (2010) Classification of high-dimensional data with ensemble of logistic regression models. *Journal of Biopharmaceutical Statistics* 20: 160-171.
- Manu**, Surkova, S., Spirov, A. V., Gursky, V., Janssens, H. , Kim, A. R., Radulescu, O., Vanario-Alonso, C. E., Sharp, D. H., Samsonova, M, Reinitz, R. (2009) Canalization of gene expression in the *Drosophila* blastoderm by gap gene cross regulation. *PLoS Biology* 7: e1000049.
- Manu**, Surkova, S., Spirov, A. V., Gursky, V., Janssens, H., Kim, A. R., Radulescu, O., Vanario-Alonso, C. E., Sharp, D. H., Samsonova, M., Reinitz, J. (2009) Canalization of gene expression in the *Drosophila* blastoderm by dynamical attractors. *PLoS Computational Biology* 5: e1000303.
- McGillick, Brian E., Balius, Trent E., **Mukherjee, Sudipto**, and Rizzo, Robert C. (In Press) Origins of Resistance to the HIVgp41 Viral Entry Inhibitor T20. *Biochemistry* doi: 10.1021/bi901915g.
- Lang, P. Therese. Brozell, Scott R. **Mukherjee, Sudipto**, Pettersen, Eric F., Meng, Elaine C., Thomas, Veena, Rizzo, Robert C., Case, David A., James, Thomas L., Kuntz, Irwin D. (2009) DOCK 6: Combining techniques to model RNA–small molecule complexes. *RNA* doi:10.1261/rna.1563609

- Myasnikova, E., Surkova, S., **Panok, L.**, Samsonova, M., Reinitz, J. (2009) Estimation of errors introduced by confocal imaging into the data on segmentation gene expression in *Drosophila*. *Bioinformatics* 25: 346 – 352.
- Taskent-Sezgin, H., Chung, J., **Patsalo, V.**, Miyake-Stoner, S. J., Miller, A. M., Brewer, S. H., Mehl, R. A., Green, D. F., Raleigh, D. P. and Carrico, I. (2009) Interpretation of p-cyanophenylalanine fluorescence in terms of solvent exposure and contribution of side-chain quenchers: A combined fluorescence, IR and molecular dynamics study. *Biochemistry* 48(38): 9040-9046.
- Zhang, Peng, **Powell, Reid**, Deng, Yuefan (2010) Interlacing Bypass Rings to Torus Networks for More Efficient Networks. *IEEE Transactions on Parallel and Distributed Systems*. IEEE computer Society Digital Library. IEEE Computer Society, <<http://doi.ieeecomputersociety.org/10.1109/TPDS.2010.89>>
- Basu, A., Mitchell, J. S. B., **Sabhnani, G.** (In Press) Geometric Algorithms for Optimal Airspace Design and Air Traffic Controller Workload Balancing. *ACM Journal of Experimental Algorithmics*.
- Chang S.W., Choi S.H., Li K., **Saint-Fleur, R.**, Huang, C., Shen, T., Ahn, K., Gordon, D., Kim. W., Wu, R., Mendell, N.R., Finch, S.J. (2009) Growth mixture modeling as an exploratory analysis tool in longitudinal quantitative trait loci analysis. *BMC Proceedings* 3(Supplement 7): S112.
- Chang S.W., Choi S.H., Li K., Saint-Fleur, R., Huang, C., **Shen, T.**, Ahn, K., Gordon, D., Kim. W., Wu, R., Mendell, N.R., Finch, S.J. (2009) Growth mixture modeling as an exploratory analysis tool in longitudinal quantitative trait loci analysis. *BMC Proceedings* 3(Supplement 7): S112.
- Huang, C., Li, K., St. Fleur, R., Chang, S.W., Choi, S.H., **Shen, T.**, Shin, S.Y., Finch, S.J., and Mendell, N.R. (2009). Family based analysis of an MI endophenotype: Comparison of sampling designs. *BMC Proceedings* 3(Supplement 7): S120.
- Huang, C., Li, K., St. Fleur, R., Chang, S.W., Choi, S.H., Shen, T., **Shin, S.Y.**, Finch, S.J., and Mendell, N.R. (2009). Family based analysis of an MI endophenotype: Comparison of sampling designs. *BMC Proceedings* 3(Supplement 7): S120.
- Sholokhova, Y.**, Kim, D., Lindquist, W. B. (2009) Network flow modeling via lattice-Boltzmann based channel conductance. *Advances in Water Resources* doi:10.1016/j.advwatres.2008.10.016
- Hu, J., Zhu, W., **Su, Y.**, and Wong, W.K. (In Press) Controlled Optimal Design Program for the Logit Dose Response Model. *Journal of Statistical Software*.
- Tintle, N.L.**, Gordon D., Van Bruggen D., Finch, S. (2009) The cost effectiveness of duplicate genotyping for testing genetic association. *Annals of Human Genetics* 73: 370-378.
- Wang, D.**, Clark, B. L., and Jiao, X. (2009) An Analysis and Comparison of Parameterization-Based Computation of Differential Quantities for Discrete Surfaces. *Computer Aided Geometric Design* 26(5): 510-527.
- van der Lelie, D., Taghavi, S., Monchy, S., Schwender, J., Miller, L., Ferrieri, R., Rogers, A., **Wu, X.**, Zhu, W., Weyens, N., Vangronsveld, J., and Newman, L. (2009) Poplar and its Bacterial Endophytes: Coexistence and Harmony. *Critical Reviews in Plant Sciences* 28(5): 346 -358.
- Laxmi, Y.R., Liu, X., Suzuki, N., Kim, S.Y., Okamoto, K., Kim, H.J., **Zhang, G.**, Chen, J.J., Okamoto, Y., Shibutani, S. (2010) Anti-Breast Cancer Potential of SS1020, a Novel Antiestrogen Lacking Estrogenic and Genotoxic Actions. *International Journal of Cancer* doi: 10.1002/ijc.25167
- Duan, C.J., Liang, Z.R., Bao, S.L., Zhu, H.B., Wang, S., **Zhang, G.**, Chen, J.J., Lu, H.B. (2010) Coupled Level Set Framework for Bladder Wall Segmentation with Application to MR Cypography. *IEEE Transactions on Medical Imaging* 29(3): 903-915.
- Wagshul, M.E., McAllister, J.P., Rashid, S., Li, J., Egnor, M.R., Walker, M.L., Yu, M., Smith, S.D., **Zhang, G.**, Chen, J.J., Benveniste, H. (2009) Ventricular Dilation and Elevated Aqueductal Pulsations in a New Experimental Model of Communicating Hydrocephalus. *Experimental Neurology* 218(1): 33-40.

