

Curriculum Vitae
DONALD A. GURNETT
J. A. Van Allen/Roy J. Carver Emeritus Professor

Business Address: Department of Physics and Astronomy
The University of Iowa
Iowa City, IA 52242-1479

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EDUCATIONAL AND PROFESSIONAL HISTORY:

Higher Education

The University of Iowa, Physics, Ph.D., 1965
The University of Iowa, Physics, M.S., 1963
The University of Iowa, Electrical Engineering, B.S., 1962

Professional and Academic Positions

2019-present	James A. Van Allen/Roy J. Carver Emeritus Professor of Physics, U. of Iowa
1989-2019	James A. Van Allen/Roy J. Carver Professor of Physics, Univ. of Iowa
1980-1989	Professor, Dept. of Physics and Astronomy, Univ. of Iowa
1979-1980	Visiting Professor, Inst. of Geophysics and Planetary Physics, Univ. of California at Los Angeles
1976-1979	Professor, Dept. of Physics and Astronomy, Univ. of Iowa
1975-1976	Visiting Senior Research Scientist, Max-Planck-Institut fur extraterrestrische Physik, Garching, West Germany
1972-1975	Professor, Dept. of Physics and Astronomy, Univ. of Iowa
1968-1972	Associate Professor, Dept. of Physics and Astronomy, Univ. of Iowa
1965-1968	Assistant Professor, Dept. of Physics and Astronomy, Univ. of Iowa
1964-1965	NASA Graduate Trainee, Dept. of Radio Science, Stanford University
1962-1964	NASA Graduate Trainee, Dept. of Physics and Astronomy, Univ. of Iowa
1960-1962	Project Engineer, Dept. of Physics and Astronomy, Univ. of Iowa
1958-1960	Electronics Design Engineer, Dept. of Physics and Astronomy, Univ. of Iowa

Project Investigator and Collaborative Participation in Spacecraft Projects

Juno	Collaborator for the Waves investigation on the Juno mission to Jupiter
Mars Express	Co-Investigator for the MARSIS (Mars Advanced Radar for Subsurface and Ionospheric Sounding) investigation, responsible for the antenna, transmitter and ionospheric data analysis
Cluster II	Co-Investigator, original Principal Investigator (1996-2006) responsible for the Wideband Plasma Wave Investigation (reflight of Cluster I)
NEPSTP	Principal Investigator, responsible for the plasma wave instrumentation on the Nuclear Electric Propulsion Space Test Program (project subsequently canceled)
Cassini	Co-Investigator, original Principal Investigator (1990-2015), responsible for the Radio and Plasma Wave Science Investigation
Cluster I	Principal Investigator, responsible for the Wideband Plasma Wave Investigation (launch failure)
Polar	Principal Investigator, responsible for the Plasma Wave Investigation

