



Kerry K. Kuehn

Kerry Kuehn, Ph.D.
Associate Professor of Physics

Dept. of Physical Sciences
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Recent Employment

Associate Professor, Department of Physical Sciences, Wisconsin Lutheran College (2001 – present).

Visiting researcher, Medical device technology, Minnetronix, Inc. (2004).

Education

Synodical Certification, Wisconsin Ev. Lutheran Synod, Milwaukee, WI (2006).

Ph.D., Department of Physics, University of California, Santa Barbara, CA (2001). Dissertation:
“[Experimental studies of the breakdown of super-fluidity in helium-four near the lambda line.](#)”

B.S., Department of Applied and Engineering Physics, Cornell University, Ithaca, NY (1994).

Diploma, Westerville North High School, Westerville, OH (1990).

Professional organization(s)

American Physical Society

Refereed publications

K. Kuehn, J. Polfer, N. Finke and J. Furno, “Apparatus for real-time acoustic imaging of Rayleigh-Bénard convection,” *Rev. Sci. Instrum.* 78, 113704 (2007). [doi:10.1063/1.2804133](https://doi.org/10.1063/1.2804133)

J. Furno and K. Kuehn, “Tidal pattern instabilities on multi-moon planets”, *Icarus*, 189, 246 (2007).
[doi:10.1016/j.icarus.2007.01.007](https://doi.org/10.1016/j.icarus.2007.01.007)

K. Kuehn, S. Mehta, H. Fu, E. Genio, D. Murphy, F. Liu, Y. Liu, G. Ahlers, “Singularity in the Thermal Boundary Resistance between Superfluid ^4He and a Solid Surface,” *Phys. Rev. Lett.*, 88, 095702 (2002). [doi:10.1103/PhysRevLett.88.095702](https://doi.org/10.1103/PhysRevLett.88.095702).

K. Kuehn and G. Ahlers, “Mutual Friction in Superfluid ^4He near the lambda-line”, *J. Low Temp. Phys.*, 126, 1515 (2002). [doi:10.1023/A:1014247500834](https://doi.org/10.1023/A:1014247500834).

H. Baddar, G. Ahlers, K. Kuehn, H. Fu, “Thermal Resistance of ^4He Below but Very Near the Superfluid Transition,” *J. Low Temp. Phys.*, 119, 1 (2000). [doi:10.1023/A:1004683717235](https://doi.org/10.1023/A:1004683717235).

H. Fu, H. Baddar, K. Kuehn, M. Larson, N. Mulders, A. Schegolev, and G. Ahlers, “A High-Resolution Thermometer for the Range 1.6 to 5K,” *J. Low Temp. Phys.*, 111, 49 (1998). [doi:10.1023/A:1022246124415](https://doi.org/10.1023/A:1022246124415).

H. Fu, H. Baddar, K. Kuehn and G. Ahlers, “The Boundary Resistance Between Superfluid He Near T_λ and a Solid Surface,” *Low Temp. Phys.*, 24, 69 (1998). [doi:10.1063/1.593539](https://doi.org/10.1063/1.593539).



Conference Proceedings

K. Kuehn, J. Polfer and J. Furno, "Apparatus for Real-Time Acoustic Imaging of Rayleigh-Bénard Convection," American Physical Society, Annual March Meeting, March 5-9, 2007, Denver, CO, [abstract #W30.002](#).

K. Kuehn, S. Mehta, H. Fu, E. Genio, D. Murphy, F.C. Liu, Y.M. Liu, G. Ahlers, "Singularity in the boundary resistance between superfluid ^4He and a solid surface", American Physical Society, Annual March Meeting, March 18-22, 2002, Indianapolis, IN, [abstract #L26.003](#).

G. Ahlers, P. Finley, E. Genio, K. Kuehn, F.C. Liu, Y.M. Liu, D. Murphy, "Boundary Effects near the Superfluid Transition (BEST), and experiment Proposed for the ISS", AIP Conference Proceedings, Vol. 504, 2000, p.662.

K. Kuehn and G. Ahlers, "Thermal Resistance in Superfluid ^4He Near the Lambda Line," American Physical Society, Annual March Meeting, March 20-24, 2000 Minneapolis, MN, [abstract #E30.005](#).

E. Genio, K. Kuehn, G. Ahlers, F.C. Liu, Y.M. Liu, "Thermal Conductivity Measurements in Confined Liquid ^4He near the lambda point," American Physical Society, Annual March Meeting, March 20-24, 2000, Minneapolis, MN, [abstract #E30.004](#).

