

Michael I. Mishchenko

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Research interests

Atmospheric radiation and remote sensing • Physics of climate • Aerosols • Polarimetry • Ocean optics • Electromagnetic scattering by morphologically complex particles and particle groups • Optical particle characterization

Education

- PhD with honors (Physics), Ukrainian National Academy of Sciences, Kyiv, 1987
- MS (Physics), Moscow Institute of Physics and Technology, 1983

Professional employment

1997–present Senior Scientist, NASA Goddard Institute for Space Studies, New York
1996–2001 Associate Adjunct Professor, SUNY/Stony Brook
1996–1997 Senior Research Scientist, SUNY/Stony Brook
1992–1996 Senior Scientist, STX/SSAI @ NASA Goddard Institute for Space Studies, New York
1987–1992 Senior Scientist, Ukrainian National Academy of Sciences, Kiev, Ukraine

Projects

- Project Scientist for the NASA Glory Satellite Mission (2003–2011) (<http://glory.giss.nasa.gov>). Responsibilities included the following:
 - scientific justification of the mission, formulation of measurement requirements, justification of the instrument design, and programmatic publications;
 - working with and reporting to NASA HQ on all aspects of the Mission;
 - participation in numerous technical and scientific reviews of the Mission;
 - management of the Glory Science Team and its budget;
 - organization of Glory Science Team meetings;
 - representation of the Mission at conferences and working with media;
 - managing the Glory Reflight Review requested by NASA HQ and editing its final report.
- Project Manager for the NASA/GEWEX Global Aerosol Climatology Project (1998–2002). For four years this program coordinated efforts of 33 research groups worldwide to improve the knowledge of aerosol properties related to aerosol direct and indirect effects on climate. Among the products of this program were three Science Team meetings and a 540-page special issue of the *Journal of the Atmospheric Sciences* edited by M. Mishchenko, J. Penner and D. Anderson (<http://gacp.giss.nasa.gov>).
- Principal Investigator and Co-Investigator on numerous NASA, DOE, DOD, and NPOESS research projects

Editorial Activities

- **Editor-in-Chief**, *Journal of Quantitative Spectroscopy and Radiative Transfer* (2006–present)
- **Editor** of 3 monographs
- **Guest Editor** of 16 special journal issues (1999–2018)

- Editorial Advisory Board Member, Springer Series of Monographs in Light Scattering (2017–present)
- Advisory Board Member, *Physics Procedia* (2013–present)
- **Topical Editor** on scattering theory and meteorological optics, *Applied Optics* (2000–2006)
- Editorial Board Member, *Advances in Astronomy and Space Physics* (2012–present)
- Editorial Board Member, *Waves in Random and Complex Media* (2004–present)
- Editorial Board Member, *Kinematics and Physics of Celestial Bodies* (2003–present)
- Associate Editor, *Journal of the Atmospheric Sciences* (1999–2004)
- Associate Editor, *Journal of Quantitative Spectroscopy and Radiative Transfer* (1995–2005)
- Editorial Board Member, *Journal of Electromagnetic Waves and Applications* (1991–1992)

Other professional activities

- Co-Convener, 17th Conference on Electromagnetic & Light Scattering (College Station, TX, March 2018)
- Co-Convener, 1st International Workshop on Advancement of Polarimetric Observations: Calibration and Improved Aerosol Retrievals (Hefei, China, October 2017)
- Co-Convener, 16th Conference on Electromagnetic & Light Scattering (College Park, MD, March 2017)
- Co-Convener, 15th Conference on Electromagnetic & Light Scattering: Celebrating 150 Years of Maxwell’s Electromagnetics (Leipzig, Germany, June 2015)
- Director, NATO Advanced Study Institute on “Special Detection Technique (Polarimetry) and Remote Sensing” attended by 110 participants from 16 countries (Kyiv, Ukraine, September 2010)
- Member, American Geophysical Union Fellows Committee, Atmospheric Sciences Section (2007–2012)
- Convener, 10th Conference on Electromagnetic & Light Scattering (Bodrum, Turkey, June 2007)
- Co-organizer, NATO Advanced Study Institute on “Photopolarimetry in Remote Sensing” (Yalta, Ukraine, September 2003)
- Convener, International Conference on “Light Scattering by Nonspherical Particles” sponsored by AMS, AGU, and OSA and attended by 115 participants from 18 countries (New York, September 1998)
- Organizer and chair of >20 conference sessions
- Member of NASA formulation study teams for the ACE and CLARREO Decadal Survey missions.
- Member of NASA (1998, 2004, 2005, 2007, 2010, 2013, 2014, 2016 (twice), 2017 (twice)), NSF/NOAA (2000), NPOESS (2002–06), and DOE (2014, 2015) review panels
- Supervisor of 4 PhD students and 6 postdocs