Geotail	Co-Investigator for the Plasma Wave Instrument, responsible for instrument development and construction
Wind	Co-Investigator for the Plasma Wave Instrument, responsible for the search coil magnetometer
CRRES	Co-Principal Investigator for the plasma wave portion of the USAF radiation studies investigation
AMPTE	Co-Investigator, responsible for part of the plasma wave instrumentation on the Ion Release Module
Solar Polar	Co-Investigator for the Radio and Plasma Wave Investigation on the U.S. spacecraft (project subsequently canceled)
Galileo	Principal Investigator, responsible for the Plasma Wave Investigation
Firewheel	Lead Investigator, responsible for the Plasma Wave Instrument (launched failed)
PDP	Co-Investigator, responsible for the plasma wave and electric field instrumentation (flown on the shuttle STS-3 and SL-2 missions)
ISEE 3	Co-Investigator, responsible for search coil magnetometer
DE 1	Principal Investigator, responsible for the Plasma Wave and Static Electric Field Investigation
ISEE 1 and 2	Principal Investigator, responsible for the ISEE-1 and -2 Plasma Wave Investigation; and Co-Investigator on the ISEE-1 DC Electric Field Experiment
Voyager 1 and 2	Principal Investigator (1988-present), original Co-Investigator, responsible for the Plasma Wave Investigation
Helios 1 and 2	Principal Investigator, responsible for the Solar Radio and Plasma Wave Investigation
Hawkeye 1	Co-Investigator, responsible for the Plasma Wave Investigation
IMP 8	Principal Investigator, responsible for the AC Electric and Magnetic Field Experiment
S ³ -A	Principal Investigator, responsible for the Plasma Wave Experiment
IMP 6	Principal Investigator, responsible for the AC Electric and Magnetic Field Experiment
Injun V	Co-Investigator, responsible for the VLF Radio Wave Experiment
Javelin Rocket	Principal Investigator, responsible for the VLF experiments on two Javelin Sounding Rockets (45 and 46 UI)
Injun III	Project Engineer, responsible for the spacecraft engineering system design and development of a very-low-frequency (VLF) radio receiver
Injun II	Project Engineer, responsible for the spacecraft engineering system, including development of an error-correcting digital encoding system
Relay I	Development of a scintillation counter to detect energetic electrons and protons
Injun I	Encoder and digital telemetry system design
Explorer XIV	Electronics circuit design, digital encoder development
Explorer XII	Electronics circuit design, digital encoder development
S-46	Development and testing of a low energy particle detector

Honors and Awards

- 2005 Hannes Alfvén Medal from the European Geosciences Union for “outstanding contributions toward the understanding of solar system plasma processes”
- 2004 Elected Member of the American Academy of Arts and Sciences
- 1998 Elected Member of the National Academy of Sciences
- 1994 Iowa Regents Award for Faculty Excellence, for a "sustained record of excellence"
- 1992 Elected Member of International Academy of Astronautics
- 1990 NASA Distinguished Scientific Achievement Award for “research performed on the Uranus-Neptune phase of the Voyager mission”
- 1990 M. L. Huit Award from The University of Iowa for "service and dedication to students of the University of Iowa"
- 1989 American Physical Society Division of Plasma Physics Award (\$5,000) for "excellence in plasma physics"
- 1989 Distinguished Iowa Scientist Award from the Iowa Academy of Science
- 1989 John Adam Fleming Medal from the American Geophysical Union for "original research and technical leadership"
- 1987 Elected Fellow of the American Physical Society
- 1987 Governor of Iowa's Medal for "Science Achievement"
- 1986 NASA Space Act Award (\$10,000) for "instrumentation development, and significant advancements and discoveries in space plasma wave and radio wave physics"
- 1980 NASA Distinguished Scientific Achievement Award for “research performed on the Jupiter-Saturn phase of the Voyager mission”
- 1978 John Howard Dellinger Gold Medal from the International Scientific Radio Union for "Distinguished research in radio physics"
- 1975 Senior U. S. Scientist Award from the Alexander von Humboldt Foundation
- 1971 Elected Fellow of the American Geophysical Union

Memberships in Professional and Learned Societies

- Eta Kappa Nu
- Tau Beta Pi
- American Geophysical Union
- International Scientific Radio Union (URSI)
- American Physical Society
- International Academy of Astronautics
- National Academy of Sciences
- American Academy of Arts and Sciences

Advisees

Summary of Degrees Completed from 1965-2019 (Ph.D.: 29; M.S.: 33):