- Cervo, F.A., Bruckenthal, P., Chen, J.J., Bright-long, L.E., Fields, S., **Zhang, G.**, Strongwater, I. (2009) Pain Assessment in Nursing Home Residents with Dementia: Psychometric Properties and Clinical Utility of the CNA Pain Assessment Tool (CPAT). *Journal of the American Medical Directors Association* 10(7): 505-510.
- Zhang, Peng**, Powell, Reid, Deng, Yuefan (2010) Interlacing Bypass Rings to Torus Networks for More Efficient Networks. *IEEE Transactions on Parallel and Distributed Systems*. IEEE computer Society Digital Library. IEEE Computer Society, <<http://doi.ieeecomputersociety.org/10.1109/TPDS.2010.89>>
- Li, X., Glimm, J., Jiao, X., Peyser C., and **Zhao, Y.** (2010) Study of crystal growth and solute precipitation through front tracking method. *Acta Mathematica Scientia* 20: 377-290.
- Zou, J.**, Krozel, J., Krozel, J., and Mitchell, J.S.B. (2009) Two methods for computing directional capacity given convective weather constraints. *Proc. AIAA Guidance, Navigation, and Control Conference*. American Institute of Aeronautics and Astronautics, Chicago, IL.
- Kim, J., Mitchell, J.S.B., and **Zou, J.** (2009) Routing parallel and merging lanes. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.
- Arkin, E.M., Fekete, S.P., Kim, J., Mitchell, J.S.B., Sabhnani, G.R., and **Zou, J.** (2009) The pencil packing problem. *Proc. 19th Fall Workshop on Computational and Combinatorial Geometry*. Tufts University, Medford, MA.
- Kim, J., **Zou, J.**, Mitchell, J.S.B., Krozel, J. (2009) Sensitivity of capacity estimation results subject to convective weather forecast errors. *Proc. AIAA Guidance, Navigation, and Control Conference*. American Institute of Aeronautics and Astronautics, Chicago, IL.

