Piotr Habdas

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Research Experience

Saint Joseph's University Philadelphia, Pennsylvania
Assistant Professor, Physics Department, August 2004 to present.

Emory University Atlanta, Georgia
Postdoctoral fellow, Physics Department, December 2001 to August 2004. Studied local perturbations of colloidal suspensions using confocal microscopy. Worked with Prof. Eric R. Weeks.

Memorial University of Newfoundland St. John's, Newfoundland, Canada
Postdoctoral fellow, Department of Physics and Physical Oceanography, December 1999 to November 2001. Investigated the dynamics of defects in one-dimensional traveling finger patterns. Studied the kinematics of spheres moving through a Bingham liquid. Researched the morphology of impact craters in granular media. Worked with Prof. John R. de Bruyn.

Teaching Experience

Emory University Atlanta, Georgia
Instructor, Freshman Seminar, Fall and Spring 2003, Spring 2004.

Memorial University of Newfoundland St. John's, Newfoundland, Canada
Instructor, Computational Physics and Data Analysis, Fall 2000.

Silesian University Katowice, Poland
Instructor, first and second year physics graduate courses, October 1995 to June 1998.

St. Staszic High School Sosnowiec, Poland
Physics teacher, lectures in English, September 1995 to October 1999.

Private Elementary School Katowice, Poland
Physics teacher, September 1995 to October 1997.

Silesian University Katowice, Poland
Lab assistant during General Physics lectures, September 1994 to June 1995.

Education

Silesian University Katowice, Poland
Ph. D. in physics, December 1999. Dissertation title: "Temperature and pressure studies of dielectric permittivity in near-critical binary mixtures." Advisor: Prof. Sylwester Rzoska, Institute of Physics, Silesian University.

Silesian University Katowice, Poland
Ms.C. in physics, June 1995. Dissertation title: "The study of the Gaussian cage model in simple liquids." Advisor: Prof. Zygmunt Gburski, Institute of Physics, Silesian University

Seminars

- Saint Joseph's University, Dean's Colloqium, Philadelphia, PA, Apirl 2007.
- Bucknell University, seminar, Lewisburg, PA, April 2005.
- Saint Joseph's University, seminar, Philadelphia, PA, March 2005.
- Saint Joseph's University, Sigma Xi Physics Society talk, Philadelphia, PA, November 2004.
- Saint Joseph's University, seminar, Philadelphia, PA, November 2004.
- Saint Joseph's University, seminar, Philadelphia, PA, February 2004.
- University of P.J. Šafárik, seminar, Kosice, Slovak Republic, May 2003.
- University of Mainz, seminar, Mainz, Germany, May 2003.
- University of Edinburgh, seminar, Edinburgh, Scotland, May 2003.
- Harvard University, "squishy" physics talk, Cambridge, MA, April 2003.
- Brandeis University, seminar, Waltham, MA, April 2003.
- Memorial University of Newfoundland, seminar, St. John's, NF, Canada, April 2001.
- University of Wroclaw, seminar, Wroclaw, Poland, March 1999.
- Silesian University, seminar, Katowice, Poland, February 1999.
- Silesian University, seminar, Katowice, Poland, December 1998.