<u>Name</u>	<u>Degree</u>	<u>Mo./Year</u>
Kopf, Andrew J.	Ph.D.	July 2010
Wang, Zhenzhen	Ph.D.	July 2006
Xin, Lei	Ph.D.	July 2005
Ansher, Jay A.	Ph.D.	Dec. 2001
LeDocq, Michael J.	Ph.D.	July 1998
Keller, Andrew E.	Ph.D.	Dec. 1995
Hospodarsky, George	Ph.D.	Dec. 1994
Tsintikidis, Dimitris	Ph.D.	Aug. 1993
Feng, Wei	Ph.D.	Dec. 1992
Morgan, David D.	Ph.D.	Dec. 1992
Boardsen, Scott A.	Ph.D.	Dec. 1988
Steinberg, John T.	Ph.D.	May 1988
Farrell, William M.	Ph.D.	Aug. 1987
Ma, Ti-Ze	Ph.D.	Aug. 1986
Baumbach, Mark M.	Ph.D.	May 1986
Weimer, Daniel R.	Ph.D.	Dec. 1984
Fuselier, Stephen A.	Ph.D.	Dec. 1984
Omidi, Nojan	Ph.D.	May 1984
Tokar, Robert L.	Ph.D.	Dec. 1983
Reinleitner, Lee A.	Ph.D.	July 1982
Gallagher, Dennis L.	Ph.D.	July 1982
Green, James L.	Ph.D.	July 1979
Kurth, William S.	Ph.D.	May 1979
Anderson, Roger R.	Ph.D.	Dec. 1976
Shaw, Robert R.	Ph.D.	July 1975
Rodriguez, Paul	Ph.D.	Jul. 1974
Cauffman, David P.	Ph.D.	May 1971
Mosier, Stephen R.	Ph.D.	Jan. 1970
Shawhan, Stanley D.	Ph.D.	Aug. 1966

<u>Name</u>	<u>Degree</u>	<u>Mo./Year</u>
Tetrick, Sadie S.	M.S.	Dec. 2017
Ferguson, Samuel	M.S.	May 2014
Kane, Mark V.	M.S.	Dec. 2012
Kopf, Andrew	M.S.	Aug. 2008
Duru, Firdevs	M.S.	July 2006
Richards, Benjamin	M.S.	May 2006
Akalin, Ferzan	M.S.	Dec. 2005
Wang, Zhenzhen	M.S.	Dec. 2004
Xin, Lei	M.S.	Dec. 2003
Kadow, Ryan	M.S.	July 2001
LeDocq, Michael J.	M.S.	Aug. 1993
Hospodarsky, George	M.S.	Aug. 1992
Xue, Shan	M.S.	Aug. 1992
Keller, Andrew E.	M.S.	Dec. 1990
Kistler, Allen C.	M.S.	Aug. 1988
Steinberg, John T.	M.S.	Dec. 1985
Farrell, William M.	M.S.	Dec. 1984
Seery, Joan R.	M.S.	May 1984
Persoon, Ann M.	M.S.	May 1983
Fuselier, Stephen A.	M.S.	May 1983
Strayer, Brian	M.S.	May 1979
Gallagher, Dennis	M.S.	Dec. 1978
Baumbach, Mark M.	M.S.	May 1976
Kurth, William S.	M.S.	May 1975
Hosford, N. Douglas	M.S.	July 1973
Shaw, Robert R.	M.S.	Jan. 1970
Rodriguez, Paul	M.S.	June 1969
Cauffman, Mavis G.	M.S.	June 1969
Anderson, Roger R.	M.S.	June 1969
Cauffman, David P.	M.S.	June 1968
Taylor, William W. L.	M.S.	Aug. 1967
Burns, Thomas B.	M.S.	June 1967
Pfeiffer, William	M.S.	Aug. 1966

Postdocs Supervised and Financially Supported (2004 - 2019):

Imai, Masafumi	Mar. 2016 – 2019
Sulaiman, Ali	Feb. 2016 – 2019
Kopf, Andrew	Oct. 2014 - Oct. 2016
Pisa, David	July 2013 - Oct. 2015
Dieval, Catherine	April 2013 - Oct. 2015
Kopf, Andrew	Sept. 2010 - Dec. 2011
Nemec, Frantisek	Jan. 2010 - Dec. 2010
Taubenschuss, Ulrich	Dec. 2009 - Dec. 2012
Schippers, Patricia	Aug. 2009 - Dec. 2011