Professional honors and awards

- NASA Performance Award (2018)
- NASA Twenty Year Service Award (2017)
- NASA Performance Award (2017)
- NASA Performance Award (2016)
- NASA Performance Award (2015)
- NASA Performance Award (2014)
- Hendrik C. Van de Hulst Award from Elsevier (2013)
- NASA GSFC Performance Award (2013)
- NASA Exceptional Scientific Achievement Medal (2012)
- NASA GSFC Special Act Award (2012)
- NASA Fifteen Year Service Award (2012)
- NASA Group Achievement Award (CLARREO Mission Concept Team, 2012)
- NASA GSFC Special Act Award (2011)
- NASA Group Achievement Award (Glory Mission, 2011)
- NASA Group Achievement Award (Earth Science Constellation Red Team, 2011)

- National Prize of Ukraine in Science and Technology (2010)
- Basic Sciences Book Award of the International Academy of Astronautics (2010)
- *JQSRT* Milestone Paper Award from Elsevier (2010)
- NASA Quality Increase Award (2010)
- NASA Special Act Award (2010)
- Asteroid 22686 (1998 QL₅₃) named “Mishchenko” by the International Astronomical Union (2009)
- NASA Exceptional Scientific Achievement Medal (2008)
- Honorary Doctoral Degree, National Academy of Sciences of Ukraine (2008)
- NASA Quality Increase Award (2008)
- NASA Ten Year Service Award (2007)
- NASA Performance Award (2007)
- NASA GSFC Special Act Award (2007)
- Arthur S. Flemming Award, George Washington University (2006)
- Elected Fellow of the American Meteorological Society (2006)
- NASA GSFC Special Act Award (2006)
- Elected Fellow of The Institute of Physics, UK (2004)
- NASA GSFC Special Act Award (2004)
- Elected Fellow of the American Geophysical Union (2003)
- Elected Fellow of the Optical Society of America (2003)
- NASA Quality Increase Award (2003)
- NASA Group Achievement Award (CRYSTAL-FACE Project, 2002)
- NASA GISS Peer Award (2001)
- NASA GSFC Special Act Award (2001)
- NASA GSFC Job Performance Award (2000)
- Henry G. Houghton Award of the American Meteorological Society (1999)
- Elected Fellow of the Ukrainian Academy of Arts and Sciences in New York (1997)
- NASA GSFC Job Performance Award (1997)
- *Letter of Commendation* from the Editor of *Icarus* (1996)
- N. P. Barabashov Astronomy Award of the Ukrainian National Academy of Sciences (1993)

Peer-reviewed publications and citations

- **4** first-authored monographs
- **3** edited monographs
- **23** peer-reviewed book chapters (**13** first-authored)
- **297** peer-reviewed journal papers (**154** first-authored)
- Google Scholar *h*-index = **79** (see <http://scholar.google.com/citations?user=Q5-7dVYAAAAJ&hl=en>)
- First-author Google Scholar *h*-index = **58**
- **26900** Google Scholar citations in **858** different journals (**15500** Google Scholar citations of first-authored publications)
- **65** publications with **100+** Google Scholar citations (**38** first-authored)