

# John A. Goree

---

Department of Physics and Astronomy, The University of Iowa  
Iowa City, IA 52242 USA  
Phone: 1-319-335-1843  
E-mail: [john-goree@uiowa.edu](mailto:john-goree@uiowa.edu)

ORCID ID 0000-0002-3988-0848  
Web of Science Researcher ID: AAA-7026-2019

Mar 4, 2024

## Educational and Professional History

---

### Education

<i>Princeton University</i>	Ph.D.	Plasma Physics	1985
<i>Princeton University</i>	M.A.	Plasma Physics	1982
<i>California Institute of Technology</i>	B.S.	Applied Physics	1980

### Positions

*The University of Iowa:*

<i>Dept. of Physics and Astronomy</i>	Professor	1996 – present
<i>Mechanical Engineering</i>	Professor	2011 – present
<i>Dept. of Physics and Astronomy</i>	Associate Professor	1991 – 1996
<i>Dept. of Physics and Astronomy</i>	Assistant Professor	1985 – 1991

*Max-Planck Institut*

<i>für Extraterrestrische Physik</i>	Guest Scientist	1998
<i>Garching, Germany</i>	Guest Scientist	1991 – 1992

### Professional Society Membership

*American Physical Society*  
*Institute for Electrical and Electronic Engineers*

### Research Interests

*Plasma physics experiments and modeling:*

Dusty plasmas, strongly coupled plasmas

*Statistical physics and condensed matter experiments and modeling:*

Liquids, fluctuations, transport coefficients

*Combustion:*

Instrumentation

### Awards

<i>Amer. Physical Society</i>	Distinguished Lecturer in Plasma Physics	2002 – 2003
<i>Amer. Physical Society</i>	Fellow	2001
<i>Univ. of Iowa</i>	Faculty Scholar Award	1995
<i>IBM</i>	Faculty Development Award	1986

## News Articles Covering John A. Goree's Research

<i>Science</i> , Vol. 264, p. 29 "A Dusty Road for Space Physics"	1 Apr 1994
<i>Science News</i> , Vol. 146, p. 84 "Forming Electric Crystals in a Dusty Plasma"	Aug 1994
<i>Nature</i> , Vol. 370, p. 411 "Plasma Dust as Model Crystals"	11 Aug 1994
<i>Physics World</i> "Plasma Crystal Opens New Branch of Research"	Oct 1994
<i>Physics News in 1994</i> , pp. 59-61 ( <i>American Institute of Physics</i> ) "Dusty Plasmas in the Cosmos and in Chip Manufacturing"	1995
<i>Science</i> "Plasma Physics Gets a Home"	28 Mar 1997
<i>Physical Review Focus</i> "Mach Cones: Shock Waves in Dusty Plasmas" <a href="http://www.aip.org/enews/physnews/1999/split/pnu455-3.htm">http://www.aip.org/enews/physnews/1999/split/pnu455-3.htm</a>	2 Nov 1999
<i>American Physical Society 2000 Calendar</i> Featured image: "Shock Wave in a Dusty Plasma"	2000
<i>CERN Courier</i> "Mach cones studied in plasmas" <a href="http://www.cerncourier.com/main/article/40/1/14">http://www.cerncourier.com/main/article/40/1/14</a>	Jan/Feb 2000
<i>Science News</i> , Vol. 158, No. 20, Nov. 11, 2000, p. 310 "Science gets a start on the space station"	Nov 2000
<i>Omaha World-Herald</i> , Pg. 1E "2001: A Space Community" by Julie Anderson	18 Feb 2001
<i>NASA Space Research News</i> "Serendipity in the Laboratory: Dust Busters and Dust Seekers Find Common Ground" Vol. 1, No. 2	Mar 2002
<i>European television channel ARTE</i> "L'Astronome et l'Indien," documentary about interstellar dust grains	Jan 2003
<i>Physics Today</i> , Vol. 57, pp. 32-38, featured cover story "Dusty Plasmas in Industry, the Laboratory and Space" circulation: 120,000 including public libraries around the country	July 2004
<i>Parity</i> (Japanese science magazine) "Dusty Plasmas in Industry, the Laboratory and Space"	May 2005
<i>Physics Web Physics News</i> "Plasmas move into dentistry" <a href="http://physicsweb.org/articles/news/10/8/12/1">http://physicsweb.org/articles/news/10/8/12/1</a>	16 August 2006

*Science News*

"Radiant plasma may combat cavities"

Vol. 170, No. 11, p. 173, 2006.

9 September 2006

*IOP Science LabTalk*

"Diagnostics for plasma transport on the International Space Station"

<http://iopscience.iop.org/0741-3335/labtalk-article/56090>

7 Feb 2014

*Scilight* (AIP Publishing's showcase of the most interesting research in its journals)

"Keeping fine particles aloft in a plasma afterglow"

9 Nov 2022

<https://pubs.aip.org/aip/sci/article/2022/46/461113/2849300/Keeping-fine-particles-aloft-in-a-plasma-afterglow>

## Grants

### External Grants as Principal Investigator

	<i>award</i>	<i>period</i>	<i>started</i>
IBM			
“Faculty Development Award”	\$60,000	lump sum	1986
Iowa Dept. of Economic Development			
“Plasma Processing Laboratory”	\$1,000,000	lump sum	1987
Lockheed Missiles and Space Co.			
“Dust-Plasma Interaction Experiment”	\$90,000	2 years	1990
NASA Origins of the Solar System Program			
“Plasma Dust Experiments”	\$150,000	3 years	1992
“Plasma Dust Experiments”	\$35,000	1 year	1995
NASA Micro-Gravity Science and Applications Division			
“Plasma Dust Crystallization”	\$330,000	3 years	1993
National Science Foundation Engineering Directorate			
“Particulates in Low-Temperature Plasmas”	\$216,000	3 years	1993
NASA Micro-Gravity Science and Applications Division			
“Graduate Student Researchers Program”	\$88,000	4 years	1994
National Science Foundation Physics			
“Strongly Coupled Dusty Plasmas”	\$669,000	3 years	1997
NASA Micro-Gravity Science and Applications Division			
“Plasma Dust Crystallization”	\$459,000	4 years	1997
Department of Energy			
“Strongly Coupled Dusty Plasmas”	\$540,000	3 years	2000
Department of Energy			
“Ninth Workshop on the Physics of Dusty Plasmas”	\$5,000	1 year	2001
NASA Physical Sciences Research Division			
“Optically-Excited Waves in 3D Dusty Plasmas”	\$700,000	4 years	2002
Department of Energy			
“Strongly Coupled Dusty Plasmas”	\$555,000	3 years	2003
US Civilian Research & Development Foundation	\$47,000	20 months	2004
“Mass transfer phenomena in weakly-ionized dusty plasmas” with co-PI Olga S. Vaulina			
NASA Physical Sciences Research Division			
“Self-Structuring in Dusty Plasmas”	\$328,333	2 years	2005
Department of Energy			
“Strongly Coupled Dusty Plasmas”	\$612,235	3 years	2006
NASA Physical Sciences Research Division			
“Self-Structuring in Dusty Plasmas”	\$400,000	3 years	2007
National Science Foundation			
“Strongly Coupled Dusty Plasmas”	\$717,000	3 years	2009
NASA Physical Sciences Research Division			
“Self-Structuring in Dusty Plasmas”	\$300,000	3 years	2010

NASA Physical Sciences Research Division “PLASMALAB Experiments”	\$120,000	2 years	2010
National Science Foundation Physics “Strongly Coupled Dusty Plasmas”	\$720,000	3 years	2012
NASA Physical Sciences Research Division “PLASMALAB Experiments”	\$246,000	3 years	2012
NASA Physical Sciences Research Division “Self-Structuring in Dusty Plasmas”	\$300,000	3 years	2013
Department of Energy “Strongly Coupled Dusty Plasmas”	\$675,000	3 years	2015
NASA Physical Sciences Research Division “PLASMALAB Experiments”	\$82,000	1 year	2016
NASA Physical Sciences Research Division “Self-Structuring in Dusty Plasmas”	\$100,000	1 year	2016
NASA Physical Sciences Research Division “Nonlinear Wave Experiments in Dusty Plasmas”	\$550,000	4 years	2017
National Science Foundation Physics “Nonlinear Wave Experiments in Dusty Plasmas”	\$20,000	4 years	2017
Department of Energy “Strongly Coupled Dusty Plasmas”	\$675,000	4 years	2018
Department of Defense “New Materials from Dusty Plasmas”	\$1,128,542	6 years	2018
National Science Foundation Physics “Nonlinear Wave Experiments in Dusty Plasmas”	\$15,000	2 years	2020
National Science Foundation Physics “Nonlinear Wave Experiments in Dusty Plasmas”	\$30,000	4 years	2021
NASA Physical Sciences Research Division “Nonlinear Wave Experiments in Dusty Plasmas”	\$72,500	0.5 years	2021
NASA Physical Sciences Research Division “Nonlinear Wave Experiments in Dusty Plasmas”	\$145,000	1 year	2021
NASA Physical Sciences Research Division “Nonlinear Wave Experiments in Dusty Plasmas”	\$145,000	3 years	2022
	total	\$12,325,610	

**External Grants as co-Investigator**

NASA Physical Sciences Research Division “Three dimensional dusty plasma experiments” with Principal Investigator Dr. Bin Liu	\$386,000	4 years	2017
“Three dimensional dusty plasma experiments” with Principal Investigator Dr. Bin Liu	\$50,000	0.5 years	2021

## Publication Impact

---

### Citations

Total citations 12,713, h-index: 59, [Web of Science](#), Feb. 22, 2024

Total citations 17,899, h-index: 68, [Google Scholar](#), Feb. 22, 2024

## Teaching

---

### Theses Supervised

	<i>degree</i>	<i>completed</i>
<i>Chun-liu Han</i>	M.S. Electrical Engineering Computer signal processing for laser frequency stabilization University of Iowa Library T1989.H233	1989
<i>Matthew J. Goeckner</i>	Ph.D. Physics “LIF Measurements and Modeling of Magnetron and Filament Discharges” University of Iowa Library T1990.G598	1990
<i>Afan Ottenheimer</i>	M.S. Physics A universal law for ion-dust transport coefficients in dusty plasmas University of Iowa Library T1995.O895	1995
<i>Richard Quinn</i>	M.S. Physics Determination of phase in plasma crystals University of Iowa Library T1995.Q232	1995
<i>Dmitry Samsonov</i>	Ph.D. Physics “Waves and Instabilities in Dusty Plasmas” University of Iowa Library T1999.S291	1999
<i>Richard Quinn</i>	Ph.D. Physics Experimental studies of strongly coupled dusty plasmas University of Iowa Library T2000.Q733	2000
<i>Timothy Flanagan</i>	M.S. Physics “Dust release from surfaces exposed to plasma” University of Iowa Library T2006.F584	2006
<i>Timothy Flanagan</i>	Ph.D. Physics “Observations of thermal creep gas flow and dust-density waves in dusty plasma experiments” doi: 10.17077/etd.a3awfgce	2010
<i>Yan Feng</i>	Ph.D. Physics “Microscopic dynamics in two-dimensional Strongly coupled dusty plasmas” doi: 10.17077/etd.x06jd0j5	2010
<i>W.D. Suranga Ruhunusiri</i>	Ph.D. Physics “Investigation of collective phenomena in dusty plasmas” doi: 10.17077/etd.9ncuus9v	2014
<i>Amit Mukhopadhyay</i>	Ph.D. Physics “Statistics for motion of microparticles in a plasma” doi: 10.17077/etd.4mfqip29	2014
<i>Zachary Haralson</i>	Ph.D. Physics “Exploring liquid behavior in dusty plasma experiments” doi:10.17077/etd.v5gjfmuf	2017

<i>Chun-Shang “Tim” Wong</i>	Ph.D. Physics “Statistical physics principles tested using dusty plasma and aerosol experiments” doi:10.17077/etd.md7stmaw	2018
<i>Anton Kananovich</i>	Ph.D. Physics “Shock Waves in Dusty Plasmas”	2020
<i>Vitaliy Zhuravlyov</i>	Ph.D. Physics “Microscopic Structure in a Two-Dimensional Liquid-Like Dusty Plasma”	2023
<i>Rahat Mollick</i>	Ph.D. Mechanical Engineering Co-advised with Professor Al Ratner	in progress
<i>Amila Kumara</i>	Ph.D. Physics	in progress

### **Courses Taught at The University of Iowa**

<i>Basic Physics</i>	29:008	introductory physics for non-majors
<i>College Physics II</i>	29:12	physics for premedical students
<i>Intro. Physics I</i>	29:17	mechanics & heat for physics majors
<i>Intro. Physics III</i>	29:19	modern physics for physics majors
<i>Electronics</i>	29:128	circuits & measurement for science majors
<i>Electricity &amp; Magnetism</i>	29:129	electro- & magnetostatics for physics majors
<i>Electricity &amp; Magnetism</i>	29:130	electrodynamics for physics majors
<i>Plasma Physics I</i>	29:194	introductory plasma physics
<i>Plasma Physics II</i>	29:195	introductory plasma physics
<i>Research: Physics</i>	29:281	graduate students
<i>Adv. Plasma Physics I</i>	29:294	kinetic theory for graduate students
<i>Adv. Plasma Physics II</i>	29:295	MHD & transport for graduate students
<i>Introductory Physics Labs</i>	29:8/11/12/17/18/27/28	new labs & lab manuals