Leisner, Jared	Mar. 2009 - Oct. 2012
Modolo, Ronan	Sep. 2007 - Feb. 2008
Ye, Shengyi	June 2007 - Fall 2009
Duru, Firdevs	Aug. 2007 - Sept. 2011
Wang, Zhenzhen	Aug. 2006 - Aug. 2011
Fischer, Georg	Jan. 2006 - Aug. 2008
Xin, Lei	Aug. 2005 - Aug. 2006
Cecconi, Baptiste	Oct. 2004 - Sep. 2005

SERVICE

Departmental Service

2018-2019	Member, Dept. of Physics and Astronomy Experimental Space Physics Faculty Search
2016-2017	Chair, Dept. of Physics and Astronomy Experimental Space Physics Faculty Search
2013-2014	Member, Dept. of Physics and Astronomy Space Physics Faculty Search Committee
2012	Member, Howes Promotion and Tenure Committee
2008-2010	Member, Dept. of Physics and Astronomy Executive Committee
2006-2008	Member, Dept. of Physics and Astronomy Space-Based Astronomy Search Committee
2004	Chair, Kletzing Promotion and Tenure Committee
2004	Chair, Van Allen Day Committee
2003	Chair, Dept. of Physics and Astronomy Space-Based Astronomy Search Committee
2001-2003	Member, Dept. of Physics and Astronomy Executive Committee
2000-2001	Member, Dept. of Physics and Astronomy Long-Term Strategic Planning Committee
1998-1999	Member, Dept. of Physics and Astronomy Improvements Committee
1998-1999	Member, Dept. of Physics and Astronomy Faculty Search Committee
1997-1998	Member, Dept. of Physics and Astronomy Executive Committee
1995-1996	Member, Dept. of Physics and Astronomy Faculty Search Committee
1993-1994	Member, Dept. of Physics and Astronomy Faculty Search Committee
1991-1992	Member, Dept. of Physics and Astronomy Faculty Search Committee
1987-1988	Member, Dept. of Physics and Astronomy Space Physics Faculty Search Committee
1986	Chair, Dept. of Physics and Astronomy Space Physics Faculty Search Committee
1985	Chair, Dept. of Physics and Astronomy Faculty Search Committee
1984-1987	Member, Dept. of Physics and Astronomy Policy, Planning and Budget Committee
1980-1983	Member, Dept. of Physics and Astronomy Educational Operations Committee
1974-1977	Member, Dept. of Physics and Astronomy Policy, Planning and Budget Committee

College of Liberal Arts and Sciences Service

1994-2001	Member, College of Liberal Arts Named and Endowed Professorships Committee
1994	Member, Collegiate Teaching Awards Committee

University Service

2011	Member, Vice President of Research Panel "Telling Your Research Story"
1999-2003	Member, Provost's Ad Hoc Committee on Named and Endowed Chairs and Professorships
1998-2004	Member, Center for Computer-Aided Design Advisory Board
1995	Member, Center for Computer Aided Design Review Committee
1995	Member, Regents Award for Faculty Excellence Committee
1991	Member, G.E. Foundation Faculty Fellowship Committee
1991-1992	Member, Biomedical Engineering Review Committee
1986-1987	Member, Search Committee for the Office of the Vice President for Educational Development and Research and Dean of the Graduate College
1984-1985	Member, Industrial Engineering Review Committee
1983-1985	Member, Committee to Review the Office of the Vice President of Research and Development and Dean of the Graduate College
1980-1983	Member, Research Council
1975-1977	Member, Mechanics and Hydraulics Review Committee

