

Carol A. Handwerker

Carol Handwerker is the Reinhardt Schuhmann, Jr. Professor of Materials Engineering, and Environmental and Ecological Engineering at Purdue University, West Lafayette.

Prior to joining Purdue in 2005 she served as the Chief of the NIST Metallurgy Division for 9 years and a NIST group leader and metallurgist for the prior 12 years. At NIST she led measurement programs focused on improving the manufacturing and performance of electronic, magnetic, photonic, and structural materials used in a wide variety of industries. Her research areas include:

- developing innovative processing strategies and technologies for next-generation microelectronics, solar cells, and printed electronics,
- integrating sustainability in the design of new materials, processes, and products.
- identifying and implementing strategies to move R&D into manufacturing and commercialization, using roadmapping, techno-economic analysis, and formation of robust supply chains.

In all of these areas, she works closely with different industry sectors and their stakeholders to transform R&D into practice. For example, with iNEMI (the International Electronics Manufacturing Initiative), an industry consortium of over 90 companies and organizations, she helped lead the US electronics industry in the world-wide conversion to high-volume manufacturing with Pb-free solders. She is a member of the iNEMI Environmental Leadership Steering Committee, along with Intel, Dell, Nokia, Lenovo, and others, and co-led an innovative demonstration project on Value Recovery from End-of-Life Hard Disk Drives, with Seagate, Google, Microsoft, and Cisco as active team members. Prof. Handwerker leads the DoE Critical Materials Institute Focus Area in Recycling and Reuse, focused on accelerating technology transition of early stage CMI research into practice. She holds a B.A. in art history from Wellesley College, and S.B., S.M., and Sc.D degrees in materials science and engineering from MIT.