G. Ahlers and K. Kuehn, "Finite Current Effects on the Thermal Resistance of Liquid ^4He Close to the Superfluid Transition at $T_c(Q)$," American Physical Society, Annual March Meeting, March 20-24, 2000, Minneapolis, MN, [abstract #E30.003](#).

K. Kuehn, "Mutual Friction Very Close to the Superfluid Transition," Proceedings of the 1999 NASA/JPL Micro-gravity Fundamental Physics Workshop, Apr. 29-May 1, 1999, Washington, DC.

H. Fu, H. Baddar, K. Kuehn and G. Ahlers, "Thermal Boundary Resistance and its Critical Behavior near the Superfluid Transition of ^4He ," American Physical Society March Meeting, March 17-21, 1997, [abstract #J15.08](#).

Internal reports and other publications

K. Kuehn, "Continuous Level Detector Progress Report," Minnetronix, Inc. (2004).

Grants and awards

"Experimental study of the oblique incidence of a vortex ring on a fluid density interface," Wisconsin Space Grant Consortium, Research Infrastructure grant. (2008).

"Sciences in Perspective: a conference exploring the relationship between the natural sciences, the social sciences and the humanities," Wisconsin Lutheran College, Faculty Mini-grant (2007).

"MRI: Apparatus for High Resolution Real-Time Acoustic Imaging of Rayleigh-Bénard Convection in Liquid Mercury," National Science Foundation, Major Research Instrumentation grant (2004).

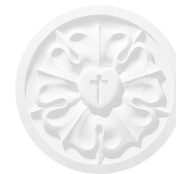
"Apparatus for High Resolution Real-Time Acoustic Imaging of Rayleigh-Bénard Convection in Liquid Mercury," U.S. Dept. of Energy, Division of Materials Research grant (2004).

"Feasibility Study for the Design of an Apparatus for High-Resolution Ultrasonic Imaging of Rayleigh-Bénard Convection in Liquid Mercury," Wisconsin Lutheran College Faculty Mini-grant (2003).

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Invited lectures

“Pattern Formation in Nature,” Keynote address at the Sixth Annual Undergraduate Research Symposium, Wisconsin Lutheran College, May 2006, Milwaukee, WI.

“Real-time acoustic imaging of Rayleigh–Bénard Convection in Liquid Mercury,” Physics Colloquium, Marquette University, Feb. 2006, Milwaukee, WI.

“Real-time acoustic imaging of Rayleigh–Bénard Convection in Liquid Mercury,” Engineering Colloquium, Marquette University, Sep. 2004, Milwaukee, WI.

“Apparatus for High Resolution Real-Time Acoustic Imaging of Rayleigh–Bénard Convection in Liquid Mercury,” Faculty Brown Bag Lunch Seminar, Wisconsin Lutheran College, Feb. 2004, Milwaukee, WI.

Contributed lectures

“Apparatus for Real-Time Acoustic Imaging of Rayleigh–Bénard Convection,” American Physical Society, Annual March Meeting, March 5–9, 2007, Denver, CO.

“Thermal Resistance in Superfluid ^4He Near the Lambda Line,” American Physical Society, Annual March Meeting, March 20–24, 2000 Minneapolis, MN.

“Thermal resistance of He II near the superfluid transition,” NASA/JPL Microgravity Fundamental Physics Workshop, Apr. 29–May 1, 1999, Washington, DC.

Press appearances and community outreach

Kerry Kuehn, “Health plan more like a Sunday drive.” Milwaukee Journal Sentinel Sep. 9 2007: D2.

Matthew Hrodey, “Learning Curve. Students aren’t just learning from professors, but helping them, too.” Milwaukee Magazine Aug. 2007: 94.

“Faculty & Staff Notes.” Today Magazine, Vol. 19, No. 3, 2007: 16.

Public Science Lecture, Good Shepherd Ev. Lutheran Church, 2005, West Allis, WI.

“Kuehn Garners \$256,000 Grant to Study Thermal Convection in Liquid Metals”, Today Magazine, Nov. 2004: 11.

Public Science Lecture, St. Mark’s Ev. Lutheran Church, 2004, Milwaukee, WI.

Public Science Lecture, St. John’s Ev. Lutheran Church, 2003, Wauwatosa, WI.

Conferences attended

Wisconsin Space Conference, University of Wisconsin, Aug. 16–17, 2007, Superior, WI.

American Physical Society, Annual March Meeting, Mar. 5–9, 2007, Denver, CO.

Wisconsin Space Conference, Marquette University, Aug. 10–11, 2006, Milwaukee, WI.

