

DR. ARTHUR H. GUENTHER
Research Professor of Electrical and Computer Engineering,
Physics and Astronomy

Center for High Technology Materials
University of New Mexico
1313 Goddard SE, Albuquerque, NM 87106

Tel: (505) 272-7003
Fax: (505) 272-7801
E-mail: agun@chtm.unm.edu

CURRENT POSITION: Research Professor of Electrical Engineering and Computer Engineering, Physics and Astronomy, University of New Mexico, 1997-Present

EDUCATION: B.S. Chemistry, Rutgers University, 1953
Ph.D. Chemistry-Physics, Pennsylvania State University, 1957
D.Sc. University of Albuquerque, Honoris Causa, 1973

PROFESSIONAL APPOINTMENTS:

- Texas Tech University Physics, Electrical Engineering and Computer Engineering (Adjunct Professor)
- Air Force Institute of Technology Physics (as Adjunct Professor, supervised over 50 graduate and post-graduate students at the M.S. and Ph.D. levels)
- Institute of Electrical and Electronics Engineers (Fellow)
- International Society for Optical Engineering (SPIE) (Fellow)
- Optical Society of America (Fellow)
- Laser Institute of America (Fellow)
- Directed Energy Professional Society (Fellow)
- Frequent invitee and speaker at conferences; consultant on tech-based economic development.

PROFESSIONAL MEMBERSHIPS:

- Phi Lambda Upsilon
- Sigma Xi
- American Chemical Society
- New Mexico Academy of Science
- International Platform Association
- Forum on Military Applications of Directed Energy (Board of Directors)
- The St. Petersburg Association of Scientists and Scholars (Member)
- Forum on Military Applications of Directed Energy (Board of Directors)
- Member, The St. Petersburg Association of Scientists and Scholars
- International Commission for Optics (ICSU) (Elected) (Past President)
- Board of Directors SPIE 1986 (past Member)
- Natl. Research Council Committee on Optical Sci. & Eng. (Member)
- Industry Affiliates, School of Optics, Univ. of Central FL (Life Member)
- Weber Research Institute, Brooklyn Polytech Univ. (Board of Directors)
- Engineering Science and Technology Policy Committee, SPIE, 1998 (Chair and Member)
- Pulsed Power Sci & Tech Standing Technical Committee (Member)
- Pulsed Power Conference, Inc. (past Board of Directors)
- Laser Induced Damage Conference, Inc. (Board of Directors)
- Laser Institute of America (Elected) (Past President)
- Optical Society of America (Board of Directors) (past Member)
- Laser Electro-Optics Soc. Advisory Committee, IEEE (past Member)
- SPIE (The International Society for Optical Engineering) (past Member) (Board of Directors)
- OSA Fellows Committee, 1980 (Past Chairman)
- Standards Activities, IEEE, QEAS, AD, COM, 1982 (Past Chairman)
- Society Objectives and Policy Committee, OSA (past Member)
- Government Relations Committee LEOS, IEEE, 1989 (past Chair)
- SPIE Fellows Committee, 1994 and 1995 Chairman, IEEE LEOS Fellow Committee, 1986 (past Member)
- Advisory Committee, Laser History Project (five professional societies) (Chairman)

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- PROFESSIONAL MEMBERSHIPS (cont.):**
- Optically Pumped Laser Group of the American Society for Testing and Materials through 1976 (Chairman)
 - Applied Optics, April 1973 (on Laser Damage) plus many others (Feature Editor)
 - Advisory Committee on Translations of the American Institute of Physics, 1976-79 (past Member)
 - Ad Hoc Committee on Standards, OSA, 1978 (Past Chairman)
 - Tech Transfer Committee SPIE, 1994 (past Member)
 - Past CLEO Representative to Joint Council on Quantum Electronics
 - OSA Education Council, 1988-1991 (Member)
 - International Commission of Optics, Board on Physics and Astronomy, National Research Council, 1986 present (Member)
 - Review Team, Science and Engineering Centers and Systematic Initiative in Science (NSF) (Member)
 - Mathematics Education, National Science Foundation, 1988 (Member) Continual referee for proposals and archived publications
 - Army Research Laboratory Technical Assessment Board (National Research Council) (Member)
 - NRC Board on Criteria for LANL Management (National Research Council) (Member)
 - NRC Board on Assessment of NIST Programs Physics Panel (National Research Council) (Chair-elect)
 - NRC Committee on Assess. of Test Infrastructure Requirements to Support Oper. Testing of Defense Directed Energy Sys. (Member)
 - National Technology Transfer Center on Optics and Photonics for the Missile Defense Agency Consultant)
 - External Review Committee, Chemistry Laser Science and Technology Division, Los Alamos National Laboratory (Member)
 - External Review Committee, Chemistry Division Lawrence Livermore National Laboratory
 - External Review Committee, Pacific Northwest National Laboratory
 - Review Team, Science and Technology Review Committee, NSF
 - New Mexico Alliance for Optics and Photonics Education
 - Board of Directors, Alliance for Photonics Technology
 - Optics Cluster, Next Generation Economic Initiative (Chair)

