

Member News



Updates on friends and colleagues in the materials community

Karl A. Gschneidner Named 2014 Acta Materialia Materials and Society Award Winner



Karl A. Gschneidner

Karl A. Gschneidner, Jr. has been announced as the winner of the 2014 *Acta Materialia*, Inc. Materials and Society Award (formerly the J. Herbert Hollomon Award). He is the Anson Marston Distinguished Professor of the Department of Materials Science and Engineering, Iowa State University, Senior Metallurgist at Ames Laboratory, and Chief Scientist of the U.S. Department of Energy's newest Energy Innovation

Hub—the Critical Materials Institute. He is a 1990 TMS Fellow, among his many other awards and honors. He will officially receive his award at the TMS 2014 Annual Meeting & Exhibition, February 16–20, in San Diego, California.

Gschneidner earned his B.S. degree from the University of Detroit and his Ph.D. from Iowa State University. He worked at the Los Alamos National Laboratory from 1957–1963 and joined Iowa State University in 1963. Gschneidner is considered one of the world's foremost authorities on rare earth science, technology, application, and utilization. He has published

more than 485 papers in peer reviewed journals, holds 15 patents, and delivered 300 invited presentations. He retired in 2010 as the senior editor of the *Handbook on the Physics and Chemistry of Rare Earths*. He was elected to the National Academy of Engineering in 2007 for “contributions to the science and technology of rare-earth materials.”

The *Acta Materialia*, Inc. Award in Materials and Society was established in memory of J. Herbert Hollomon and his dedication to promoting positive social consequences of science and technology that have had a major impact on society.

Robert Ritchie to Receive 2014 Acta Materialia Gold Medal



Robert O. Ritchie

Robert O. Ritchie has been named the winner of the 2014 *Acta Materialia* Gold Medal. He is the H.T. & Jessie Chua Distinguished Professor of Engineering in the Departments of Materials Science and Engineering and Mechanical Engineering at the University of California, Berkeley (UC Berkeley). He is also Senior Faculty Scientist in the Materials Sciences Division of the Lawrence Berkeley National Laboratory. He will receive his Gold Medal during the TMS 2014 Annual Meeting

& Exhibition, February 16–20, in San Diego, California. A special session is being developed for the meeting's Biological Materials Science Symposium in recognition of his award.

Ritchie received his B.A. in physics and metallurgy, and M.A. Ph.D., and Sc.D. in Materials Science, all from Cambridge University. After serving as the Goldsmith's Junior Research Fellow in Materials Science at Churchill College, Cambridge, and as a Miller Research Fellow at UC Berkeley, he joined the faculty in Mechanical Engineering at the Massachusetts Institute of Technology. He returned to Berkeley as a faculty member and was chair of the Materials Science and Engineering Department from 2005–2011. At

the Berkeley Laboratory, he served as Deputy Director of the Materials Sciences Division from 1990–1994, and Director of the Center for Advanced Materials from 1987–1995.

A 2004 TMS Fellow, Ritchie's scientific career has been recognized with many awards and honors. These include the AIME-TMS Champion H. Mathewson Gold Medal, the TMS Structural Materials Division Distinguished Materials Scientist/Engineer Award, and the TMS Institute of Metals/Robert Franklin Mehl Award. He was elected to the U.S. National Academy of Engineering in 2001, the Royal Academy of Engineering in the UK in 2002, and the Russian Academy of Sciences in 2011.

Markus Reuter Serves as Lead Author for United Nations Report



Markus Reuter

Markus Reuter, Director, Technology Management, Outotec Oyj, Finland, is the lead author of *Metal Recycling: Opportunities, Limits, Infrastructure*, a new report released by the United Na-

tions Environment Program (UNEP)-hosted International Resource Panel (IRP). The report is available for free download at [http://www.unep.org/resourcepanel/Publications/Metal Recycling/tabid/106143/Default.aspx](http://www.unep.org/resourcepanel/Publications/Metal%20Recycling/tabid/106143/Default.aspx).

Metal Recycling: Opportunities, Limits, Infrastructure was released in tandem with another report, *Environmental Risks and Challenges of Anthropogenic Metals Flows and Cycles*.

Together, the publications examine the potential for recycling to mitigate environmental impacts and outline improvements to metal recycling that are needed to achieve a workable and sustainable metals management system.

Reuter currently serves on the TMS Materials and Society Committee and has volunteered in other society activities, including organizing symposia and authoring papers.



TMS Member Profiles

W.M. Goldberger Examines “the Business of Contract Research” in New Novel

By Lynne Robinson

“It’s not the story for me to write. Maybe you should write it, Doc.”

“Maybe I will, Mr. Schaap. Maybe I will.”

Uttered by the fictional Dr. Robert Miller as the closing words of a new mystery novel, *Sublimation*, the statement also reflects the motivation of the book’s author, W.M. Goldberger, for telling the tale.