### **Awards won by thesis students**

L.B. Sims Outstanding Master's Thesis Award, The University of Iowa Timothy Flanagan	2007
---	------



## Teaching assignments (since 1996)

<i>Semester</i>		<i>Course</i>	<i>Comment</i>
Spring	1996	29:194 Electronics	Effort included development of lab & lab manual
Fall	1996	none	Faculty Scholar Award
Spring	1997	29:294 Adv. Plasma Physics	
Fall	1997	none	Faculty Scholar Award
Spring	1998	none	Faculty Scholar Award - sabbatical in Germany
Fall	1998	none	Sabbatical in Germany
Spring	1999	29:194 Electronics	Effort included development of lab & lab manual
Fall	1999	29:8/11/12/17/18/27/28	Physics Labs - new labs & lab manuals
Spring	2000	29:194 Electronics	Effort included development of lab & lab manual
Fall	2000	29:8/11/12/17/18/27/28	Physics Labs - new labs & lab manuals
Spring	2001	29:194 Electronics	Effort included development of lab & lab manual
Fall	2001	29:8/11/12/17/18/27/28	Physics Labs - new labs & lab manuals
Spring	2002	29:194 Electronics	Effort included development of lab & lab manual
Fall	2002	29:12 College Physics II	55 students enrolled
Spring	2003	29:194 Electronics	15 students enrolled
Fall	2003	29:294 Adv. Plasma Physics	Effort included development of lab & lab manual 6 students enrolled
Spring	2004	29:194 Electronics	12 students enrolled
Summer	2004	29:281 Research: Physics	Effort included development of lab & lab manual 1 student enrolled
Fall	2004	29:129 Electricity Magnetism	18 students enrolled
Spring	2005	29:194 Electronics	16 students enrolled
Summer	2005	29:281 Research: Physics	Effort included development of lab & lab manual 1 student enrolled
Fall	2005	29:294 Adv. Plasma Physics	1 student enrolled
Spring	2006	29:194 Electronics	5 students enrolled
Fall	2006	29:281 Research: Physics	16 students enrolled
Spring	2007	29:194 Electronics	Effort included development of lab & lab manual 1 student enrolled
Fall	2007	29:281 Research: Physics	Career Development Award
Spring	2008	29:194 Electronics	1 student enrolled
Fall	2008	29:008 Basic Physics	14 students enrolled
Spring	2009	29:128 Electronics	Effort included development of lab & lab manual 2 students enrolled
Fall	2009	29:281 Research: Physics	76 students enrolled
		29:281 Research: Physics	Effort included supervising honors project 2 students enrolled
		29:281 Research: Physics	13 students enrolled
		29:281 Research: Physics	Effort included development of lab & lab manual 1 student enrolled
		29:281 Research: Physics	4 students enrolled

Spring	2010	PHYS:1400 Basic Physics PHYS:3850 Electronics	56 students enrolled 18 students enrolled Effort included development of lab & lab manual
		PHYS:7990 Research:Physics	3 students enrolled
Spring	2011	PHYS:3850 Electronics PHYS:7990 Research:Physics	17 students enrolled 3 students enrolled
Fall	2011	PHYS:7730 Adv Plasma Physics	8 students enrolled
Summer	2010	PHYS:7990 Research:Physics	3 students enrolled
Spring	2012	PHYS:3850 Electronics PHYS:7990 Research:Physics	26 students enrolled 3 students enrolled
Fall	2012	PHYS:7990 Research:Physics	2 students enrolled
Fall	2010	PHYS:1400 Basic Physics	93 students enrolled Effort included supervising honors project
		PHYS:7990 Research:Physics	3 students enrolled
Spring	2013	PHYS:3850 Electronics PHYS:7990 Research:Physics	17 students enrolled 3 students enrolled
Fall	2013	Career Development Award PHYS:7990 Research:Physics	3 students enrolled
Spring	2014	PHYS:3850 Electronics PHYS:7990 Research:Physics	21 students enrolled 3 students enrolled
Fall	2014	PHYS:1400 Basic Physics	95 students enrolled Effort included a major change in teaching methods: Flip videos, clickers, online homework
Spring	2015	PHYS:3850 Electronics	11 students enrolled Effort included a major change in teaching methods: Flip videos, peer instruction
			Effort included development of lab & lab manual
Fall	2015	PHYS:7990 Research:Physics	3 students enrolled
Spring	2016	PHYS:3850 Electronics PHYS:7990 Research:Physics	15 students enrolled 3 students enrolled
Fall	2016	PHYS:1400 Basic Physics PHYS:7990 Research:Physics	75 students enrolled 3 students enrolled
		7400:0025 Practicum in College Teaching	1 student enrolled
Spring	2017	PHYS:3850 Electronics PHYS:7990 Research:Physics	13 students enrolled 3 students enrolled
Summer	2017	PHYS:7990 Research:Physics	1 student enrolled
Fall	2017	PHYS:1400 Basic Physics PHYS:7990 Research:Physics	88 students enrolled 2 students enrolled
Spring	2017	PHYS:3850 Electronics PHYS:7990 Research:Physics	11 students enrolled 3 students enrolled
Fall	2017	PHYS:1400 Basic Physics PHYS:7990 Research:Physics	79 students enrolled
Spring	2018	PHYS:3850 Electronics PHYS:7990 Research:Physics	12 students enrolled
Fall	2018	PHYS:7990 Research:Physics	
Spring	2019	PHYS:3850 Electronics PHYS:7990 Research:Physics	13 students enrolled
Fall	2019	PHYS:1400 Basic Physics online	70 students enrolled Effort included a major change in teaching methods: new asynchronous online course
		PHYS:1409 Basic Physics lab PHYS:7990 Research:Physics	

Spring	2020	PHYS:3850 Electronics	13 students enrolled
		PHYS:7990 Research:Physics	1 student enrolled
Fall	2021	PHYS:7990 Research:Physics	1 student enrolled
Spring	2021	PHYS:3850 Electronics	11 students enrolled
		PHYS:7990 Research:Physics	1 student enrolled
Fall	2022	PHYS:7990 Research:Physics	1 student enrolled
Spring	2022	PHYS:3850 Electronics	13 students enrolled
		PHYS:7990 Research:Physics	1 student enrolled
Fall	2022	PHYS:7990 Research:Physics	1 student enrolled
Spring	2023	PHYS:3850 Electronics	15 students enrolled
Fall	2023	PHYS:7930 Research:Seminar	1 student enrolled
Fall	2023	PHYS:7990 Research:Physics	1 student enrolled
Spring	2023	PHYS:3850 Electronics	15 students enrolled
Spring	2024	PHYS:1400 Basic Physics	94 students enrolled
Spring	2024	PHYS:1409 Basic Physics Lab	28 students enrolled
Spring	2024	PHYS:7930 Research:Seminar	1 student enrolled
Spring	2024	PHYS:7990 Research:Physics	1 student enrolled

### **Innovations in Teaching** (since 2011)

<i>Peer Instruction</i>	This practice was adopted in 2011 Starting with Advanced Plasma Physics and used in all classes subsequently taught.
<i>Flipped Classroom</i>	This practice was adopted in 2014 with Basic Physics and 2015 with Electronics, which was fully flipped in 2020. Colloquia to train other instructors to use flipping were given. Youtube video channel to train instructors was created.
<i>Computing</i>	Labview programming was added to Electronics in 2016
<i>Online Instruction</i>	First tenure-track faculty member in department to teach an entire course online, Basic Physics, Fall 2019 Training sessions to show other instructors online teaching Spring 2020

### **Supervision of Undergraduate Research and Honors Projects** (since 2004)

<i>Jerome Fung</i>	REU Student from Swarthmore College	2004
	“Method of Measuring Charge in a Dusty Plasma”	
<i>Robert Merrill</i>	REU Student from Ohio Northern University	2005
	“Plasma Tweezers Instrument for Dusty Plasmas”	
<i>Sarah Langlas</i>	UI undergraduate honors project	
	“The trajectory of a soccer ball”	2008
<i>Kyle Swanson</i>	UI student in cooperation with College of Dentistry	
	“Plasma Needle Disinfection of Bacteria”	2008 – 2010
<i>Lizhao Ge</i>	UI undergraduate honors project	
	“Measuring speed of waves”	2010
<i>Philipp Hagen Klett</i>	Undergraduate, Department of Physics and Astronomy	
	“Microgravity experiments with dusty plasma”	2010 – 2011
<i>Mia Siebrasse</i>	Undergraduate, Department of Physics and Astronomy	
	“Dusty plasma image analysis”	2011
<i>John Gernon</i>	Undergraduate, Grinnell College	2014
	“Experiments with dusty plasma”	
<i>Se Hyun Chun</i>	Undergraduate, Department of Physics and Astronomy	
	“Dusty plasma image analysis”	2014
<i>Tony Ball</i>	Undergraduate, Department of Physics and Astronomy	
	“Dusty plasma image analysis”	2017
<i>Karl Smith</i>	Undergraduate, St. Olaf College	
	“Dusty plasma image analysis”	2017, 2018
<i>Nitin Nagarkar</i>	Undergraduate, University of Iowa	2022
	“Laser sheet optics and imaging”	

### Supervision of Doctorate-Level Scientific Personnel

<i>Assistant Research Scientist</i>	Terrence E. Sheridan, Jr.	1988 – 1991
<i>Research Investigator</i>	Matthew J. Goeckner	1991
<i>Research Investigator</i>	Chunshi Cui	1993 – 1995
<i>Research Investigator</i>	G. Praburam	1993 – 1995
<i>Research Investigator</i>	John B. Pieper	1995 – 1996
<i>Postdoctoral Research Associate</i>	Volodymyr Nosenko	2000 – 2002
<i>Assistant Research Scientist</i>	Volodymyr Nosenko	2002 – 2006
<i>Associate Research Scientist</i>	Terrence E. Sheridan, Jr.	2000 – 2001
<i>Postdoctoral Research Associate</i>	Shota Nunomura	2001 – 2002
<i>Postdoctoral Research Associate</i>	Bin Liu	2001 – 2007
<i>Assistant Research Scientist</i>	Bin Liu	2007 – 2017
<i>Associate Research Scientist</i>	Bin Liu	2017 – 2021
<i>Postdoctoral Research Associate</i>	Yan Feng	2010 – 2012
<i>Postdoctoral Research Associate</i>	Zian Wei	2017 – 2018
<i>Postdoctoral Research Associate</i>	Jorge Berumen	2018 – 2021
<i>Research Associate</i>	Anton Kananovich	2022
<i>Postdoctoral Research Associate</i>	Neeraj Chaubey	2019 – 2023

### Supervision of Engineering Personnel

<i>Mechanical Engineer</i>	Allen Cooper	2002 – 2003
----------------------------	--------------	-------------

### Hosting of Visiting Scientific Personnel

<i>Prof. Frank Melandsø</i>	University of Tromsø, Norway	1994 – 1995
<i>Prof. André Melzer</i>	University of Kiel, Germany	1999
<i>Dr. Shota Nunomura</i>	University of Nagoya, Japan	1999 – 2001
<i>Prof. Alexander Piel</i>	University of Kiel, Germany	May 2001
<i>Prof. Avinash Khare</i>	Inst. for Plasma Res., Gandhinagar, India	2002 – 2003
<i>Prof. Alexander Piel</i>	University of Kiel, Germany	May 2005
<i>Prof. Terrence E. Sheridan, Jr.</i>	Ohio Northern University	August 2005
<i>Dr. Oliver Arp</i>	University of Kiel, Germany	2006
<i>Mr. Mukhit Muratov</i>	Al-Farabi Kazakh National University, Kazakhstan	2012
<i>Prof. Alexander Piel</i>	University of Kiel, Germany	May 2013
<i>Prof. Anton Kananovich</i>	Appalachian State University	2022, 2023

## Service

---

### Service to Department

#### *Departmental Committees*

Educational Operations Committee	1987 – 1990
Faculty Search Committee	1992 – 1993
Comprehensive Exam Committee	1993 – 1994
Faculty Search Committee	1997 – 1998
Review of Tenured Faculty Committee	1999, 2001, 2015, 2019, 2022
Review of Untenured Faculty	2004, 2007, 2012, 2020
Executive Committee	1999 – 2001
Promotion and Tenure Committee	1999
Search Committee for Lab Coordinator	2000
Graduate Brochure & Website Committee	2001 – 2002
Recruiting and Admissions Committee	2002 – 2003
Promotion and Tenure Committee	2004
Recruiting and Admissions Committee	2008 – 2009
Recruiting and Admissions Committee (Chair)	2009 – 2010
Recruiting and Admissions Committee (Chair)	2011 – 2012
Faculty Search Committee	2011 – 2012
Recruiting and Admissions Committee (Chair)	2012 – 2013
Recruiting and Admissions Committee	2017
Lab Curriculum and Floor Renovation	Feb 2018
Undergraduate Affairs and Curriculum Committee	2019 – 2021
Committee on Research Infrastructure & Organization	2021 – present

