

BIOGRAPHICAL SKETCH (Gerard M. Ludtka)

GERARD M. LUDTKA, Ph.D., FASM

Distinguished R&D Staff Member

Metals & Ceramics Division, Oak Ridge National Laboratory (ORNL)

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(865) 574-5098

EDUCATION:

- Drexel University, Philadelphia, PA, *Metallurgical Engineering*, **B.Sc. (Honors)**, 1972
- Drexel University, Philadelphia, PA, *Materials Engineering*, **M.S.**, 1973
- Carnegie-Mellon University, Pittsburgh PA, *Metallurgy & Materials Science*, **Ph.D.**, 1978

PROFESSIONAL EXPERIENCE:

- *Distinguished Research Staff*, ORNL Metals & Ceramics Division, Oak Ridge, TN, 11/91 - present
- *Senior Research Staff*, Oak Ridge National Nuclear Security Complex, Development Division, Oak Ridge, TN 11/82 – 10/91
- *Senior Research Engineer*, General Motors Research Laboratories, Warren, MI, 08/78-10/82
- *Senior Materials Engineer*, Boeing-Vertol Company, Philadelphia, PA, 06/73-09/74

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

- Member - ASM International (Fellow)
- Member - Minerals, Metals & Materials Society (TMS).
- Member - American Society for Testing & Materials (ASTM).
- Member - Sigma Xi Research Honor Society

SPECIAL SKILLS:

- Magnetic processing of materials.
- Thermomechanical processing and forming including forging, drawing, extrusion, swaging, superplastic forming, and equal channel angular extrusion.
- Characterization of the physical, thermophysical, and mechanical properties of materials as a function of temperature and microstructure.
- Heat treatment of ferrous, aluminum, titanium, and uranium alloys.
- Microcharacterization: SEM, TEM, AEM.
- Mechanical Testing: Hardness, Tensile, Compression, Creep, Fatigue, and Fracture toughness.
- High speed quenching and deformation dilatometry for phase transformation characterizations.

AWARDS, HONORS, RECOGNITION:

- Elected **Fellow of ASM International**, 2004 (awarded 10/19/2004).
- Department of Energy **E. O. LAWRENCE MEMORIAL AWARD for Materials Research**, in 1994 *for significant contributions to materials science and technology*.
- **International Hall of Fame** – The Inventors Club of America – Advanced Tech. Award, 1993.
- Five **Department of Energy Weapons Complex Awards of Excellence**: 1989, 1992, 1993, 1999, and 2000.).
- Three **Martin Marietta Energy Systems Awards of Excellence** for Technical Achievement: 1985, 1991, and 1993.
- Three **National Security Complex Awards of Excellence**: 1985, 1989, and 1991.
- Member of the professional honor societies **Alpha Sigma Mu, Sigma Xi, & Tau Beta Pi**.