Professional Service

2018	Chair, National Academy of Sciences Arctowski Medal Committee
2010-2011	National Research Council Solar and Space Physics Decadel Survey Panel
2007-2010	National Academy of Sciences Section 16 Space Physics Subsection Chair
1994-1995	Member, Organizing Committee, International Conference on Laboratory & Space Plasmas
1991	Member, NASA Grand Tour Cluster, Pre-Phase A Study Committee
1991	Member, NASA Galileo Interdisciplinary Scientist Selection Committee
1991	Member, American Physical Society, Division of Plasma Physics, Program Committee
1988-1990	Member, American Geophysical Union Council, AGU representative to URSI
1986	Member, American Geophysical Union Search Committee for the Editor of Radio Science
1985-1986	Member, National Research Council's Research Associateship Program Review Panel (space plasma physics representative)
1982-1988	Representative of the American Geophysical Union on the U.S. National Committee of the International Union of Radio Science (URSI)
1982-1985	Member, National Academy of Sciences Committee on Planetary and Lunar Exploration
1982-1984	Member, American Geophysical Union Fellows Committee and Fleming Award Subcommittee
1976-1979	Member, National Academy of Sciences Committee on Solar Terrestrial Research
1976-1977	Member, National Academy of Sciences Committee on the International Magnetospheric Study
1975-1978	Member, National Academy of Sciences Space Physics Subcommittee
1974-1977	Associate Editor of the Journal of Geophysical Research
1974	Member of the National Academy of Sciences Woods Hole Study on the Scientific Applications of the Space Shuttle
1966-1972	Member of NASA Ionospheres and Radio Physics Subcommittee

TEACHING AT THE UNIVERSITY OF IOWA

2018-2019	1st semester	PHYS:5729	Research in Physics
	2nd semester	PHYS:5729	Research in Physics
2017-2018	1st semester	PHYS:5729	Research in Physics
	2nd semester	PHYS:5729	Research in Physics
2016-2017	1st semester	PHYS:7990:3338	Research
	2nd semester	PHYS:5729	Research in Physics
2015-2016	2nd semester	PHYS:5729	Fluid Mechanics
2014-2015	1st semester	29:194	Plasma Physics
2013-2014	1st semester	29:210	Fluid Mechanics
	2nd semester	29:220	Individual Critical Study
2012-2013	1st semester	29:194	Plasma Physics
		29:281	Research in Physics
2011-2012	2nd semester	29:291	Research in Physics
2009-2010	1st semester	29:291	Research in Physics
	2nd semester	29:281	Research in Physics
	Summer	29:281	Research in Physics
2008-2009	1st semester	29:291	Research in Physics
	2nd semester	29:281	Research in Physics
	Summer	29:281	Research in Physics
2007-2008	1st semester	29:281	Research in Physics
	2nd semester	29:281	Research in Physics
	Summer	29:281	Research in Physics
2006-2007	1st semester	29:281	Research in Physics
	2nd semester	29:281	Research in Physics
	Summer	29:281	Research in Physics
2005-2006	1st semester	29:281	Research in Physics
	2nd semester	29:281	Research in Physics
	Summer	29:281	Research in Physics
2004-2005	1st semester	29:281	Research in Physics
	2nd semester	29:281	Research in Physics
2003-2004	2nd semester	29:211	Mechanics of Continua
		29:281	Research in Physics
2002-2003	1st semester	29:194	Plasma Physics
	2nd semester	29:195	Plasma Physics
2001-2002	1st semester	29:294	Advanced Plasma Physics
2000-2001	2nd semester	29:211	Mechanics of Continua
1999-2000	1st semester	29:061	General Astronomy
	2nd semester	29:195	Plasma Physics