#### *Departmental ad-hoc service since 2000*

Colloquium organization	AY 1992/93, 2000/01
Writing departmental self study	2000
Updating lab manuals, when not assigned as teaching	2000 – 2003
Plasma seminar organization	most years
Qualifier exam grading	
Updating web pages for recruiting graduate students	2008 – 2017
Training instructors in online instruction	2020
Mentoring Assistant Professor's teaching	2020 – 2023
Supporting Adjunct Faculty teaching of Electronics	2023 – 2024

#### *Exam committees since 2008*

Comprehensive exam committee, Yan Feng	2009
Comprehensive exam committee, Timothy Flanagan	2010
PhD Thesis defense committee, Yan Feng	2010
Comprehensive exam committee, Jonathan Heinrich	2010
PhD Thesis defense committee, Timothy Flanagan	2010

PhD Thesis defense committee, Jonathan Heinrich	2011
PhD Thesis defense committee, Xiayu Xu (Biomedical Engineering)	2012
Comprehensive exam committee, Suranga Ruhunusiri	2013
Comprehensive exam committee, Amit Mukhopadhyay	2013
PhD Thesis defense committee, Suranga Ruhunusiri	2014
PhD Thesis defense committee, Amit Mukhopadhyay	2014
Comprehensive exam committee, John Meyer	2014
PhD Thesis defense committee, John Meyer	2015
Comprehensive exam committee, Feng Chu	2015
Comprehensive exam committee, Jorge Berumen	2015
Comprehensive exam committee, Sean Mattingly	2016
Comprehensive exam committee, Zachary Haralson	2017
Comprehensive exam committee, Jianan Zhang (Mechanical Engineering)	2017
PhD Thesis defense committee, Jianan Zhang (Mechanical Engineering)	2017
PhD Thesis defense committee, Zachary Haralson	2017
PhD Thesis defense committee, Sean Mattingly	2017
Comprehensive exam committee, Chun-Shang Wong	2018
PhD Thesis defense committee, Feng Chu	2018
PhD Thesis defense committee, Jorge Berumen	2018
PhD Thesis defense committee, Chun-Shang Wong	2018
Comprehensive exam committee, Anton Kananovich	2019
PhD Thesis defense committee, Anton Kananovich	2020
PhD Thesis defense committee, Vitaliy Zhuravylov	2023

*Recruiting of graduate students since 2000*

Graduate recruiting visit to MIPT, Moscow, Russia	Sep 2000
Graduate College Open House representative of department	15 Nov 2001
Focus-group participant to review brochure and website	28 Nov 2001
Produced all-new web site, the largest of its kind nationwide	2001–2002
Photographed dozens of subjects for recruiting website, brochure, talks	2001–2002
Edited over 100 photos for recruiting website, brochure, talks	2001–2002
Produced all-new recruiting brochure	2001–2002
Produced all-new slides for recruiting talks	2002
Co-produced all-new pamphlet to recruit women graduate students	2002
Met with prospective graduate students visiting our campus	2001–2002
Graduate recruiting visit to Lawrence University, Appleton WI	15 Oct 2002
Graduate recruiting visit to Iowa State University	13 Jan 2003
Graduate recruiting visit to Grinnell College	21 Jan 2003
Graduate recruiting visit to Case Western Reserve University	13 Feb 2003
Graduate recruiting visit to Augustana College	17 April 2003
Graduate recruiting visit to Carleton College	25 Apr 2003
Graduate recruiting visit to Sonoma State College	12 May 2003
Graduate recruiting visit to Swarthmore College	26 Sep 2003
Graduate recruiting visit to California State University at Sacramento	23 Oct 2003
Graduate recruiting visit to Brigham Young University	7 Dec 2004
Graduate recruiting visit to Grinnell College	28 April 2009
Presentation at Ohio Section of the American Physical Society Meeting	24 April 2009
Presentation at American Association Physics Teachers Summer Meeting	28 Jul 2009
Graduate recruiting visit to St. Olaf College	21 Oct 2009
Graduate recruiting visit to Illinois State University	20 April 2011
Graduate recruiting visit to University of Science and Technology of China	9 Oct 2015

*Recruiting of undergraduate students since 2000*

Focus-group participant to review brochure and website	Dec 2002
--	----------



## Service to University and College

### *Vice President for Research Committees*

Advisory Committee on Physical and Mathematical Sciences 1992

Committee for Conflict of Interest in Sponsored Programs 1999 – 2002

### *College of Liberal Arts Committees*

Review Committee for Dept. of Chemistry 1994

Commencement Platform Official 2016

## Service to Nobel Committees

*Invited Nominator* Royal Swedish Academy of Sciences  
2011 Nobel Prize in Physics 2010  
2023 Nobel Prize in Physics 2022

## Service to Profession

*Guest Editor* IEEE Transactions on Plasma Science 1994  
Special Issue on Charged Dust in Plasmas 1993 – 1994  
Contributions to Plasma Physics 2014 – 2015  
Frontiers in Physics 2021 - 2022

### *Journal Referee*

Applied Physics Letters  
Contributions to Plasma Physics  
Europhysics Letters  
IEEE Transactions on Plasma Science  
Icarus  
Journal of Applied Physics  
Journal of Biological Physics  
Journal of Geophysical Research (Space Physics)  
Journal of Imaging  
Journal of Physics D  
Journal of Vacuum Science and Technology  
Nature  
Nature Physics  
New Journal of Physics  
Physica A  
Physica Scripta  
Physical Review  
Physical Review Letters  
Physics Letters A  
Physics of Fluids  
Physics of Plasmas  
Plasma Physics and Controlled Fusion  
Plasma Sources Science & Technology  
Royal Society of Chemistry

## Service to Professional Societies

<i>Executive Committee</i>	American Vacuum Society Div. Plasma Science Tech.	1988 – 1990
<i>Program Committee</i>	American Vacuum Society National Symposia	1989 – 1991
<i>Program Committee</i>	Non-neutral Plasma Workshop	1997
<i>Program Committee</i>	Second International Conference on Dusty Plasmas	1999
<i>American Institute of Physics committee: update plasma physics PACS codes</i>		1999 – 2000
<i>Program Committee</i>	Non-neutral Plasma Workshop	2000
<i>Co-organizer</i>	Ninth Dusty Plasma Workshop	2001
<i>Program Committee</i>	Third International Conference on Dusty Plasmas	2002
<i>Nomination Committee</i>	American Physical Society Div. of Plasma Physics	2002
<i>Chairman, Nomination Committee</i>		
	American Physical Society Div. of Plasma Physics	2003
<i>Program Committee</i>	Non-neutral Plasma Workshop	2003
<i>Fellowship Committee</i>	American Physical Society Div. of Plasma Physics	2005
<i>International Committee</i>		
	Fourth International Conference on Dusty Plasmas	2005
<i>Vice Chair</i>	Marshall Rosenbluth Thesis Award Committee	
	American Physical Society Div. of Plasma Physics	2005 - 2006
<i>Chair</i>	Marshall Rosenbluth Thesis Award Committee	
	American Physical Society Div. of Plasma Physics	2006 - 2007
<i>Organizing Committee</i>	Workshop: Faraday Discussion 137	
	Spectroscopy and Dynamics of Microparticles	2006 - 2007
<i>Scientific Advisory Committee</i>		2007 - 2008
	Fifth International Conference on Dusty Plasmas	
<i>Fellowship Committee</i>	American Physical Society Div. of Plasma Physics	2008
<i>Scientific Advisory Committee</i>		2010 - 2011
	Sixth International Conference on Dusty Plasmas	
<i>International Advisory Board</i>		
	Intl. Conference Strongly-Coupled Coulomb Systems	2010 – 2022
<i>Executive Committee</i>	American Physical Society Div. of Plasma Physics	2011 – 2014
<i>Executive Committee</i>	Intl. Conference Strongly-Coupled Coulomb Systems	2012– 2022
<i>Search Committee</i>	Editor, Physical Review E, American Physical Society	2012
<i>Maxwell Prize Committee</i>		
	American Physical Society Div. of Plasma Physics	2013 - 2014
<i>Scientific Advisory Committee</i>		
	8th Intl. Conference on the Physics of Dusty Plasmas	2016-2017
<i>Fellowship Committee</i>	American Physical Society Div. of Plasma Physics	2018

## Service to Government Organizations

<i>Review Panel</i>	National Science Foundation	1994, 2000, 2005, 2007, 2009, 2010, 2014, 2016
<i>Committee of Visitors</i>	National Science Foundation	2018 - 2019
<i>Review Panel</i>	NASA	1997, 2008, 2013
<i>Review Panel</i>	Swedish Research Council	2005
<i>Proposal Referee</i>	U.S. Department of Energy	various years
	NASA	various years
	National Science Foundation	various years
	National Institutes of Health	2009
	Grant Agency of the Academy of Sciences, Czech Republic	2008
	Hungarian Scientific Research Fund	2011

## Service to International Organizations

<i>Chairman</i>	<i>European Space Agency - International Advisory Board</i>	
	International Microgravity Plasma Facility	1999 – 2003
	Meetings of the advisory board, organized and run:	
	Hakone, Japan	25 May 1999
	Munich, Germany	10 -11 Aug 1999
	Munich, Germany	7 - 8 Dec 1999
	Santa Fe, New Mexico, USA	25 Apr 2000
	Lisbon, Portugal	3 Jun 2000
	Garching, Germany	7 Nov 2000
	Iowa City, USA	23 - 24 May 2001
	Moscow, Russia	4 - 5 Dec 2001
	Durban, South Africa	24 May 2002
	Garching, Germany	17 Dec 2002
<i>Vice-Chairman</i>	<i>European Space Agency Facility Science Team</i>	
	PK-4 Instrument (International Space Station)	2009 – 2014
<i>Chairman</i>	<i>European Space Agency Facility Science Team</i>	
	PK-4 Instrument (International Space Station)	2014 – present
<i>Thesis exam committee</i>	PhD, Eindhoven University, Raymond Sladek	2006
	PhD, Eindhoven University, L.C.J. Heijmans	2017
	PhD, Institute for Plasma Research, India, Akanksha Gupta	2017
<i>Thesis review:</i>	Habilitation, University of Kiel, Germany, Dr. Andre Melzer	2008
	Habilitation, University of Kiel, Germany, Dr. Dietmar Block	2012
	Habilitation, University of Kiel, Germany, Dr. Hanno Kählert	2017
	PhD, Institute for Plasma Research, India, Akanksha Gupta	2017
<i>Committee member:</i>	IMPACT design review (NASA, DLR)	2020 - present

## Outreach

### Science Fair Judging:

Eastern Iowa Science & Engineering Fair Judge	1991 1993 1997 1999 2000 2001 2002 2007
Eastern Iowa Science & Engineering Fair Finalist Judge	2009 2010 2015 2016 2021 2023 2024
Solon Science Fair	2002 2007

### Presentations at “Family Science Adventures”

(for children and parents of Iowa City area)

Gravity and Weightlessness in Space	2000 2001
Sound Waves and How We Know the Earth’s Core is Molten	2006

### K12 Presentations at Horn Elementary School, Iowa City:

Volcanoes, 1 <sup>st</sup> and 2 <sup>nd</sup> grade. Horn Elementary, Iowa City	2001 2004
Pulleys and Levers, presented to four classes, 3 <sup>rd</sup> and 4 <sup>th</sup> grades	2002
Physics of Sound, presented to two classes, 3 <sup>rd</sup> and 4 <sup>th</sup> grades	2002
Buoyancy experiments, presented to three classes, 5 <sup>th</sup> and 6 <sup>th</sup> grades	2004
Chess Club – taught advanced class, for 16 students with 6 meetings	2004
Physics of Sound, presented to two classes, 3 <sup>rd</sup> and 4 <sup>th</sup> grades	2007
Buoyancy experiments, presented to three classes, 5 <sup>th</sup> and 6 <sup>th</sup> grades	2008

### K12 Presentations at Lemme Elementary School, Iowa City:

Buoyancy experiments, presented to two classes, 5 <sup>th</sup> grade	June 2014
---	-----------

### K12 Presentations at Horn Elementary School, Iowa City:

Eclipse, presented to three classes, 5 <sup>th</sup> grade	May 2017
--	----------

K12 Presentation at North Liberty Elementary STEM night	April 2024
---	------------

### Organizer of “Take our daughters to work day” event

(for children of faculty and staff, Department of Physics and Astronomy)	2002
--	------

College Fair Night, Iowa City, Representing Caltech	2001 2002 2007
---	----------------

### Citizens Climate Lobby, presentation:

Fission & Fusion Energy, Mitchell County Iowa Environment Expo	18 June 2022
--	--------------

## Consulting Experience

<i>Norand Corp.</i>	Plasma processing	1985 – 1988
<i>Eastman Kodak Co.</i>	Computer simulation of magnetron erosion	1989 – 1990
<i>Applied Materials</i>	Computer simulation of magnetron erosion	1995 – 1996
<i>Catalina Coatings</i>	Magnetron design	1997
<i>Applied Films Corp.</i>	Computer simulation of magnetron erosion	1998
<i>Veeco Instruments Inc.</i>	Particle control and plasma cleaning	2006
<i>Des Moines Police Department</i>	Expert witness	2016
<i>University of Colorado</i>	Lunar dust mitigation	2019 – 2021
<i>Iowa Attorney General</i>	Expert witness	2024

## Patent Application

*Particle Contamination Control in a Plasma Afterglow*

Inventors: Neeraj Chaubey and John Goree

International Patent Application No. PCT/US23/33392, filed September 21, 2023

## Provisional patent applications

*Light Based Medical Device*

Inventors: Kimberly Ann Morio, David Ray Drake, John Arlin Goree, Fatima Toor

Application Serial No. 62/359,569, filed July 7, 2016.