Conferences: Talks and Posters

- *APS Meeting*, talk, New Orleans, LA, March 2008.
- *Sigma Xi Scientific Research Society Annual Meeting*, poster, Orlando, FL, November 2007.
- *AAPT Summer Meeting*, poster, Greensboro, NC, July 2007.
- *SEPS/AAPT Meeting*, talk, Philadelphia, PA, March 2006.
- *APS Meeting*, talk, Baltimore, MD, March 2006.
- *APS Meeting*, invited talk, Los Angeles, CA, March 2005.
- *APS-DFD Meeting*, talk, East Rutherford, NJ, November 2003.
- *Slow Dynamics in Complex Systems*, talk, Sendai, Japan, November 2003.
- *APS Meeting*, talk, Austin, TX, March 2003.
- *Society of Rheology Meeting*, talk, Minneapolis, MN, October 2002.
- *Gordon Granular Conference*, poster, Plymouth, NH, July 2002.
- *Principles of Soft Matter*, poster, Santa Fe, NM, May 2001.
- *Nonlinear Dynamics and Pattern Formation Conference*, poster, Austin, TX, June 2001.
- *Soft Condensed Matter Conference*, poster, Geilo, Norway, April 1999.
- *Dielectric and Related Phenomena Conference*, poster, Szczyrk, Poland, September 1998.
- *Complex Fluids Far from Equilibrium Conference*, poster, Trieste, Italy, June 1998.
- *Conference of Bilingual Teachers*, poster, Warsaw, Poland, June 1997.
- *Dielectric and Related Phenomena Conference*, poster, Szczyrk, Poland, September 1996.

Grants and Honors

Major Research Instrumentation Grant, NSF, co-PI (Spring 2008).

Howard Hughes Medical Institute Grant, co-PI (Fall 2007).

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2007) Andrzej Latka and Piotr Habdas *"Particle dynamics near the re-entrant glass transition."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2007) Stephen Buch and Piotr Habdas *"Motion of a sphere moving through a non-Newtonian liquid."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2007) Michele Mestrinaro and Piotr Habdas *"Investigations of aging in attractive colloidal glass."*

Cottrell College Science Award, Research Coropration (Spring 2007) *"Fluorescence microscopy studies of the re-entrant glass transition."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2006) Andrzej Latka and Piotr Habdas *"Particle dynamics near the re-entrant glass transition."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2006)
Hans Wheelersburg and Piotr Habdas, *"Steady-state drag in a yield-stress liquid."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2005) Nora Graneto, Andrzej Latka, and Piotr Habdas *"Microscopy studies of multiple glassy states."*

Saint Joseph's University Sigma Xi Chapter Grant (Fall 2005)
Hans Wheelersburg and Piotr Habdas, *"Kinematics of spheres moving through non-Newtonian liquids."*

Saint Joseph's University Summer Research Grant (Summer 2005)

Saint Joseph's University Sigma Xi Chapter Grant (Spring 2005)
Bernice McPherson, Piotr Habdas and Andrew J. McElrone, *"A passive mechanism of bacterial pathogen movement in susceptible host plants."*

Saint Joseph's University Sigma Xi Chapter Grant (Spring 2005)
Nora Graneto and Piotr Habdas, *"Fundamental properties of the yield stress liquids."*

Howard Hughes Teacher/Scholar (Spring and Fall 2003) fellow

KBN graduate student promotion grant, (awarded by Polish NSF to outstanding graduate students), *"Pressure and temperature studies of dielectric permittivity in mixtures of limited miscibility"* (1997-1999).

Certificate in Advanced English (June 1997).

Publicity and Other Activities

"SJU receives 413,000 NSF grant to enhance microscopy", City Suburban News, 10 Sept. 2008.

"SJU receives 413,000 grant to enhance microscopy", SJU web site, 26 Aug. 2008.

"Summer scholars test effectivness of new cancer drug", SJU Hawk Eye, 18 Aug. 2008.

"SJU summer scholars test effectivness of potential cancer drug", SJU web site, 31 July 2008.

"Squish Physics" lectures, West Chester East High School, 18 Nov. 2005.

"Craters in a sandbox", Phys. Rev. Focus, story 8, 12 Sept. 2003.

Other Professional Activities

Member: American Physical Society, Society of Rheology, American Associaton of Physics Teachers

Attended New Faculty Workshop, College Park, MD, Nov. 4-7, 2004.

Attended Analytical and Quantitative Light Microscopy Summer School, Woods Hole, MA, May 7-15, 2002.

Publications

A. McElrone, S. Jackson, and P. Habdas, "Hydraulic disruption and passive migration by a bacterial pathogen in oak tree xylem", J. Experimental Botany **59**, 2649 (2008).