PATENTS & PUBLICATIONS:

- Laser-Triggered Switch
- In excess of 350 Technical Articles, Books, Editorships - includes series on "Advances in Pulsed Power Technology" (Plenum Press) as well as contributions to the classified literature.

AWARDS:

Meritorious Executive Rank Award from Ed Meese
Distinguished Executive Rank Award from President Reagan
Arthur L. Schawlow Award of the Laser Institute of America
Harry Diamond Award of the IEEE
Peter Haas Award of the IEEE
Ben Dasher Award of the IEEE/ASEE
Eastman Lecturer of the Optical Society of America
Director's Award, SPIE, 2002
David Richardson Medal, OSA, 2002
New Mexico Distinguished Public Service Award, 1981, 2002
Member, Russian Academy of Science (URAL Division)
Excellence in Technical Communications, Laser Focus World
Professor of Engineering (Emeritus), New Mexico Tech, 2002-pres.
Distinguished Public Service Award, State of New Mexico 1982, 2001
Scientist of the Year, New Mexico Academy of Science

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SIGNIFICANT CONTRIBUTIONS:

Dr. Guenther is an internationally recognized scientist, government advisor and consultant. His decades of experience with advanced optical systems, high power lasers, high power microwaves, pulsed power technology, materials science, and weapons effects and their simulation were instrumental in his numerous job assignments. Dr. Guenther is recognized as a US pioneer in the development of pulsed power technology and its application to Defense and Energy Department Programs while at the Air Force Weapons Laboratory particularly in the initiation of Directed Energy Programs. Besides his expertise in these areas he has of late been involved in numerous business development activities for the Missile Defense Agency, the state Government, and the private sector serving on Boards of Directors of numerous technical organizations.

Working in collaboration with the National Technology Transfer Center, Dr Guenther has assisted in the growth of many contractors to the Missile Defense Agency and its predecessor organizations, such that they may grow into reliable suppliers of their technology.

Dr Guenther's many advisory roles include long-range planning, science and technology policy, management, technical education, technology commercialization and consortial research and development activities. Assisted in the initial creation of the New Mexico Optics Industry Association.

Of particular note is his many assignments through the National Research Council, the Administrative arm of the National Academies of Science and Engineering including: Study to derive RFP criteria for management of Los Alamos National Laboratory, Assessment of Test Infrastructure Requirements to Support Operational Testing of Defense Directed Energy Systems, Board on the Assessment for Physics to the National Institute for Standards and Technology, as well as several Directorate Review Panels of the Army Research Laboratory Technical Assessment Board, (ARLTAB) principally focusing on the Sensors and Electronics Directorate, the Survivability, Lethality and Analysis Directorate and the Armor and Armament Directorate. He has been associated with the ARLTAB through these panels for approximately 10 years. He has as well sat on other National Research Council Studies, most recently the Committee on Optical Science and Engineering.

During his career Dr Guenther has as well served in leadership positions for numerous conferences such as Chairman of the Gordon Research Conference on Laser Interaction with Matter, Chairman of the DoD High Power Microwave Conference, and Co-chair of the Conference on Lasers and Electro-optics (CLEO). He is perhaps best known as the originator and co-chair of the Symposium on Optical Materials for High Power Lasers (aka Boulder Damage Symposium) since 1969.

Finally Dr. Guenther continues work in advisory positions in many of these fields, but at present is focusing much of his time in the area of optics and photonics education while he continues his numerous advisory roles to the U.S. Government and the private sector.