*Apparatus and Method of Detecting Mass of Small Particles*

Inventors: Chun-Shang Wong and John Arlin Goree

Application Serial No. 62/490,139, filed April 26, 2017.

*Methods and Devices for Cleaning Dust from a Surface*

Inventors: Xu Wang et al.

Application Serial No. 63/230,265, filed August 6, 2021

*Particle Contamination Control in a Plasma Afterglow*

Inventors: Neeraj Chaubey and John Goree

Application No. 63/378,662, filed October 6, 2022

## Technology Transferred to Industrial Use

*Palo Alto Research Corp*

"Double Lock-in Technique" used in model PAR 100 Lock-In Extender/Enhancer

*Eastman Kodak Co.*

Consulting project led to a new magnetron design for web coaters

## External Talks

---

### Invited Talks at Conferences

“Fast-Wave Current Drive in Toroidal Plasmas” <i>IEEE International Conference on Plasma Science Canada</i>	May 1986
“Dust Shedding by Bodies in a Plasma” <i>COSPAR World Space Conference Washington, D.C.</i>	Aug 1992
“The Plasma-Crystal Project” <i>Fifth Dusty Plasma Workshop Huntsville, AL</i>	Mar 1993
“Ion Trapping by a Charged Dust Grain in a Plasma” <i>NATO Advanced Research Workshop on Formation, Transport and Consequence of Particles in Plasma Processing France</i>	Sep 1993
“Dusty Plasmas” <i>Non-neutral Plasmas Workshop Berkeley, CA</i>	Jul 1994
“Dusty Plasma Experiments using the GEC Reference Cell” <i>Gaseous Electronics Conference</i>	Oct 1994
“Experiments with Strongly-Coupled Dusty Plasmas” <i>International Conf. on the Physics of Strongly Coupled Plasmas</i>	Sep 1995
“Dynamics of a Carbon Particle Cloud in a Sputtering Plasma” <i>Workshop on Dusty Plasmas 1995 Wickenburg, AZ</i>	Oct 1995
“Experiments with Strongly-Coupled Dusty Plasmas” <i>International Conference on Dusty Plasmas Goa, India</i>	Oct 1996
“Experiments with Strongly-Coupled Dusty Plasmas” <i>International Conf. on Superlattices, Microstructures and Microdevices Lincoln, NE</i>	Jul 1997
“Void and filamentary instabilities in a dusty plasma” <i>Seventh Dusty Plasma Workshop Boulder, CO</i>	Apr 1998
“Mach Cones in a Dusty Plasma” <i>URSI National Radio Science Conference Boulder, CO</i>	Jan 1999
“Monolayer Plasma Crystals: Experiments and Simulations” <i>Second International Conference on Dusty Plasmas Hakone, Japan</i>	May 1999
“Experiments with Coulomb-Crystal Dusty Plasmas” <i>Second Symposium on Non-conventional Plasmas Niigata Japan</i>	Aug 1999

<p>“Coulomb crystals in a monolayer dusty plasma”  <i>Gaseous Electronics Conference</i>  <i>Norfolk, VA</i></p>	Oct 1999
<p>“Coulomb Crystals made from Dusty Plasmas”  <i>American Physical Society Division of Plasma Physics</i>  <i>Seattle, WA</i></p>	Nov 1999
<p>“Experiments with two-dimensional crystallized dusty plasmas”  <i>American Physical Society Division of Plasma Physics</i>  <i>Seattle, WA</i></p>	Nov 1999
<p>“Shear Transverse Wave in a Complex Plasma”  <i>European Physical Society Division of Plasma Physics, Section on Dusty Plasmas</i>  <i>Workshop, Lisbon Portugal</i></p>	Jun 2000
<p>“Plasma Dust Crystallization”  <i>NASA Fifth Microgravity Fluid Physics and Transport Phenomena Conference</i>  <i>Cleveland, OH</i></p>	Aug 2000
<p>“Coulomb Crystal Experiments in Dusty Plasmas”  <i>American Physical Society April Meeting</i>  <i>Washington D.C.</i></p>	Apr 2001
<p>“International Microgravity Plasma Facility (IMPF) – Physics”  <i>AIAA Conference on Space Station Utilization,</i>  <i>Cape Canaveral, FL</i></p>	Oct 2001
<p>“International Microgravity Plasma Facility (IMPF) – Engineering”  <i>AIAA Conference on Space Station Utilization,</i>  <i>Cape Canaveral, FL</i></p>	Oct 2001
<p>“Waves in 2D Dusty Plasma Crystals”  <i>International Conference on Strongly Coupled Coulomb Systems (SCCS)</i>  <i>Santa Fe, NM</i></p>	Sep 2002
<p>“A Plasma that Acts Like a Crystal”  <i>American Physical Society April Meeting,</i>  <i>Philadelphia, PA</i></p>	Apr 2003
<p>“Transverse optical mode in a one-dimensional Yukawa chain”  <i>Non-neutral plasma workshop 2003</i>  <i>Santa Fe, NM</i></p>	Jul 2003
<p>“Strongly-Coupled Dusty Plasmas”  <i>International Conference on Dusty Plasmas in Applications</i>  <i>Odessa, Ukraine</i></p>	Aug 2004
<p>“Review of Dust Particle Formation, Charging, and Transport”  <i>Dust in Fusion Plasmas Workshop</i>  <i>Napa, CA</i></p>	Apr 2005
<p>“Waves in Dusty Plasmas”  <i>International Conference on Dusty Plasmas</i>  <i>Orleans, France</i></p>	Jun 2005

- “Wave Experiments in Dusty Plasmas: Linear and Nonlinear”  
*APS April Meeting mini-conference on Laboratory Experiments on Plasma Astrophysics*  
 Dallas, TX Apr 2006
- “Dusty Plasmas that Behave like Liquids or Solids”  
*European Physical Society Conference on Plasma Physics*  
 Rome Italy Jun 2006
- “Diffusion and super-diffusion in strongly-coupled dusty plasmas”  
*48th Annual Meeting of the APS Division of Plasma Physics*  
 Philadelphia, PA Oct 2006
- “Diffusive Transport of Microparticles in an Rf Glow Discharge Plasma”  
*2007 IEEE Conference on Plasma Sciences*  
 Albuquerque, NM Jun 2007
- “Comparison of Dusty Plasma and Colloidal Suspension”  
*2008 International Conference on Strongly Coupled Coulomb Systems.*  
 Camerino, Italy, July 29 - August 2, 2008
- “The electrical charge and motion of objects inserted into a plasma produced by ionizing gas”  
*Ohio Section of the American Physical Society*  
 Ada, Ohio 24 Apr 2009
- “The electrical charge and motion of objects inserted into a plasma”  
*2009 American Association of Physics Teachers Summer Meeting*  
 Ann Arbor, Michigan 28 July 2009
- “Experiments to observe release of lunar simulant from surfaces exposed to plasma”  
*Lunar Dust, Plasma and Atmosphere: The Next Steps Workshop*  
 Boulder, Colorado 27 – 29 Jan 2010
- “Imaging Charged Dust in Laboratory Plasmas”  
*American Astronomical Society Summer Meeting*  
 Miami, Florida 23 – 27 May 2010
- “Physics of liquid-phase dusty plasmas”  
*14th International Conference on the Physics of Non-Ideal Plasmas*  
 Rostock, Germany 9 – 14 Sep 2012
- “Transport phenomena in strongly-coupled dusty plasmas”  
*European Physical Society Conference on Plasma Science*  
 Helsinki, Finland 1 – 5 Jul 2013
- “The Spitzer potential and where it has taken us in dusty plasmas”  
*100<sup>th</sup> Birthday Celebration for Lyman Spitzer*  
 Princeton University, Princeton, New Jersey 19-20 Oct 2013
- “The University of Iowa’s Dusty Plasma Projects for PK-4”  
*Fundamental Physics Workshop*  
 Pasadena, California 17-18 Nov 2014
- “Determining transport coefficients for dusty plasmas in experiments and simulations”  
*Diagnostics and Simulation of Dusty Plasmas Workshop 4*  
 Kiel, Germany Sep 2015



- “Particle-level experiments in nonequilibrium statistical physics performed using dusty plasmas.”  
*International School on Complexity*  
 Erice, Italy 27 Jul – 3 Aug 2015
- “Statistical Physics Experiments Using Dusty Plasmas”  
*58<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics*  
 San Jose, California 31 Oct 2016
- “Statistical Physics Experiments Using Dusty Plasmas”  
*NSF/DOE Partnership in Basic Plasma Science and Engineering*  
 Arlington, VA Jan 2017
- “Statistical Physics Experiments Using Dusty Plasmas”  
*8<sup>th</sup> International Conference on the Physics of Dusty Plasmas*  
 Prague, Czech Republic May 2017
- “Dusty Plasma Research under Microgravity Conditions on the ISS”  
*APS March Meeting*  
 Los Angeles, California March 2018
- “Statistical Physics Experiments Using Dusty Plasmas”  
*9<sup>th</sup> International Conference on the Physics of Dusty Plasmas,*  
 Moscow, Russia Conference cancelled, Oct 2020
- “Nonlinear plasma wave experiments performed on the International Space Station”  
 J. Goree, Bin Liu, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev,  
 V. I. Molotkov, A. D. Usachev, O. F. Petrov, M. H. Thoma, E. Thomas Jr, U. Konopka  
*IEEE-APS Topical Conference on Antennas and Propagation in Wireless*  
*Communications (IEEE-APWC 2020),*  
 Honolulu, Hawaii Conference cancelled, Aug 2020
- “Exploiting dusty plasma to test theories of statistical physics”  
*6<sup>th</sup> Asia-Pacific Conference on Plasma Physics, Plenary Talk, online* Oct 2022
- “Mitigation of particles under vacuum conditions”  
*Defect Technology Conference, Applied Materials, Inc.,*  
 Santa Clara, CA Nov 2022
- “Survival-function analysis of the rearrangement of particles in a liquid-like dusty plasma experiment”  
*Workshop: Working Across Scales in Complex Systems*  
 Emory University, Atlanta, GA 12-14 Apr 2023

**Invited Talks given by group members working under the supervision of John A. Goree:**

- “Thermally Excited Waves in a 2D Plasma Crystal”  
given by S. Nunomura  
S. Nunomura, J. Goree, S. Hu, X. Wang and A. Bhattacharjee  
*5th European Workshop on Dusty and Colloidal Plasmas*  
*Potsdam, Germany* Aug 2001
- “Thermally-Excited Wave Experiments in a Strongly-Coupled Plasma”  
given by S. Nunomura  
*American Physical Society Division of Plasma Physics*  
*Long Beach, CA* Nov 2001
- “Plasma Diagnostics Using Microparticle Motion in a Dusty Plasma Under Microgravity Conditions”  
given by Bin Liu  
*IEEE International Conference on Plasma Science*  
*Norfolk, Virginia* 20 – 24 Jun 2010
- “Experimental Measurement of Viscoelasticity of Strongly-Coupled Dusty Plasma”  
given by Yan Feng  
*American Physical Society Division of Plasma Physics Annual Meeting*  
*Chicago, Illinois* Nov 2010
- “Viscosity Quantified in a 2D Dusty Plasma Experiment”  
given by Yan Feng  
*IEEE International Conference on Plasma Science*  
*Chicago, Illinois* 28 Jun 2011
- “Synchronization of the Dust Acoustic Wave”  
given by W. D. Suranga Ruhunusiri  
*IEEE International Conference on Plasma Science*  
*San Francisco, CA* 21 Jun 2013