❖ **Abstracts, Conferences/Colloquia, Presentations, Symposiums, Workshops**

- Au, Loretta** and Green, David F. (2009) Understanding the association of G-protein subunits using *in silico* protein design. *Chemistry Research Day*. Stony Brook University, Stony Brook, NY.
- Au, Loretta** and Green, David F. (2010) Computational and statistical methods in understanding the relationships of heterotrimeric G-protein subunits. *New York Academy of Science Structural Biology Discussion Group Winter Meeting*. New York, NY. *New York Theoretical and Computational Chemistry Conference*. New York, NY.
- Mukherjee, Sudipto, **Balius, Trent E.**, Goyal, Rashi, Holden, Patrick, Huang, Yulin, Ascher, Kenneth, Rizzo, Robert C. (2009) Optimization of DOCK for Virtual Screening. *23rd Annual Meeting of Groups Studying the Structures of AIDS-related Systems and Their Application to targeted Drug Design*. NIH, Bethesda, MD.
- Balius, Trent E.**, Rizzo, Robert C. (2009) Prediction of Fold Resistance for Inhibitors of EGFR using All-atom Molecular Dynamics Simulations. *238th American Chemical Society National Meeting & Exposition*. Washington, D.C.
- Balius, Trent E.**, Rizzo, Robert C. (2010) Computational prediction of fold resistance in EGFR drug resistance. *239th American Chemical Society National Meeting & Exposition*. San Francisco, CA.
- Bo, W.** (2010) Primary Breakup of a High Speed Liquid Jet. *62nd Annual Meeting of the APS Division of Fluid Dynamics*. Minneapolis, MN.
- Bo, W.** (2010) HPC for Primary Breakup of a Diesel Jet. *Minisymposium on Scaling Challenges in Massively Parallel Computing, SIAM Conference on Parallel Processing and Scientific Computing*. Seattle, WA. (invited speaker)
- Li, X. **Bo, W.** Glimm, J. Zhang F. and Zhao, Y. (2009) Front Tracking and Applications to Fluid Instabilities, Phase Transition and Financial Derivatives. *The IMACS World Congress*. Athens, GA.

- Carrascal, Noel** and Green, David F. (2009) Understanding G-alpha function with energetic component analysis. *European Symposium of the Protein Society*. Zurich, Switzerland.
- Carrascal, Noel** and Green, David F. (2009-2010) Dissecting heterotrimeric G-protein function with energetic component analysis. *Protein Society Symposium*. Boston, MA. *New York Structural Biology Discussion Group Summer Meeting*. Cold Spring Harbor, NY. *Laufer Center for Computational Biology and Genome Sciences Inaugural Symposium*. Stony Brook, NY. *New York Theoretical and Computational Chemistry Conference*. New York, NY. *New York Structural Biology Discussion Group Winter Meeting*. New York, NY.
- Xing, Haipeng, Sun, Ning and **Chen, Ying**. (2010) Credit Rating Dynamics in the Presence of Structural Breaks. *Joint Statistical Meetings*. Vancouver, BC.
- Cru, David** and Hu, Jiaqiao. (2009) Dynamic Hedge Fund Asset Allocation Under Multiple Regimes. *INFORMS Annual Meeting*. San Diego, CA.
- Dyedov, V.**, Einstein, D. R., Jiao, X., Kuprat, A. P., Wang, D. (2009) Extensions and Comparisons of Generation of Hybrid Prism-Tetrahedron Meshes with Biomedical Applications. *10th U.S. National Congress on Computational Mechanics*, Columbus, OH.
- Li, X., Bo, W., **Fix, B.**, Glimm, J., Kim, J. (2010) Front tracking and its coupling with convection dominated problems. *Departmental Colloquium*. Wichita State University, Wichita, KS.
- Fujimoto, Yukiji K.** and Green, David F. (2009-2010) Understanding specific carbohydrate recognition by the antiviral lectin Cyanovirin-N. *Protein Society Symposium*. Boston, MA. *Laufer Center for Computational Biology and Genome Sciences Inaugural Symposium*. Stony Brook, NY. *New York Structural Biology Discussion Group Winter Meeting*. New York, NY. *New York Theoretical and Computational Chemistry Conference*. New York, NY.
- Samulyak, R., Wei, H., **Guo, T.** (2009) Multi-Physics Simulations of the Failure of Fuel Rods During Accidents in Sodium-Cooled Fast Reactors. *Workshop on Characterization of Advanced Materials Under Extreme Environments for the Next Generation Energy Systems*. Brookhaven National Laboratory, Upton, NY.
- Hu, Ping** and Hu, Jiaqiao (2009) On the Performance of the Cross-Entropy Method. *The 2009 Winter Simulation Conference*. Austin, TX.
- Iwerks, J.** (2009) Guarding Polyominoes. *Fall Workshop on Computational Geometry 2009*. Tufts University, Medford, MA.
- Jiang, Tao** and Green, David F. (2009) Global Parametric Analysis of Heterotrimeric G-protein Signaling. *The 23rd Symposium of the Protein Society*. Boston, MA. *New York Structural Biology Discussion Group Summer Meeting*. Cold Spring Harbor, NY. *3rd Annual ICB&DD Symposium*. Stony Brook, NY. *The Inaugural Symposium of the Laufer Center for Computational Biology and Genome Sciences*. Stony Brook, NY. *Chemistry Research Day*. Stony Brook, NY.
- Li, X., Bo, W., Fix, B., Glimm, J., **Kim, J.** (2010) Front tracking and its coupling with convection dominated problems. *Departmental Colloquium*. Wichita State University, Wichita, KS.
- Lim, HyunKyung** (2009) Subgrid Models for Mass and Thermal Diffusion in Turbulent Mixing. *SIAM Conference on Computational Science and Engineering (CSE09)*. Miami Hilton, Miami, FL.
- Patsalo, Vadim**, Raleigh, Daniel P, and Green, David F. (2009) Thermostabilization of Cyanovirin-N by Rational Protein Design. *The 24th Annual Meeting of the Groups Studying the Structures of AIDS-Related Systems and Their Application to Targeted Drug Design*. Bethesda, MD. *Protein Society Symposium*. Boston, MA. *New York Structural Biology Discussion Group Summer Meeting*. Cold Spring Harbor, NY. *The Inaugural Symposium of the Laufer Center for Computational Biology and Genome Sciences*. Stony Brook, NY.
- Patsalo, Vadim**, Raleigh, Daniel P, and Green, David F. (2010) Rational Stabilization of Cyanovirin-N. *Joint Meeting of NY Protein Engineering Groups*. Rutgers University, New Brunswick, NJ.