Wisconsin Space Conference, BioPharmaceutical Technology Institute, Aug. 18–19, 2005, Madison, WI.

Wisconsin Space Conference, University of Wisconsin, Aug. 19–20, 2004, LaCrosse, WI.

American Physical Society, Annual March Meeting, March 3–7, 2004, Austin, TX.

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Wisconsin Space Conference, University of Wisconsin, Aug. 14–15, 2003, Green Bay, WI.
Lutheran College Conference, Wisconsin Lutheran College, Aug. 10–12, 2003, Milwaukee, WI.
National Conference on Worship, Music and the Arts, Jul. 21–24, 2002, Carthage College, Kenosha, WI.
American Physical Society, Annual March Meeting, Mar. 20–24, 2000, Minneapolis, MN.
NASA/JPL Micro-gravity Fundamental Physics Workshop, Apr. 29–May 1, 1999, Washington, D.C.
NASA/JPL Micro-gravity Fundamental Physics Workshop, May 7–9, 1997, Santa Barbara, CA.

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Courses taught

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|-------------|--|
| Spring 2009 | General Physics II, Quantum Mechanics |
| Fall 2008 | Concepts in Physics, General Physics I, Thermodynamics |
| Spring 2008 | Concepts in Physics, General Physics II, Classical Mechanics |
| Fall 2007 | General Physics I, Thermodynamics |
| Spring 2007 | General Physics II, Computerized Instrumentation Design |
| Fall 2006 | General Physics I |
| Spring 2006 | Concepts in Physics, General Physics II |
| Fall 2005 | General Physics I |
| Spring 2005 | General Physics II, Quantum Mechanics, Quantum Mechanics Laboratory |
| Fall 2004 | General Physics I, Thermodynamics |
| Spring 2004 | Concepts in Physics, General Physics II, Computerized Instrumentation Design |
| Fall 2003 | General Physics I, Classical Mechanics |
| Spring 2003 | General Physics II, Quantum Mechanics, Quantum Mechanics Laboratory |
| Fall 2002 | Concepts in Physics, General Physics I, Classical Electrodynamics |
| Spring 2002 | Concepts in Physics, General Physics II, Computerized Instrumentation Design |
| Fall 2001 | Concepts in Physics, General Physics I |

Undergraduate researchers and advisees

Matthew Moeller (2008–2009), Michael Schulz (2006–2008), Daniel Sanfelippo (2006–2007), Jonathan Polfer (2004–2007), Joanna Furno (2005–2007), Nathan Finke (2005), Michael Poston (2001–2004)

Professional committees and service

Advisory Council, Wisconsin Space Grant Consortium (2003–present).

Departmental committees and service

Chair, Dept. of Physical Sciences (Jul. 2006 – present).



Science Club Faculty Advisor (Jul. 2001 – present).

Faculty committees and service

Assessment Committee (Apr. 2008 – present).

Chair, Summer Reading Committee (Nov. 2006 – Feb. 2008).

Chair, Curriculum Committee (Jul. 2005 – Jul. 2006).

Curriculum Committee (Jul. 2002 – Jul. 2006).

Administrative committees and service

General Education Committee (Sep. 2005 – Aug. 2006).

Science Building Committee (Jan. 2002 – Jul. 2004).

Panelist, “Great Books” pedagogical techniques, Wisconsin Lutheran College Faculty In-Service, Milwaukee, WI (Jan. 2005).

Community service

Board of Discipleship, St. John’s Ev. Lutheran Church, Wauwatosa, WI (Jan. 2008 – present)

Accreditation Committee, St. John’s Ev. Lutheran School, Wauwatosa, WI (2007–present).

Matins Worship Service Leader, Wisconsin Lutheran College (Jan. 2004 – present).

Altar Assistant, St. John’s Ev. Lutheran Church, Wauwatosa, WI (2003 – present).

Usher, St. John’s Ev. Lutheran Church, Wauwatosa, WI (2002 – present).

Southeast Wisconsin District Convention Delegate, Wisconsin Lutheran Seminary, Mequon, WI (Jun. 6 & 7, 2006).

Board of Outreach, St. John’s Ev. Lutheran Church, Wauwatosa, WI (Jan. 2002 – Dec. 2005)

Southeast Wisconsin District Convention Delegate, Wisconsin Lutheran College, Milwaukee, WI (Jun. 11 & 12, 2002).

Cornell Club of Wisconsin (2003–present).

Jacobus Park Neighborhood Association, Wauwatosa, WI (2003–present).

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