## Contributed Talks since 2000

- “Mach cones in a two-dimensional colloidal dusty plasma”  
J. Goree  
*APS March Meeting*  
*Minneapolis, MN* Mar 2000
- “Microscopic observations of shocks in a two-dimensional Yukawa system”  
J. Goree  
*APS March Meeting*  
*Minneapolis, MN* Mar 2000
- “Laser-Excited Mach Cones in a Plasma Crystal”  
A. Melzer, S. Nunomura, D. Samsonov, Z. W. Ma and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “Transverse Shear Waves in a 2-D Dusty Plasma Crystal”  
S. Nunomura, D. Samsonov and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “Mach Cones in a Two-Dimensional Complex Plasma”  
D. Samsonov, H. M. Thomas, G. E. Morfill and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “Simulations of Transverse Shear Waves in a Two-Dimensional Plasma Crystal”  
Z. W. Ma, A. Bhattacharjee and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “Direct Measurements of the Coulomb Coupling Parameter in a Plasma Crystal Experiment”  
R. A. Quinn and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “Motion of Fast Particles in an Incomplete Second Layer of a Plasma Crystal”  
V. Nosenko, S. Nunomura and J. Goree  
*8th Workshop on the Physics of Dusty Plasmas*  
*Santa Fe, NM* Apr 2000
- “International Microgravity Plasma Facility”  
J. Goree  
*NASA Fifth Microgravity Fluid Physics and Transport Phenomena Conference*  
*Cleveland, OH* Aug 2000
- “Laser-excited shear and compressional waves in a crystallized dusty plasma”  
S. Nunomura, V. Nosenko, D. Samsonov and J. Goree  
*10th International Congress on Plasma Physics*  
*Quebec, Canada* Oct 2000
- “Laser-excited pulse propagation in a crystallized complex plasma”  
V. Nosenko, S. Nunomura and J. Goree  
*10th International Congress on Plasma Physics*  
*Quebec, Canada* Oct 2000

- “Caged particle motion in a crystallized complex plasma”  
R. A. Quinn and J. Goree  
*10th International Congress on Plasma Physics*  
*Quebec, Canada* Oct 2000
- “Linear and Nonlinear Mach Cones in Yukawa Crystals Formed in a Dusty Plasma”  
J. Goree, A. Bhattacharjee, Z. W. Ma, A. Melzer and S. Nunomura  
*10th International Congress on Plasma Physics*  
*Quebec, Canada* Oct 2000
- “Laser-excited shear and compressional waves in a crystallized dusty plasma”  
S. Nunomura, V. Nosenko, D. Samsonov and J. Goree  
*53rd Gaseous Electronics Conference*  
*Houston, TX* Oct 2000
- “Laser-excited pulses in a crystallized dusty plasma”  
V. Nosenko, S. Nunomura and J. Goree  
*53rd Gaseous Electronics Conference*  
*Houston, TX* Oct 2000
- “Dispersion relations of compressional and shear waves in  
2D crystallized dusty plasmas”  
S. Nunomura, J. Goree, S. Hu, X. Wang and A. Bhattacharjee  
*Plasma Physics Symposium*  
*Nagoya Japan* Jan 2001
- “2D Yukawa triangular lattice: linear and nonlinear experiments”  
V. Nosenko, S. Nunomura and J. Goree  
*APS March Meeting*  
*Seattle, WA* Mar 2001
- “PKE-Nefedov: The First Basic Science Experiment on the International Space Station”  
P. Nefedov, H. M. Thomas, G. E. Morfill, V. E. Fortov, T. Hagl, A. Ivlev,  
U. Konopka, H. Rothermel, M. Zuzic, V. I. Molotkov, O. Petrov, A. Lipaev,  
J. A. Goree, A. Ivanov, S. Krikalev, Y. Gidzenko and W. Sheperd  
*9th Workshop on the Physics of Dusty Plasmas*  
*Iowa City, IA* May 2001
- “Thermally Excited Waves in a 2D Plasma Crystal”  
S. Nunomura, J. Goree, S. Hu, X. Wang and A. Bhattacharjee  
*9th Workshop on the Physics of Dusty Plasmas*  
*Iowa City, IA* May 2001
- “Mach Cones in Two-Dimensional Yukawa Crystals: Linear and Nonlinear Properties”  
Z. W. Ma, A. Bhattacharjee and J. Goree  
*9th Workshop on the Physics of Dusty Plasmas*  
*Iowa City, IA* May 2001
- “Shear Wave Mach Cones in a 2D Dusty Plasma Crystal”  
V. Nosenko and J. Goree  
*9th Workshop on the Physics of Dusty Plasmas*  
*Iowa City, IA* May 2001
- “Nonlinear Compressional Pulses in a 2D Dusty Plasma Crystal”  
V. Nosenko, S. Nunomura and J. Goree  
*9th Workshop on the Physics of Dusty Plasmas*  
*Iowa City, IA* May 2001

- “Wave Dispersion Relations in a 2D Plasma Crystal”  
S. Nunomura, J. Goree, S. Hu, X. Wang and A. Bhattacharjee  
*9th Workshop on the Physics of Dusty Plasmas*  
Iowa City, IA May 2001
- “Waves in a 2D Dusty Plasma Crystal”  
J. Goree  
*2001 Workshop on Non-neutral Plasmas*  
San Diego, CA Jul 2001
- “Compressional and Shear Wakes in a 2D Dusty Plasma Crystal”  
V. Nosenko, J. Goree, Z. W. Ma, A. Piel and D. Dubin  
*5th European Workshop on Dusty and Colloidal Plasmas*  
Potsdam, Germany Aug 2001
- “Waves in a 2D Dusty Plasma Crystal”  
J. Goree, S. Nunomura and V. Nosenko  
*54<sup>th</sup> Gaseous Electronics Conference*  
State College, PA Oct 2001
- “Compressional and Shear Wakes in a 2D Dusty Plasma Crystal”  
V. Nosenko, J. Goree, Z. W. Ma and D. H. E. Dubin  
*54<sup>th</sup> Gaseous Electronics Conference*  
State College, PA Oct 2001
- “Mach cones and wakes in a 2D dusty plasma crystal”  
V. Nosenko, J. Goree, Z. W. Ma and D. H. E. Dubin  
*43<sup>rd</sup> Meeting of the APS Division of Plasma Physics*  
Long Beach, CA Oct 2001
- “Dynamical phase transitions in dusty crystals”  
I. V. Schweigert, V. A. Schweigert, V. Nosenko and J. Goree  
*3rd International Conference on the Physics of Dusty Plasmas*  
Durban, South Africa May 2002
- “Experiments and simulation of elastic waves in a plasma crystal radiated from a point-dipole source”  
A. Piel, V. Nosenko and J. Goree  
*3rd International Conference on the Physics of Dusty Plasmas*  
Durban, South Africa May 2002
- “Waves in a 2-D Plasma Crystal”  
J. Goree, S. Nunomura, V. Nosenko, S. Hu, Z. W. Ma, X. Wang and A. Bhattacharjee  
*3rd International Conference on the Physics of Dusty Plasmas*  
Durban, South Africa May 2002
- “Dispersion relations of compressional waves in a plasma crystal determined from a wakefield”  
V. Nosenko, D. H. E. Dubin and J. Goree  
*9th EPS Conference on Plasma Physics and Controlled Fusion*  
Montreux, Switzerland Jun 2002
- “Radiation pressure and gas drag forces on a melamine-formaldehyde microsphere in a dusty plasma”  
Bin Liu, John Goree, Vladimir Nosenko and Laifa Boufendi  
*55th Gaseous Electronics Conference, Minneapolis, MN* Oct 2002

- “Dispersion relations of compressional waves in a plasma crystal determined from a wakefield”  
V. Nosenko and J. Goree  
*55th Gaseous Electronics Conference*  
*Minneapolis, MN* Oct 2002
- “Nonlinear compressional waves in a 2D dusty plasma crystal: Theory”  
J. Goree, K. Avinash, Bin Liu and V. Nosenko  
*44th Annual Meeting of the APS Division of Plasma Physics*  
*Orlando, FL* Nov 2002
- “Nonlinear compressional waves in a 2D dusty plasma crystal: Experiment”  
V. Nosenko, K. Avinash, Bin Liu and J. Goree  
*44th Annual Meeting of the APS Division of Plasma Physics*  
*Orlando, FL* Nov 2002
- “Nonlinear compressional waves in a 2D dusty plasma crystal: Simulation”  
Bin Liu, K. Avinash, J. Goree and V. Nosenko  
*44th Annual Meeting of the APS Division of Plasma Physics*  
*Orlando, FL* Nov 2002
- “Elastic Waves in a Dusty Plasma Crystal Radiated from a Point-Dipole Source”  
J. Goree, V. Nosenko and A. Piel  
*44th Annual Meeting of the APS Division of Plasma Physics*  
*Orlando, FL* Nov 2002
- “Nonlinear longitudinal waves in a two-dimensional screened Coulomb crystal”  
S. Nunomura, S. Zhdanov, G. E. Morfill and J. Goree  
*International Workshop on the Physics of Nonideal Plasmas - PNP11*  
*Valencia, Spain* Mar 2003
- “Flight Hardware for KC-135 Parabolic Flights”  
John Goree  
*10<sup>th</sup> Workshop on the Physics of Dusty Plasmas, St. Thomas*  
*US Virgin Islands* Jun 2003
- “Transverse optical mode in a one-dimensional chain”  
Bin Liu, John Goree and K. Avinash  
*10<sup>th</sup> Workshop on the Physics of Dusty Plasmas, St. Thomas*  
*US Virgin Islands* Jun 2003
- “Nonlinear interaction of compressional waves in a 2D dusty plasma crystal”  
V. Nosenko, K. Avinash, J. Goree and Bin Liu  
*10<sup>th</sup> Workshop on the Physics of Dusty Plasmas, St. Thomas*  
*US Virgin Islands* Jun 2003
- “Nonlinear longitudinal waves in a two-dimensional screened Coulomb crystal”  
S. Nunomura, S. Zhdanov, G. E. Morfill and J. Goree  
*European Physical Society Conference*  
*St Petersburg, Russia* Jul 2003
- “Nonlinear mixing of compressional waves in a 2D dusty plasma crystal”  
V. Nosenko, K. Avinash, J. Goree and Bin Liu  
*56th Gaseous Electronics Conference*  
*San Francisco, CA* Oct 2003

- “Transverse optical mode in a one-dimensional dusty plasma lattice”  
J. Goree, Bin Liu and K. Avinash,  
*56th Gaseous Electronics Conference*  
*San Francisco, CA* Oct 2003
- “Sheath diagnostics using particles in a dusty plasma”  
 Bin Liu, J. Goree and K. Avinash  
*56th Gaseous Electronics Conference*  
*San Francisco, CA* Oct 2003
- “Transverse optical mode in a one-dimensional dusty plasma lattice”  
 Bin Liu, John Goree, and Khare Avinash  
*45th Annual Meeting of the APS Division of Plasma Physics*  
*Albuquerque, NM* Oct 2003
- “Electrostatic Release of Fine Particles Adhered to Surfaces on the Moon or Mars”  
J. Goree and V. Nosenko  
*Conference-Workshop on Strategic Research to Enable NASA’s*  
*Exploration Missions*  
*Cleveland, OH* Jun 2004
- “Shear viscosity measurements in a liquid strongly-coupled dusty plasma”  
 V. Nosenko and J. Goree  
*31st European Physical Society Conference on Plasma Physics*  
*London, UK* Jun 2004
- “Voids imaged under microgravity conditions”  
J. Goree  
*31st European Physical Society Conference on Plasma Physics*  
*London, UK* Jun 2004
- “Nonlinear mixing of compressional waves in a 2D dusty plasma crystal”  
 V. Nosenko, K. Avinash, J. Goree and Bin Liu  
*31st European Physical Society Conference on Plasma Physics*  
*London, UK* Jun 2004
- “Modes in a one-dimensional dusty plasma chain”  
 Bin Liu and J. Goree  
*31st European Physical Society Conference on Plasma Physics*  
*London, UK* Jun 2004
- “Measuring particle charge in an rf dusty plasma”  
 Jerome Fung, Bin Liu, John Goree and Vladimir Nosenko  
*46th Annual Meeting of the APS Division of Plasma Physics*  
*Savannah, GA* Nov 2004
- “Shear viscosity measurements in a liquid strongly-coupled dusty plasma”  
 V. Nosenko and J. Goree  
*46th Annual Meeting of the APS Division of Plasma Physics*  
*Savannah, GA* Nov 2004
- “MD simulation of a 2D liquid dusty plasma”  
 Bin Liu and John Goree  
*46th Annual Meeting of the APS Division of Plasma Physics*  
*Savannah, GA* Nov 2004