1998-99	1st semester	29:061	General Astronomy
	2nd semester	29:266	Space Physics Seminar
1997-98	1st semester	29:266	Space Physics Seminar
	2nd semester	29:195 29:266	Plasma Physics Space Physics Seminar
1996-97	1st semester	29:266	Space Physics Seminar
	2nd semester	29:195	Plasma Physics
1995-96	1st semester	29:194	Plasma Physics
	2nd semester	29:211 29:266	Mechanics of Continua Space Physics Seminar
1994-95	1st semester	29:266	Space Physics Seminar
	2nd semester	29:195 29:266	Plasma Physics Space Physics Seminar
1993-94	2nd semester	29:130 29:266	Electricity and Magnetism Space Physics Seminar
1992-93	1st semester	29:129 29:266	Electricity and Magnetism Space Physics Seminar
	2nd semester	29:130 29:266	Electricity and Magnetism Space Physics Seminar
1991-92	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:266	Space Physics Seminar
1990-91	1st semester	29:050	Modern Astronomy
	2nd semester	29:266	Space Physics Seminar
1989-90	2nd semester	29:211	Mechanics of Continua
1988-89	1st semester	29:050	Modern Astronomy
	2nd semester	29:266	Space Physics Seminar
1987-88	1st semester	29:211	Mechanics of Continua
1986-87	1st semester	29:061	General Astronomy
1985-86	1st semester	29:061	General Astronomy
1984-85	1st semester	29:061	General Astronomy
1983-84	1st semester	29:194	Plasma Physics
	2nd semester	29:082	Physics for Engineers
1982-83	1st semester	29:194	Plasma Physics
	2nd semester	29:195	Plasma Physics
1981-82	1st semester	29:194	Plasma Physics
	2nd semester	29:195	Plasma Physics

1980-81	1st semester	29:129 29:278	Electricity and Magnetism Solar Terrestrial Physics
	2nd semester	29:130	Electricity and Magnetism
1978-79	1st semester	29:17 29:266	Introductory Physics Space Physics Seminar
	2nd semester	29:18 29:266	Introductory Physics Space Physics Seminar
1977-78	1st semester	29:17 29:266	Introductory Physics Space Physics Seminar
	2nd semester	29:18 29:266	Introductory Physics Space Physics Seminar
1976-77	1st semester	29:194	Plasma Physics
	2nd semester	29:18	Introductory Physics
1974-75	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:130	Electricity and Magnetism
1973-74	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:130 29:1 29:128	Electricity and Magnetism Recitation Session (College Physics) Laboratory (Electronics)
1972-73	1st semester	29:213	Classical Electrodynamics
	2nd semester	29:214	Classical Electrodynamics
1971-72	1st semester	29:213	Classical Electrodynamics
	2nd semester	29:214	Classical Electrodynamics
1970-71	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:130	Electricity and Magnetism
1970-71	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:130	Electricity and Magnetism
1969-70	1st semester	29:129	Electricity and Magnetism
	2nd semester	29:130	Electricity and Magnetism
1968-69	1st semester	29:194	Plasma Physics
	2nd semester	29:235	Solar and Planetary Physics
1967-68	1st semester	29:194	Plasma Physics
	2nd semester	29:195	Plasma Physics
1966-67	1st semester	29:7 29:194	University Physics Plasma Physics
	2nd semester	29:8 29:195	University Physics Plasma Physics
1965-66	1st semester	29:7 29:132	University Physics Advanced Laboratory
	2nd semester	29:8 29:133	University Physics Advanced Laboratory

Teaching Assignments (by subject):

1. University Physics, 2 semester freshman/sophomore level course for Physics and Engineering students.
2. Advanced Laboratory, 1 semester course which can be repeated for advanced undergraduates and graduate students.
3. Plasma Physics, 2 semester senior and first-year graduate level courses.
4. Electricity and Magnetism, 2 semester junior and senior level course.
5. Solar and Planetary Physics, 1 semester graduate level course for students specializing in space physics and astrophysics.
6. Classical Electrodynamics, 2 semester advanced graduate level course.
7. Electronics, 1 semester course primarily for non-engineering undergraduate/graduate students
8. Introductory Physics, 1 semester course for science majors with calculus
9. Space Physics Seminar, 1 semester course that can be repeated
10. Solar-Terrestrial Physics, 1 semester course for students in space physics with emphasis on magnetospheric physics.
11. General Astronomy, 2 semester course for undergraduate science students.
12. Mechanics of Continua, 1 semester course in fluid dynamics for graduate students.
13. Fluid Mechanics, 1 semester course in fluid dynamics
14. Modern Astronomy, 1 semester course for undergraduate non-science students.
15. Physics for Engineers, 1 semester junior level course for engineering students.
16. Advanced Plasma Physics, 1 semester graduate level course