

# Jan Fiala

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- Education** University of Maine, Orono, Ph.D., Physics, December 2004.  
Czech Technical University, Prague, M.Sc., Mathematical Physics, June 1997.
- Research interests** Theoretical studies and computer simulations of the dynamics of first-order transitions including nucleation. Previous research has been on phase transition of statistical models defined on Farey fractions, transfer operators, and their spectra.
- Teaching experience** **Graduate**, Classical Dynamics  
**Undergraduate**, Quantum Mechanics  
**Other experience**
- Laboratory and workshop in introductory physics, University of Maine, Orono.
  - Help sessions and grading, Department of Mathematics, University of Maine, Orono.
  - Teaching assistant for thermodynamics & statistical physics, theoretical physics, and many body theory (graduate), Czech Technical University, Prague.
  - Taught one year of physics (including mechanics, thermodynamics, electrodynamics and special relativity), prepared students for the Czech Physics Olympiad and graded Olympiad questions, Gymnázium J. Heyrovského, Prague.
- Publications** J. Fiala, K. Barros, H. Gould, and W. Klein, “Early stages of continuous ordering and spinodal decomposition,” in preparation.
- T. Prellberg, P. Kleban, and J. Fiala, “The Farey fraction spin chain: Effects of an external field,” in preparation.
- J. Fiala, and P. Kleban, “Intervals between Farey fractions in the limit of infinite level,” math-ph/0505053.
- T. Prellberg, J. Fiala, and P. Kleban, “Cluster approximation for the Farey fraction spin chain,” *J. Stat. Phys.* **123**, 455–471 (2006).
- J. Fiala and P. Kleban, “Generalized number theoretic spin chain-connections to dynamical systems and expectation values,” *J. Stat. Phys.* **121**, 553–577 (2005).
- J. Fiala and P. Kleban, “Thermodynamics of the Farey fraction spin chain,” *J. Stat. Phys.* **116**, 1471–1490 (2004).
- J. Fiala, P. Kleban, and A. Özlük, “The phase transition in statistical models defined on Farey fractions,” *J. Stat. Phys.* **110**, 73–86 (2003).

- Meetings, presentations** Winter School on Geometry and Physics, Srní, Czech Republic, 1996.  
Student Winter, School on Mathematical Physics, Horní Polubný, Czech Republic, 1996; contributed talk: “Pontrjagyn’s principle of maxima.”  
Student Winter School on Mathematical Physics, Horní Polubný, 1997; contributed talk: “Mathematical and experimental study of pulsatile flow in elastic tubes.”  
Workshop on Geometrical Methods in Physics, Białowieża, Poland, 1997.  
Workshop on Biomechanical Modeling and Numerical Simulation, Institute of Thermomechanics, Academy of Science, Prague, 1997; invited talk: “Mathematical and experimental study of pulsatile flow in elastic tubes.”  
Workshop on Maass Wave Forms, Selberg Zeta Function, and Spin Chains, Bonn, Germany, 2002; invited talk: “The phase transition in statistical models defined on Farey fractions.”  
Statistical Mechanics Conference, Rutgers University, 2003; contributed talk: “RG results for the Farey fraction spin chain.”  
Annual Greater Boston Area Statistical Mechanics Meeting, Brandeis University; contributed talks: “Thermodynamics of the Farey spin chain,” (2003), “Comments on the correlation length of the Farey fraction spin chain,” (2004), “Early stages of continuous ordering and spinodal decomposition,” (2005).
- Languages** English, Czech, Russian, and German.
- References** **Harvey Gould**, Clark University, Department of Physics, Worcester, MA 01610-1477, phone: (508) 793-7485, e-mail: hgould@clarku.edu.  
**S. Les Blatt**, Clark University, Department of Physics, Worcester, MA 01610-1477, phone: (508) 793-7366, e-mail: lblatt@clarku.edu.  
**Peter Kleban**, University of Maine, Laboratory for Surface Science and Technology Engineering Science Research Building, 5708 ESRB-Barrows, Orono, ME 04469, phone: (207) 581-2258, e-mail: kleban@maine.edu.  
**William O. Bray**, University of Maine, Department of Mathematics and Statistics, 5752 Neville Hall, Orono, ME 04469, phone: (207) 581-2258, e-mail: bray@math.umaine.edu.