- “Phonon spectrum measured in a 1D Yukawa chain”  
J. Goree and Bin Liu  
*APS March Meeting*  
*Los Angeles, CA* Mar 2005
- “Shear viscosity measurements in a 2D Yukawa liquid”  
 V. Nosenko and J. Goree  
*APS March Meeting*  
*Los Angeles, CA* Mar 2005
- “Iowa Dust Mitigation Scheme for EVA Suits in a Lunar Habitat”  
J. Goree  
*NASA Dust Mitigation Technology Focus Group Workshop*  
*Golden, CO* Jun 2005
- “Shear viscosity of a liquid strongly-coupled dusty plasma”  
 V. Nosenko, Bin Liu and J. Goree  
*International Conference on Dusty Plasmas,*  
*Orleans, France* Jun 2005
- “Iowa Mitigation Scheme for Dust Removal”  
 T. Flanagan, J. Goree and V. Nosenko  
*International Conference on Dusty Plasmas,*  
*Orleans, France* Jun 2005
- “Viscosity of strongly-coupled dusty plasmas in a liquid state”  
J. Goree, Z. Donko, P. Hartmann and K. Kutasi  
*47th Annual Meeting of the APS Division of Plasma Physics*  
*Denver, CO* Oct 2005
- “Disinfection of *S. Mutans* Bacteria Using a Plasma Needle at Atmospheric Pressure”  
J. Goree, Bin Liu, David Drake and E. Stoffels  
*Microplasmas Workshop*  
*Greifswald, Germany* May 2006
- “A Biological Diagnostic for Atmospheric-Pressure Plasmas”  
J. Goree, Bin Liu and David Drake  
*IEEE Conference on Plasma Science*  
*Traverse City, MI* Jun 2006
- “Disinfection of *S. Mutans* Bacteria Using a Plasma Needle at Atmospheric Pressure”  
J. Goree, Bin Liu, David Drake, and E. Stoffels  
*IEEE Conference on Plasma Science*  
*Traverse City, MI* Jun 2006
- “Molecular-Dynamics Simulations of Viscosity and Diffusion in a 2D Dusty Plasma”  
 Bin Liu and J. Goree  
*IEEE Conference on Plasma Science*  
*Traverse City, MI* Jun 2006
- “Random fluctuations and release of dust particles from surfaces in a plasma”  
 Tim Flanagan and John Goree  
*11<sup>th</sup> Workshop of the Physics of Dusty Plasmas*  
*Williamsburg, VA* Jun 2006



- “Self-diffusion and superdiffusion in 2D liquid dusty plasmas”  
Bin Liu, John Goree and Yan Feng  
*11<sup>th</sup> Workshop of the Physics of Dusty Plasmas*  
Williamsburg, VA Jun 2006
- “Transport coefficients in 2D liquid dusty plasmas”  
John Goree and Bin Liu  
*11<sup>th</sup> Workshop of the Physics of Dusty Plasmas*  
Williamsburg, VA Jun 2006
- “Cutoff wave number for shear waves in a 2D dusty plasma”  
V. Nosenko, J. Goree and A. Piel  
*11<sup>th</sup> Workshop of the Physics of Dusty Plasmas*  
Williamsburg, VA Jun 2006
- “Pixel-locking errors in measuring particle positions in dusty plasmas”  
Yan Feng, John Goree and Frederick Skiff  
*11<sup>th</sup> Workshop of the Physics of Dusty Plasmas*  
Williamsburg, VA Jun 2006
- “Cutoff wave number for shear waves in a 2D dusty plasma”  
V. Nosenko, J. Goree A. Piel  
*48th Annual Meeting of the APS Division of Plasma Physics*  
Philadelphia, PA Oct 2006
- “Thermal conductivity measurements in a 2D Yukawa system”  
V. Nosenko, A. Ivlev, S. Zhdanov, G. Morfill, J. Goree and A. Piel  
*March Meeting of the APS*  
Denver, CO Mar 2007
- “Zelluläre Zweiphasenstroemung in komplexen Plasmen“  
Oliver Arp and John Goree  
*German Physical Society Section Plasma Physics Meeting,*  
*Düsseldorf, Germany* May 2007
- “Disinfection of S. Mutans Bacteria Using a Plasma Needle at Atmospheric Pressure”  
S. Hansen, J. Goree, Bin Liu and D. Drake  
*2007 IEEE Conference on Plasma Science*  
Albuquerque, NM Jun 2007
- “Heating and cooling in dusty plasmas”  
Y. Feng, J. Goree, Bin Liu  
*49th Annual Meeting of the APS Division of Plasma Physics*  
Orlando, FL Nov 2007
- “Self-diffusion and random motion in a strongly-coupled dusty-plasma: experiment”  
Bin Liu and J. Goree  
*49th Annual Meeting of the APS Division of Plasma Physics*  
Orlando, FL Nov 2007
- “Laser manipulation of dust particles in Coulomb balls”  
T.M. Flanagan and J. Goree  
*49th Annual Meeting of the APS Division of Plasma Physics*  
Orlando, FL Nov 2007

- “Disinfection of *S. Mutans* Bacteria Using a Plasma Needle at Atmospheric Pressure”  
 S. Hansen, J. Goree, Bin Liu and D. Drake  
*49th Annual Meeting of the APS Division of Plasma Physics*  
 Orlando, FL Nov 2007
- “Self-diffusion and random motion in a strongly-coupled dusty-plasma: MD simulation”  
J. Goree, Bin Liu, Z. Donkó and P. Hartmann  
*49th Annual Meeting of the APS Division of Plasma Physics*  
 Orlando, FL Nov 2007
- “Superheating of a dusty plasma crystal”  
J. Goree, Yan Feng and Bin Liu  
*50th Annual Meeting of the APS Division of Plasma Physics*  
 Dallas, TX Nov 2008
- “Detection of solid superheating in 2D dusty plasmas”  
J. Goree, Yan Feng and Bin Liu  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Experimental Investigation of Dust Density Waves and Plasma Glow”  
 O. Arp, D. Caliebe, K. Menzel, A. Piel and John A. Goree  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Time dependence of shear-induced melting and subsequent solidification  
 in a 2D dusty plasma”  
 Yan Feng, J. Goree and Bin Liu  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Using dusty plasma to detect thermal creep gas flow”  
 Tim Flanagan and John Goree  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Transverse oscillations in a single-layer dusty plasma under microgravity”  
 Bin Liu, John Goree, V.E. Fortov, A.M. Lipaev, V.I. Molotkov, O. F. Petrov,  
 G.E. Morfill, H.M. Thomas, H. Rothermel and A. Ivlev  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Improving the accuracy of the moment method for measuring particle positions”  
 W. D. Suranga Ruhunusiri, Y. Feng, J. Goree and Bin Liu  
*12<sup>th</sup> Workshop on the Physics of Dusty Plasmas*  
 Boulder, CO May 2009
- “Oscillatory Particle Motion Observed in Dusty Plasma under Microgravity Conditions”  
John Goree, Bin Liu, V.E. Fortov, A.M. Lipaev, V.I. Molotkov, O. Petrov,  
 G. E. Morfill, H.M. Thomas, H. Rothermel and A. Ivlev  
*2009 IEEE Conference on Plasma Science*  
 San Diego, CA Jun 2009

- “Oscillatory Particle Motion in Dusty Plasma under Microgravity Conditions”  
John Goree, Bin Liu, V.E. Fortov, A.M. Lipaev, V.I. Molotkov, O.F. Petrov,  
 G.E. Morfill, H.M. Thomas, H. Rothermel and A.V. Ivlev  
*51st Annual Meeting of the APS Division of Plasma Physics*  
 Atlanta, GA Nov 2009
- “Laboratory Observation of Naturally Occurring Dust Density Waves”  
 Tim Flanagan and John Goree  
*IEEE Conference on Plasma Science,*  
 Norfolk, Virginia Jun 2010
- “Viscoelasticity of 2D Dusty Plasmas”  
 Yan Feng, John Goree and Bin Liu  
*IEEE Conference on Plasma Science*  
 Norfolk, Virginia Jun 2010
- “Plasma Diagnostics Using Microparticle Motion in a Dusty Plasma under  
 Microgravity Conditions”  
J. Goree, Bin Liu, V. E. Fortov, A. M. Lipaev, V. I. Molotkov, O. F. Petrov,  
 G. E. Morfill, H. M. Thomas and A. V. Ivlev  
*EPS (European Physical Society) Plasma Conference*  
 Dublin, Ireland Jun 2010
- “Viscoelasticity of 2D Dusty Plasmas”  
 Yan Feng, John Goree, and Bin Liu  
*Gordon Research Conference on Plasma Processing Science*  
 New London, NH Jul 2010
- “Non-Gaussian Velocity Distribution of Microparticles in Plasma under  
 Microgravity Conditions”  
 Amit K. Mukhopadhyay, J. Goree, Bin Liu, V. E. Fortov, A. M. Lipaev,  
 V. I. Molotkov, O. F. Petrov, G. E. Morfill, H. M. Thomas and A. V. Ivlev  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Chicago, Illinois Nov 2010
- “Mode coupling for waves in a single-layer dusty plasma crystal”  
 Bin Liu, John Goree and Yan Feng,  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Chicago, Illinois Nov 2010
- “Laboratory observation of naturally occurring dust density waves”  
 Tim Flanagan and J. Goree  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Chicago, Illinois Nov 2010
- “Tiling analysis of melting in strongly coupled dusty plasma”  
 W. D. Suranga Ruhunusiri, J. Goree, Yan Feng and Bin Liu  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Chicago, Illinois Nov 2010
- “Complex viscosity of 3D Yukawa liquids”  
 Z. Donkó, J. Goree and P. Hartmann  
*International Conference on the Physics of Dusty Plasmas*  
 Garmisch, Germany May 2011

“Tiling analysis of melting in strongly coupled dusty plasma”  
 W. D. Suranga Ruhunusiri, J. Goree, Yan Feng and Bin Liu  
*IEEE Conference on Plasma Science*  
 Chicago, Illinois Jun 2011

“Viscosity Quantified in a 2D Dusty Plasma Experiment”  
 Yan Feng, J. Goree and Bin Liu  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Salt Lake City, UT Nov 2011

“Growth and nonlinearity in a self-excited dust-density wave”  
J. Goree and T.M. Flanagan  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Salt Lake City, UT Nov 2011

“Synchronization of self-excited dust acoustic waves”  
 W.D. Suranga Ruhunusiri and J. Goree  
*Workshop on the Physics of Dusty Plasmas*  
 Waco, Texas May 2012

“Complex shear viscosity”  
 Yan Feng, J. Goree and Bin Liu  
*Workshop on the Physics of Dusty Plasmas*  
 Waco, Texas May 2012

“Waves and instabilities in One-Dimensional Crystals”  
 Bin Liu, Yan Feng and J. Goree  
*Workshop on the Physics of Dusty Plasmas*  
 Waco, Texas May 2012

“Center-of-mass and breathing modes in a cluster of two microparticles”  
 Amit Mukhopadhyay and John Goree  
*Workshop on the Physics of Dusty Plasmas*  
 Waco, Texas May 2012

“Proposed Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*Workshop on the Physics of Dusty Plasmas*  
 Waco, Texas May 2012

“Dusty plasmas under microgravity conditions”  
John Goree and Inseob Hahn  
*International Space Station (ISS) Research and Development Conference*  
 Denver, CO Jun 2012

“Synchronization of dust acoustic waves under microgravity conditions”  
 W. D. Suranga Ruhunusiri and J. Goree  
*International Space Station (ISS) Research and Development Conference*  
 Denver, CO Jun 2013

“Transport Measurements in Dusty Plasmas under Microgravity Conditions”  
John Goree and Bin Liu  
*International Space Station (ISS) Research and Development Conference*  
 Denver, CO Jun 2013

“Oscillatory modes of two particulates levitated in an rf plasma”  
 Amit K. Mukhopadhyay, John Goree, and Bin Liu  
*Gaseous Electronics Conference*  
 Princeton, NJ Oct 2013

“Transport Measurements in Dusty Plasmas under Microgravity Conditions”  
John Goree and Bin Liu  
*American Society for Gravitational and Space Research 2013 Annual Meeting*  
 Orlando, FL Nov 2013

“Synchronization of dust acoustic waves under microgravity conditions”  
 W. D. Suranga Ruhunusiri and J. Goree  
*American Society for Gravitational and Space Research 2013 Annual Meeting*  
 Orlando, FL Nov 2013

“Dust acoustic instability in a strongly coupled dusty plasma”  
 M. Rosenberg, G. J. Kalman, P. Hartmann and J. Goree  
*American Society for Gravitational and Space Research 2013 Annual Meeting*  
 Orlando, FL Nov 2013

“Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*American Society for Gravitational and Space Research 2013 Annual Meeting*  
 Orlando, FL Nov 2013

“Improved laser heating technique for melting dusty plasma crystals”  
 Zach Haralson and John Goree  
*American Physical Society Prairie Section Fall 2013 Meeting*  
 Columbia, MO Nov 2013

“Experimental test of the Fluctuation Theorem using a microsphere in a rarefied gas”  
 Chun-Shang Wong, John Goree and Bin Liu  
*American Physical Society Prairie Section Fall 2013 Meeting*  
 Columbia, MO Nov 2013

“Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Denver, CO Nov 2013

“Observation of temperature peaks due to strong viscous heating in a dusty plasma flow”  
John Goree, Yan Feng and Bin Liu  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Denver, CO Nov 2013

“Diffusion of 2D Yukawa liquids under a magnetic field”  
 Yan Feng, T. Intrator, J. Goree and Bin Liu  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Denver, CO Nov 2013

