

Biographical Sketch: Prof. CTIRAD UHER

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Citizen of USA

a. Professional Preparation

- 1969-72 B.Sc. Honors with University Medal, University of New South Wales
1972-75 Ph.D. (Physics) University of New South Wales, Sydney, Australia
Thesis Title: Thermomagnetic Effect in Bi and Its Dilute Alloys
Thesis Advisor—Prof. Julian Goldsmid

b. Appointments

- 1976-77 Postdoctoral Associate, Physics Dept., Michigan State University
1978-80 Queen Elizabeth II Research Fellow, CSIRO, NML, Sydney, Australia
1980-83 Assistant Professor of Physics, University of Michigan, Ann Arbor
1984-89 Associate Professor of Physics with Tenure, University of Michigan
1989- Professor of Physics, University of Michigan
1992-94 Associate Dean for Research, Facilities and Computing, College of LS&A
1994-04 Chair, Department of Physics

c. Honors and Awards

- Alexander von Humboldt Fellow (1986)
Doctorate of Science (D.Sc.), University of New South Wales, Australia (1989)
Fellow of the American Physical Society (1996)
Doctor Honoris Causa, University of Pardubice, Czech Republic (2002)
President of the International Thermoelectric Society (2006-2008)

d. Sample Publications (out of 250 refereed publications)

1. Thermal Conductivity of High-Temperature Superconductors, C. Uher, in *Physical Properties of High Temperature Superconductors*, ed. D. M. Ginsberg, World Scientific, Vol. III, pp. 159-284 (1992).
2. Thermoelectric Property Measurements, Uher, C., Naval Res. Rev. **48**, 44 (1996)
3. Thermoelectric and Thermomagnetic Effects, C. Uher and A. B. Kaiser, in *Handbook of Superconductivity*, ed. C. P. Poole, Academic Press, p.510-534 (1999).
4. CsBi₄Te₆: A High-Performance Thermoelectric Material for Low-Temperature Applications, Chung, D.-Y., Hogan, T., Brazis, P., Rocci-Lane, M., Kannawurf, C., Bastea, M., Uher, C., and Kanatzidis, M., *Science* **287**, 1024 (2000).
5. Skutterudites: Prospective Novel Thermoelectrics, Uher, C., in *Semiconductors and Semimetals*, vol.69, ed. T.M. Tritt, Academic Press, San Diego, pp. 139-253 (2001).
6. Thermal Properties of Superconductors, C. Uher in *Handbook of Superconducting Materials*, ed. D. A. Cardwell and D. S. Ginley, Institute of Physics Publishing, Bristol, UK, pp. 75-97 (2003).
7. Cubic AgPb_mSbTe_{2+m}: Bulk Thermoelectric Materials with High Figure of Merit, Hsu, K.F., Loo, S., Guo, F., Chen, W., Dyck, J.S., Uher, C., Hogan, T., Polychroniadis, E.K., and Kanatzidis, M.G., *Science* **303**, 818 (2004).
8. Thermal Conductivity of Metals, C. Uher in *Thermal Conductivity-Theory, Properties and Applications*, ed. T. M. Tritt, Kluwer Academic/Plenum Publishers, N.Y., pp. 21-91 (2004).
9. Nanostructuring and High Thermoelectric Efficiency in p-type Ag(Pb_{1-y}Sn_y)_mSbTe_{2+m}, Androulakis, J., Hsu, K.-F., Pcionek, R., Kong, H., Uher, C., D'Angelo, J. J., Downey, A., Hogan, T., and Kanatzidis, M.G., *Advanced Materials* **18**, 1170 (2006).
10. High performance In_xCe_yCo₄Sb₁₂ Thermoelectric Materials with *in-situ* Forming Nanostructured InSb Phase, H. Li, X. Tang, Q. Zhang, and C. Uher, *Appl. Phys. Lett.* **94**, 102114 (2009).

e. Dissertations Directed

Dr. Michael Elzinga, 1984 (Kodak)
D.T. Morelli, 1985 (Prof., MSU)
Dr. R. Hockey, 1985 (PNL)
Dr. J.L. Cohn, 1989 (Prof., U of Miami, FL)
Dr. S.D. Peacor, 1991 (Prof. MSU)
Dr. W. Vavra, 1992 (Honeywell)
Dr. Y. Liu, 1995 (Texas-private company)

Dr. B. Chen, 1997 (Analog Devices)
Dr. J. Yang, 2000 (GM Research)
Dr. W. Chen, 2003 (Deutsche Bank)
Dr. Y.-J. Chien, 2007 (U of M)
Dr. H. Kong, 2008 (U of Texas)
Mr. Lynn Endico, current student

f. Postdoctoral Mentoring

Dr. J.J. Lin, 1986-7 (Prof., Nat. Taiwan Univ.)
Dr. F. Tsui, 1992-5 (Prof., Univ. N. Carolina)
Dr. J.-H. Xu, 1995-7 (Res. Scientist, Intel)
Dr. M. Bastea, 1997-9 (Res. Scientist, LLB)
Dr. A. Lukaszew, 1997-2000 (Prof., U. Toledo)

Dr. J. Dyck, 2000-03 (Prof., John Carroll U.)
Dr. Z. Zhou, 2003-06 (Res. Scientist, Delphi)
Dr. X. Shi, 2005-07 (Res. Sci. GM Res. Lab.)
Dr. Changpeng Li, 2007-09 (Res. Sci. GM Res.)

g. Synergistic Activities

Prof. Uher's research focuses on experimental studies of transport properties, magnetism, and thermoelectricity in a variety of solids. Much of recent effort has been directed towards the identification and exploration of novel thermoelectric materials. Dr. Uher has written several review articles on the behavior of the thermal conductivity and thermoelectric power in these materials and gave numerous invited talks on the subject. He has served on the Board of the International Thermoelectric Society since 2000 and in 2006 was elected its President. Dr. Uher has published more than 250 papers in the leading scientific journals, has supervised Ph.D. thesis of thirteen graduate students and mentored nine postdoctoral researchers. In his 10 years as Chair of a large physics department, Dr. Uher oversaw integration of scholarly activities with in-class instruction and worked vigorously towards enhancing the visibility of sciences among general public. Noteworthy here are exceptionally successful Saturday Morning Physics lectures that he started as a department-sponsored program.