The book’s title refers to the process of fractional sublimation that can be used for the separation of volatile metal chlorides, and, as suggested in the book, the possibility that it could be used as the basis for a low-cost means of uranium enrichment. In the story, Marvin Khorbin, a brilliant young scientist who pioneered the development of the sublimation process, is murdered. The case goes unsolved, prompting Jim Schaap, a *New York Times* reporter, to investigate it as the subject of a book. For background, he turns to Miller’s scientific expertise and knowledge of the research and development culture

in which Khorbin had worked.

Goldberger also offers the definition of sublimation as a psychological term in the novel’s prefacing pages: “A defense mechanism when displacement ‘serves a higher cultural or socially useful purpose, as in the creation of art or inventions.’” This reference serves to underscore the major themes that Goldberger explores “to offer some insight into the world of scientific and engineering research, and more specifically, into one segment—the business of contract research.”

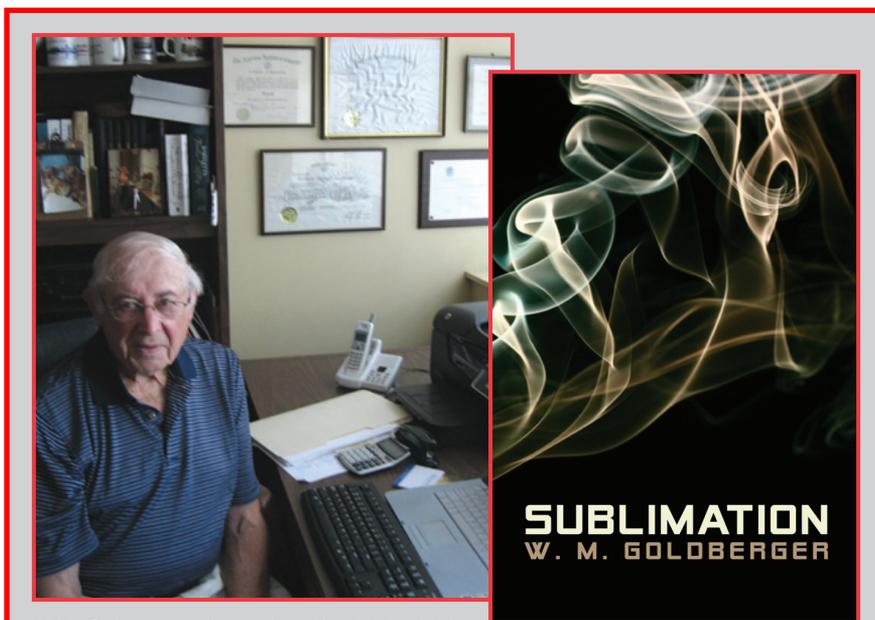
Goldberger drew heavily from his own professional experiences to write his novel. After holding a number of research and management positions at Battelle Memorial Institute-Columbus, Goldberger joined the Superior Graphite Company in 1979, where he retired as vice president of research in 2002.

His inspiration for *Sublimation* stemmed from an article that he had been working on that examined why many successful research and development

projects have never been put to beneficial use. “Depending on the source of funding, research programs may not be done for strictly scientific purpose, but for business or political reasons and are subject to abrupt change,” he said. “I felt there would be more leeway to discuss these subjects, and perhaps made more interesting to a broader range of readers, if written as fiction.”

Goldberger loosely based Khorbin’s character on the life and unsolved 1980 murder of Gerald Bull, the Canadian aerodynamics and artillery expert who designed the so-called “Supergun”. The projects that Goldberger describes in the book were ones that he had direct involvement with at Battelle. “To provide the reader with an understanding of the thrill of solving a difficult problem and the issues one might face in the implementation of an invention, it was best to use actual projects,” he said.” It took Goldberger roughly three years to complete the book.

Sublimation is Goldberger’s first novel, but not his first foray into the creative arts. He has also written and staged two musical plays and composed a number of original songs. He notes that he enjoyed the writing process, but found that his experience in creating *Sublimation* offered many other rewards as well. “My interest in writing *Sublimation* stemmed from my desire to put in perspective, for myself, the elements that made up a significant part of my career,” he said. “A part of that, too, was the pleasure I found in recalling the many individuals who contributed to the technical advances made. Having done that, I hope the book will be of interest and of some help to those now considering and those embarked on a research career.”



W.M. Goldberger (above) self-published his first novel (right) through Amazon’s Create Space program, and proudly notes that it was selected to advance to the second round of the Amazon Breakthrough Novel Award Contest in the General Fiction category. *Sublimation* is available for purchase through Amazon and Kindle. Additional information about Goldberger’s other creative endeavors is available on his website at wmgoldberger.com.

Each month, *JOM* profiles a TMS member and his or her activities both in and out of the realm of materials science and engineering. To suggest a candidate for this feature, contact Lynne Robinson at lrobinson@tms.org.