“Dust acoustic instability in a strongly coupled dusty plasma”  
 M. Rosenberg, G. J. Kalman, P. Hartmann and J. Goree  
*American Physical Society Division of Plasma Physics Annual Meeting*  
 Denver, CO Nov 2013

“Synchronization of the dust acoustic wave under microgravity”  
W. D. Suranga Ruhunusiri and J. Goree  
*American Physical Society Division of Plasma Physics Annual Meeting*  
Denver, CO Nov 2013

“Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*International Conference on the Physics of Dusty Plasmas*  
New Delhi, India Mar 2014

“Experimental measurement of velocity correlations for two microparticles with ion wakes”  
Amit K. Mukhopadhyay and J. Goree  
*IEEE Conference on Plasma Science*  
Washington, D.C May 2014

“Mobility in a strongly coupled dusty plasma”  
J. Goree and Bin Liu  
*IEEE Conference on Plasma Science*  
Washington, D.C May 2014

“Is the compressibility positive or negative in a strongly-coupled dusty plasma?”  
John Goree and W. D. Suranga Ruhunusiri  
*Strongly Coupled Coulomb Systems 2014*  
Santa Fe, N.M. July 2014

“Localized viscous heating observed in a two-dimensional strongly coupled dusty plasma”  
Yan Feng, John Goree and Bin Liu  
*Strongly Coupled Coulomb Systems 2014*  
Santa Fe, N.M. July 2014

“Superdiffusion of 2D Yukawa Liquids due to a Perpendicular Magnetic Field”  
Yan Feng, J. Goree, B. Liu, T. Intrator, and M. Murillo  
*Strongly Coupled Coulomb Systems 2014*  
Santa Fe, NM July 2014

“Synchronization of dust acoustic waves under microgravity conditions”  
J. Goree, W. D. Suranga Ruhunusiri, and Bin Liu  
*American Society for Gravitational and Space Research 2014 Annual Meeting*  
Pasadena, CA Oct 2014

“The Dusty Plasma Physics Facility”  
J. Goree and Inseob Hahn  
*American Society for Gravitational and Space Research 2014 Annual Meeting*  
Pasadena, CA Oct 2014

“Is the compressibility positive or negative in a strongly-coupled dusty plasma?”  
John Goree and W. D. Suranga Ruhunusiri  
*American Physical Society Division of Plasma Physics Annual Meeting*  
New Orleans, LA Oct 2014

“Localized viscous heating observed in a two-dimensional strongly coupled dusty plasma”  
John Goree, Yan Feng, and Bin Liu  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015

“Improved two-beam method for heating of dusty plasma crystals”  
Zach Haralson and John Goree  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015

- “Perpendicular diffusion of a dilute beam of charged particles under PK-4 conditions”  
Bin Liu and John Goree  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015
- “Structure characterization of three-dimensional dusty plasmas using two-dimensional images”  
Bin Liu, John Goree, and W. D. Suranga Ruhunusiri  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015
- “Study of a two-dimensional shear flow”  
Tim C. S. Wong, John Goree, and Bin Liu  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015
- “Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*Workshop on the Physics of Dusty Plasmas, Auburn, AL* May 2015
- “Dusty Plasma Physics Facility for the International Space Station”  
John Goree and Inseob Hahn  
*Gaseous Electronics Conference, Honolulu, HI* Oct 2015
- “Perpendicular diffusion of a dilute beam of charged particles in the PK-4 dusty plasma”  
Bin Liu and John Goree  
*Gaseous Electronics Conference, Honolulu, HI* Oct 2015
- “Novel multi-species root canal infection model in extracted human teeth”  
K.A. Morio, D. Drake, F.B. Teixeira, A. Villhauer, D. Lynch, J. Goree  
*American Association of Endodontists AADR Meeting, San Francisco, CA* Apr 6-9 2016
- “Development of a new multi-species biofilm model for root canal disinfection laboratory testing”  
K.A. Morio, D. Drake, F.B. Teixeira, A. Villhauer, D. Lynch, J. Goree  
*American Association of Endodontists AAE Meeting, San Francisco, CA* Mar 16-19 2016
- “Statistical Physics Experiments at the Particle Level, Using Dusty Plasmas”  
John Goree  
*NASA Fundamental Physics Workshop, Dana Point, CA* Apr 2016
- “Experimental Demonstration of the Fluctuation Theorem for Entropy Production in a Shear Flow”  
Chung-Shang Wong, John Goree, Zach Haralson  
*26th IUPAP International conference on Statistical Physics, Lyon, France* 18-22 July 2016
- “Experimental discovery that the Green-Kubo theory fails for viscosity in a 2D dusty plasma”  
Zach Haralson and John Goree  
*26th IUPAP International conference on Statistical Physics, Lyon, France* 18-22 July 2016
- "Experimental discovery that the Green-Kubo relation fails for viscosity fails in a 2D dusty plasma"  
Zach Haralson and John Goree  
*Quo vadis - Complex plasmas; Hamburg, Germany* 1-4 Aug 2016
- "The fluctuation theorem applied to a dusty plasma shear flow"  
Chun-Shang Wong, John Goree, Zach Haralson, and Bin Liu  
*Quo vadis - Complex plasmas; Hamburg, Germany* 1-4 Aug 2016

- “Wave Synchronization in Dusty Plasmas under Microgravity Conditions”  
Bin Liu and John Goree  
*32nd Annual Meeting of the American Society for Gravitational and Space Research*  
Cleveland, Ohio October 2016
- Fluctuation Theorem Experiment Under Microgravity Conditions  
John Goree  
*32nd Annual Meeting of the American Society for Gravitational and Space Research*  
Cleveland, Ohio October 2016
- “An equation for pressure of a two-dimensional Yukawa liquid”  
Yan Feng, Wei Li, Lin Ziaoling, Wei Lin, John Goree, and Bin Liu  
*58<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics* Nov 2016
- “Coupling of an Acoustic Wave to Shear Motion due to Viscous Heating”  
Bin Liu and J. Goree  
*8<sup>th</sup> International Conference on the Physics of Dusty Plasmas*  
Prague, Czech Republic May 2017
- “Particle Velocity Distribution in a Three-Dimensional Dusty Plasmas”  
B. Liu, J. Goree, M. Pustylnik, H. Thomas, M. Fink, G. Morfill, V. Fortov,  
A. Usachev, V. Molotkov, A. Lipaev, O. Petrov, M. Thoma  
*8<sup>th</sup> International Conference on the Physics of Dusty Plasmas*  
Prague, Czech Republic May 2017
- “Particle Velocity Distribution in a Three-Dimensional Dusty Plasmas”  
B. Liu, J. Goree, M. Pustylnik, H. Thomas, M. Fink, G. Morfill, V. Fortov,  
A. Usachev, V. Molotkov, A. Lipaev, O. Petrov, M. Thoma  
*33rd Annual Meeting of the American Society for Gravitational and Space Research*  
Seattle, WA October 2017
- “Excitation of an acoustic pulse by an impulsive shear flow in a dusty plasma”  
Bin Liu, John Goree  
*59<sup>th</sup> Annual Meeting of the American Physical Society Division of Plasma Physics*  
Milwaukee, WI October 2017
- “Shock-like pulse experiment in a strongly coupled dusty plasma”  
Anton Kananovich, J. Goree  
*59<sup>th</sup> Annual Meeting of the American Physical Society Division of Plasma Physics*  
Milwaukee, WI October 2017
- “Particle Velocity Distribution in a Three-Dimensional Dusty Plasma  
under Microgravity Conditions”  
Bin Liu and J. Goree  
*33rd Annual Meeting of the American Society for Gravitational and Space Research*  
Seattle, WA October 2017
- “Nonlinear Wave Synchronization in Dusty Plasmas”  
J. Goree and Bin Liu,  
*33rd Annual Meeting of the American Society for Gravitational and Space Research*  
Seattle, WA October 2017
- "Microscopic fluctuations in a sheared liquid studied using a complex plasma,"  
Chun-Shang Wong, John Goree, and Zach Haralson,  
APS March Meeting 2018, Los Angeles, California, Mar 2018



“Dusty plasma experiments under microgravity conditions”  
 John Goree and Bin Liu  
*NASA Fundamental Physics Workshop, La Jolla, CA* Apr 2018

“Experimental observation of cnoidal wave structures of dust acoustic waves”  
 A. Sen, G. Ganguli, C. Crabtree, J. Goree, B. Liu, and S. Tiwari  
*15th Dusty Plasma Workshop, Baltimore, MD* Jun 2018

“Fluctuation Theorem Confirmed in a Dusty Plasma”  
 Chun-Shang Wong, J. Goree and Bin Liu,  
*15th Dusty Plasma Workshop, Baltimore, MD* Jun 2018

“Diffusive motion in a three-dimensional cluster in PK-4”  
 Zian Wei, Bin Liu, John Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov,  
 A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
*15th Dusty Plasma Workshop, Baltimore, MD* Jun 2018

“Shear deformations in dusty plasma”  
 Bin Liu and J. Goree  
*15th Dusty Plasma Workshop, Baltimore, MD* Jun 2018

“Blast waves experiments in a 2D dusty plasma”  
 Anton Kananovich and J. Goree  
*15th Dusty Plasma Workshop, Baltimore, MD* Jun 2018

“Diffusive motion in a three-dimensional cluster in PK-4”  
 Zian Wei, Bin Liu, John Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov,  
 A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
*ASGSR 2018, Bethesda, MD* Oct 2018

“Particulate imaging diagnostics in a gas-discharge plasma”  
 A. Kananovich and J. Goree.  
*71st Annual Gaseous Electronics Conference, Portland, OR* Nov 2018

“Transport properties of two-dimensional Magnetized Yukawa Monolayers”  
 Yan Feng, J. Goree, M. Murillo  
*60<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Portland, OR* Nov 2018

“Experimental measurement of shock thickness in a strongly coupled dusty plasma”  
 Anton Kananovich and J. Goree  
*60<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Portland, OR* Nov 2018

“Experimental scheme for measuring viscoelasticity in a liquid 2D dusty plasma  
 with controlled heating”  
 Jorge Berumen and J. Goree  
*Bad Honnef Physics School - Strongly Coupled Systems, Bad Honnef, Germany* Apr 2019

“Results from dusty plasma experiments performed aboard ISS using the PK-4 instrument”  
 Bin Liu and J. Goree  
*2019 NASA Fundamental Physics and Quantum Technology Workshop  
 Washington D.C.,* Apr 2019

“Dusty Plasma Experiments under Microgravity Conditions”  
 J. Goree and Bin Liu  
*35th Annual Meeting of the American Society for Gravitational and Space Research  
 Denver, CO* October 2019

- “Out-of-Plane Motion in a Shocked 2D Dusty Plasma”  
A. Kananovich and J. Goree  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Microscopic Characterization of Shocks in 2D Dusty Plasma”  
A. Kananovich and J. Goree  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Nonlinear dust acoustic waves in a plasma under microgravity conditions”  
Bin Liu, J. Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev,  
A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Dusty Plasma Experiment for Measuring the Dynamic Structure Factor”  
Vitaliy Zhuravlyov, John Goree, Chun-Shang Wong, Jorge Berumen  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Experiment for Characterizing Viscoelasticity in a 2D Dusty Plasma with Shear Flows”  
Jorge Berumen, John Goree, and Vitaliy Zhuravlyov  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Dust levitation in a modulated afterglow plasma”  
Neeraj Chaubey, John Goree, Anton Kananovich  
*61<sup>st</sup> Annual Meeting of the APS Division of Plasma Physics, Fort Lauderdale, FL* Oct 2019
- “Beat Waves in Dusty Plasma”  
Ajaz A. Mir, Sanat K. Tiwari, Abhijit Sen, Gurudas Ganguli, Chris Crabtree,  
Bin Liu, and John Goree  
*12th International Conference on Plasma Science, Lucknow, India* Nov 2019
- “Dust Mitigation Method for Lunar Exploration Utilizing an Electron Beam”  
X Wang, B Farr, J Goree, I Hahn, U Israelsson, M Horanyi  
*The Impact of Lunar Dust on Human Exploration* Feb 2020
- “The falling of a 2D dust crystal in an afterglow plasma”  
Neeraj Chaubey and J. Goree  
9<sup>th</sup> International Conference on the Physics of Dusty Plasmas, Moscow, Russia Oct 2020
- “Forced Korteweg-de Vries Model for Mixing of Waves in Dusty Plasma”  
Ajaz Mir, Sanat Tiwari, Abhijit Sen, John Goree, Bin Liu,  
Chris Crabtree, Gurudas Ganguli  
9<sup>th</sup> International Conference on the Physics of Dusty Plasmas, Moscow, Russia Oct 2020
- “Experiment and Simulation to Determine the Dynamic Structure Factor of a  
Strongly Coupled Dusty Plasma”  
Vitaliy Zhuravlyov and John Goree  
9<sup>th</sup> International Conference on the Physics of Dusty Plasmas, Moscow, Russia Oct 2020
- “Experiments with Shocks in Dusty Plasmas”  
John Goree  
International Online Seminar on Dusty Plasmas  
Organized by University of Kiel, Germany July 2020
- “A New Technique for Lunar Dust Mitigation Utilizing an Electron Beam “  
X. Wang, B. Farr, J. Goree, I. Hahn, U. Israelsson and M. Horányi  
Lunar Surface Innovation Consortium, Virtual Fall Meeting October 2020