K.E. Holloway, P. Habdas, N. Semsarillar, K. Burfitt, and J.R. de Bruyn, "Spreading and fingering in spin coating", Phys. Rev. E **75**, 046308 (2007).

P. Habdas, Eric R. Weeks, David G. Lynn, "Squishy materials", The Physics Teacher **44**, 276 (2006).

P. Habdas and J.R. de Bruyn, "Dynamics of defects and traveling waves in an interfacial finger pattern", Physica D **200**, 273 (2005).

P. Habdas, D. Schaar, Andrew C. Levitt, Eric R. Weeks, "Forced motion of a probe particle near the colloidal glass transition", Europhys. Lett. **67**, 477 (2004).

A.M. Walsh, K.E. Holloway, P. Habdas, and J.R. de Bruyn, "Morphology and scaling of impact craters in granular media", Phys. Rev. Lett. **91**, 104301 (2003).

J.R. de Bruyn, P. Habdas, S. Kim, "Fingering instability of a sheet of yield-stress fluid", Phys. Rev. E. **66**, 031504 (2002).

P. Habdas and Eric R. Weeks, "Video Microscopy of Colloidal Suspensions and Colloidal Crystals", Current Opinion in Colloid & Interface Science **7**, 196 (2002).

S.J. Rzoska, A. Drozd-Rzoska, J. Ziolo, P. Habdas, "On the critical anomaly of dielectric permittivity for the temperature and pressure paths on approaching the critical consolute point", Phys. Rev. E **64**, 061104 (2001).

P. Habdas, M. Case, J.R. de Bruyn, "Behavior of sink and source defects in a one-dimensional traveling finger pattern", Phys. Rev. E **63**, 066305 (2001).

P. Habdas, P. Urbanowicz, P. Malik, S.J. Rzoska, "Temperature studies of dielectric permittivity and mass density pretransitional anomalies in binary mixtures", Phase Transitions **73**, 439 Part A (2001).

P. Habdas, M. Paluch, A. Drozd-Rzoska, P. Malik, S.J. Rzoska, "Pressure and temperature studies of dielectric permittivity in the homogeneous phase of nitrobenzene-dodecane binary mixture", Chem. Phys. **241**, 351 (1999).

S.J. Rzoska, M. Paluch, A. Drozd-Rzoska, P. Habdas, P. Urbanowicz, "Pressure behaviour of dielectric permittivity on approaching the critical consolute point", Europhys. Lett. **45**, 334 (1999).

M. Paluch, S.J. Rzoska, P. Habdas, J. Ziolo, "On the isothermal, pressure behaviour of the relaxation times in supercooled glass-forming liquids", J. Phys.: Condens. Matter **10**, 4131 (1998).

M. Paluch, J. Ziolo, S. J. Rzoska, P. Habdas, "The influence of pressure on dielectric relaxation for phthalate derivatives in supercooled state", J. Phys.: Condens. Matter **9**, 5485 (1997).

M. Paluch, J. Ziolo, P. Habdas, S. J. Rzoska, "Dielectric relaxation of glass-forming dibutyl phthalate under high pressure", High Temperatures - High Pressures **29**, 155 (1997).

M. Paluch, P. Habdas, S. J. Rzoska, T. Schimpel, "Electric permittivity in the one- and two-phase region of 1-nitropropane-hexadecane near-critical solution", Chem. Phys. **213**, 483 (1996).

M. Paluch, J. Ziolo, P. Habdas, S. J. Rzoska, "Isothermal and high - pressure studies of dielectric relaxation in supercooled glycerol", J. Phys.: Condens. Matter **8**, 10885 (1996).

M. Paluch, J. Ziolo, S. J. Rzoska, P. Habdas, "High-pressure and temperature dependence of dielectric relaxation in supercooled di-isobutyl phthalate", Phys. Rev. E **54**, 4008 (1996).