- Mukherjee, Sudipto**, Balius, Trent E., Goyal, Rashi, Holden, Patrick, Huang, Yulin, Ascher, Kenneth, Rizzo, Robert C. (2009) Optimization of DOCK for Virtual Screening. *23rd Annual Meeting of Groups Studying the Structures of AIDS-related Systems and Their Application to targeted Drug Design*. NIH, Bethesda, MD.
- Mukherjee, Sudipto**, Balius, Trent E., Rizzo, Robert C. (2009) Algorithmic improvements in DOCK6 for enhanced conformational sampling. *238th American Chemical Society National Meeting & Exposition*. Washington, D.C.
- Xing, Haipeng, **Sun, Ning** and Chen, Ying. (2010) Credit Rating Dynamics in the Presence of Structural Breaks. *Joint Statistical Meetings*. Vancouver, BC.
- Dyedov, V., Einstein, D. R., Jiao, X., Kuprat, A. P., **Wang, D.** (2009) Extensions and Comparisons of Generation of Hybrid Prism-Tetrahedron Meshes with Biomedical Applications. *10th U.S. National Congress on Computational Mechanics*, Columbus, OH.
- Samulyak, R., **Wei, H.**, Guo, T. (2009) Multi-Physics Simulations of the Failure of Fuel Rods During Accidents in Sodium-Cooled Fast Reactors. *Workshop on Characterization of Advanced Materials Under Extreme Environments for the Next Generation Energy Systems*. Brookhaven National Laboratory, Upton, NY.
- Samulyak, Roman, Parks, Paul, **Wu, Lingling**. (2009) Simulation of Formation and Implosion of Plasma Liners for Magnetized Target Fusion. *51st Annual Meeting of the Division of Plasma Physics*. Atlanta, GA.
- Zhang, G.**, Chen. J.J. (2010) Adaptive Fitting of Linear Mixed-Effects Models with Correlated Random-effects. *SIAM Conference on Data Mining (SDM10)*. Columbus, OH.
- Li, X. Bo, W. Glimm, J. **Zhang, F.** and Zhao, Y. (2009) Front Tracking and Applications to Fluid Instabilities, Phase Transition and Financial Derivatives. *The IMACS World Congress*. Athens, GA.
- Li, X. Bo, W. Glimm, J. Zhang F. and **Zhao, Y.** (2009) Front Tracking and Applications to Fluid Instabilities, Phase Transition and Financial Derivatives. *The IMACS World Congress*. Athens, GA.
- Li, X. L. **Zhao, Y.** and Jiao, X. (2009) FronTier and Application to the Simulation of Crystal Growth. *10th US National Congress on Computational Mechanics*. Columbus, OH.

❖ **Post-Doctorates Obtained and Professional Appointments**

Chang, S.W. (2009) Post-doctoral fellow. Institute of Biomedical Sciences, *Academia Sinica*, Taipei, Taiwan.

❖ **Internship Appointments**

Dyedov, Vladimir. (2009) Summer Intern. *Idaho National Laboratory*, Idaho Falls, ID.