- “Validity of Moments of the Dynamic Structure Factor in a Dusty Plasma”  
Vitaliy Zhuravlyov and John Goree  
*62<sup>nd</sup> Annual Meeting of the APS Division of Plasma Physics, Memphis, TN* Nov 2020
- “Dust charge reversal in an afterglow plasma”  
Neeraj Chaubey and John Goree  
*62<sup>nd</sup> Annual Meeting of the APS Division of Plasma Physics, Memphis, TN* Nov 2020
- “Experimental Measurement of Viscoelasticity in a 2D Dusty Plasma Using Modulated Shear Flows”  
Jorge Berumen and John Goree  
*62<sup>nd</sup> Annual Meeting of the APS Division of Plasma Physics, Memphis, TN* Nov 2020
- “Pulsed shear motion in a three-dimensional dusty plasma under microgravity conditions”  
Bin Liu, J. Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
*62<sup>nd</sup> Annual Meeting of the APS Division of Plasma Physics, Memphis, TN* Nov 2020
- “Correlation and spectrum of dust acoustic waves in a plasma under microgravity conditions”  
Bin Liu, J. Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
*462<sup>nd</sup> Annual Meeting of the APS Division of Plasma Physics, Memphis, TN* Nov 2020
- “Experiment of Dust Mitigation for Lunar Surface Exploration”  
B. Farr, X. Wang, J. Goree, I. Hahn, I. Ulf, M. Horanyi  
American Geophysical Union Fall Meeting Dec 2020
- “Electron Beam Dust Mitigation Method for Lunar Surface Exploration”  
Benjamin Far, Xu Wang, John Goree, Inseob Hahn, E. Ulf E. Israelsson, and Mihaly Horanyi  
*Joint NASA Exploration Science Forum / European Lunar Symposium, Online* Jul 2021
- “Electron Beam Dust Mitigation Method for Lunar Surface Exploration”  
Benjamin Far, Xu Wang, John Goree, Inseob Hahn, E. Ulf E. Israelsson, and Mihaly Horanyi  
*Fundamental and Applied Lunar Surface Research in Physical Sciences, Online* August 2021
- “Hyperuniformity Parameter Measurements for a 2D Strongly Coupled Dusty Plasma”  
Vitaliy Zhuravlyov, John Goree, Jack Douglas, Paolo Elvati, Angela Violi, Jorge Berumen  
*63<sup>rd</sup> Annual Meeting of the APS Division of Plasma Physics, Pittsburgh* Nov 2021
- “Positive charging of dust grains in an afterglow plasma”  
N. Chaubey, J. Goree, S. Lanham, M. Kushner, and U. Kortshagen  
*63<sup>rd</sup> Annual Meeting of the APS Division of Plasma Physics, Pittsburgh* Nov 2021
- “COMPACT – a new complex plasma facility for the ISS”  
Christina Knapek, Lenaic Couedel, Adrienne Dove, John Goree, Uwe Konopka, Andrey Lipaev, Andre Melzer, Svetlana Ratynskaia, Markus Thoma, Hubertus Thomas, Alexander Usachev  
*44<sup>th</sup> COSPAR Scientific Assembly, Athens, Greece* Jul 2022
- “Charge reversal and Coulomb expansion of a dust cloud in an afterglow plasma”  
Neeraj Chaubey and John Goree  
*64<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Spokane, WA* Oct 2022
- “Nonequilibrium Structure for Shocks in a 2D Dusty Plasma”  
Anton Kananovich and John Goree  
*64<sup>th</sup> Annual Meeting of the APS Division of Plasma Physics, Spokane, WA* Oct 2022
- “Turning a plasma physics discovery into a manufacturing application”  
John Goree

MURI Annual Meeting, New Materials from Dusty Plasma, Ann Arbor, MI Dec 2022

“Dust particle imaging as a diagnostic of afterglow plasma conditions”  
Neeraj Chaubey and John Goree  
MURI Annual Meeting, New Materials from Dusty Plasma, Ann Arbor, MI Dec 2022

“Static structure factor at long wavelengths for a dusty plasma liquid and other liquids”  
Vitaliy Zhuravlyov, John Goree, Jack F. Douglas, Paolo Elvati, and Angela Violi  
MURI Annual Meeting, New Materials from Dusty Plasma, Ann Arbor, MI Dec 2022

“Synchronization of nonlinear waves in dusty plasma  
Ajaz Mir, Sanat Tiwari, Abhijit Sen, Chris Crabtree, Gurudas Ganguli and John Goree  
50th IEEE International Conference on Plasma Science (ICOPS), Santa Fe, NM May 2023

Dust in an afterglow plasma can undergo a double reversal in its charge polarity  
Neeraj Chaubey and John Goree  
IEEE Conference on Plasma Science 2023, Santa Fe, NM 21-25 May 2023

Ground-based experiments in a plasma afterglow to define dusty plasma flight experiments  
John Goree and Neeraj Chaubey  
2023 NASA Workshop on Fundamental Physics, Santa Barbara, CA 23-25 May 2023

Reversing the dust charge polarity in a plasma afterglow  
Neeraj Chaubey and John Goree  
49th European Conference on Plasma Physics (2023), Bordeaux, France 3 -7 July 7 2023

Nonlinear Mixing and Synchronization in Driven Dusty Plasma  
Ajaz Mir, Sanat Tiwari, Abhijit Sen, Chris Crabtree, Gurudas Ganguli, and John Goree  
3rd International Conference on Plasma Theory and Simulations (PTS-2023)  
Jawaharlal Nehru University, New Delhi, India 21-23 Sep 2023

Buckling of Two-Dimensional Dusty Plasma Under Shock Compression  
Anton Kananovich and John Goree  
*65th Annual Meeting of the APS Division of Plasma Physics*, Denver CO Oct-Nov 2023

Reversing the dust charge polarity in a plasma afterglow  
John Goree and Neeraj Chaubey  
*65th Annual Meeting of the APS Division of Plasma Physics*, Denver CO Oct-Nov 2023

Rearrangement of Microstructures from Hexagonal to Quadrilateral within Two-Dimensional Shocks  
Anton Kananovich and John Goree  
*2024 Dusty Plasma Workshop*, Minneapolis, MN May 2024

Rearrangement of Microstructures from Hexagonal to Quadrilateral within Two-Dimensional Shocks  
Anton Kananovich and John Goree  
*2024 Dusty Plasma Workshop*, Minneapolis, MN May 2024

Experimental measurements of dust particle in a plasma afterglow  
J. Goree and Neeraj Chaubey  
*2024 Dusty Plasma Workshop*, Minneapolis, MN May 2024

## External Colloquia and Seminars

<i>IBM Watson Research Center, Yorktown Heights, NY</i> "Radio-Frequency Waves Used as Plasma Diagnostics"	15 Jan 1985
<i>AT&amp;T Bell Laboratories, Murray Hill, NJ</i> "The Backward Electrostatic Ion-Cyclotron Wave, Fast-Wave Current Drive and FIR Laser Scattering"	13 Mar 1985
<i>Univ. of Illinois, Nuclear Eng. Seminar</i> "Fast-Wave Current Drive"	25 Oct 1985
<i>Centre de Recherches en Physique des Plasmas, Ecole Polytechnique Federale de Lausanne, Switzerland, Seminar</i> "Parasitic Excitation of the Lower Hybrid Wave"	13 Jan 1987
<i>Chemistry Dept., Univ. of Iowa, Colloquium</i> "Microfabrication Science"	22 Jan 1987
<i>UCLA Dept. of Physics, Plasma Seminar</i> "Basic Physics of Processing Plasmas"	11 Jan 1988
<i>Mech. Eng. Dept., Univ. of Iowa, Thermal Fluids Seminar</i> "Comparison of Turbulent Transport in Fluids and Plasmas"	17 Nov 1988
<i>Univ. of Wisconsin, NSF Eng. Research Center Seminar</i> "Electron Transport in Planar Magnetron Plasmas"	24 Feb 1989
<i>Univ. of Illinois, Nuclear Eng. Seminar</i> "Sputtering Magnetron Modeling and Experiments"	24 Apr 1990
<i>Max-Planck-Institut für extraterrestrische Physik, Institute Seminar</i> "Dusty Plasma Experiments"	7 Dec 1991
<i>Univ. of Tromsø, Norway, Auroral Observatory Seminar</i> "Dispersion Relation of the Electrostatic Ion Cyclotron Wave"	18 Jun 1992
<i>Wright Patterson Air Force Base, Plasma Physics Seminar</i> "Plasma Crystals"	9 Jul 1993
<i>Univ. Calif. San Diego, Physics Dept., Plasma Physics Seminar</i> "Dusty Plasma Experiments and Modelling"	13 Jun 1994
<i>Univ. of Wisconsin, NSF Eng. Research Center Seminar</i> "Plasma Crystals"	18 Nov 1994
<i>DLR, Cologne Germany, Institut für Raumsimulation Seminar</i> "Experiments with Strongly-Coupled Dusty Plasmas"	8 Sep 1995
<i>University of Kiel, Germany, Experimental Physics Seminar</i> "Experiments with Strongly-Coupled Dusty Plasmas"	18 Sep 1995
<i>University of Orleans, France, GREMI Seminar</i> "Experiments with Strongly-Coupled Dusty Plasmas"	21 Sep 1995
<i>Applied Materials, Inc., Santa Clara, CA, Seminar</i> "Computer simulation to predict magnetron erosion profile"	29 Nov 1995
<i>Max Planck Insitut für extraterrestrische Physik, Germany</i> "Particle heating in plasma crystals"	13 Feb 1998

<i>Applied Films, Corp., Boulder, CO, Seminar</i> "Computer simulation to predict magnetron erosion profile"	9 Apr 1998
<i>University of Kiel, Germany, Experimental Physics Seminar</i> "A new kind of plasma instability driven by ion drag on a dust particle"	5 May 1998
<i>Max Planck Institut für Plasma Physik, Tokamak Physics Seminar</i> "Numerical simulations of sputtering magnetron plasmas"	18 Jun 1998
<i>Max Planck Institut für Plasma Physik, Bereichsseminar Oberflaechenphysik</i> "Growth of submicron dust particles due to sputtering in a discharge"	12 Nov 1998
<i>Mech. Eng. Dept., Univ. of Iowa, Thermal/Fluids Seminar</i> "International Space Station Experiments with Dusty Plasmas"	7 Sep 2000
<i>Applied Physics Dept., Columbia Univ., Plasma Physics Colloquium</i> "International Space Station Experiments with Dusty Plasmas"	13 Oct 2000
<i>Physics Dept. Colloquium, Lawrence University, Appleton WI</i> Making a plasma act like a crystal	15 Oct 2002
<i>Physics Dept. Colloquium, Iowa State University</i> "Making a plasma act like a crystal"	13 Jan 2003
<i>Physics Dept. Colloquium, Grinnell College</i> "Making a plasma act like a crystal"	21 Jan 2003
<i>Physics Dept. Colloquium, Case Western Reserve University</i> "Making a plasma act like a crystal"	13 Feb 2003
<i>Physics Dept. Colloquium, Augustana College</i> "Making a plasma act like a crystal"	17 Apr 2003
<i>Physics Dept. Colloquium, Carleton College</i> "Making a plasma act like a crystal"	25 Apr 2003
<i>Physics Dept. Colloquium, Sonoma State College</i> "Making a plasma act like a crystal"	12 May 2003
<i>Physics Dept. Colloquium, Swarthmore College</i> "Making a plasma act like a crystal"	26 Sep 2003
<i>Physics Dept. Colloquium, California State University, Sacramento</i> "Making a plasma act like a crystal"	23 Oct 2003
<i>Physics Dept. Colloquium, Brigham Young University</i> "Making a plasma act like a crystal"	7 Dec 2004
<i>Plasma Physics Colloquium, Princeton Plasma Physics Laboratory</i> "Dusty plasmas in basic science, astronomy, industry and fusion"	20 Apr 2005
<i>Plasma Physics Seminar, University of Wisconsin at Madison</i> "Dusty plasmas: fusion, space, semiconductor manufacturing & basic science"	12 Sep 2005
<i>Physics Colloquium, University of Greifswald, Germany</i> "Two-dimensional liquids at an atomistic scale: dusty plasma experiments and numerical simulations."	20 Oct 2006

Physics Colloquium, *University of Colorado*  
 “Two-dimensional liquids at an atomistic scale: dusty plasma experiments and numerical simulations.” 26 Nov 2006

Colloquium, P/T divisions, *Los Alamos National Laboratory*  
 “Dusty plasmas: an overview including topics from condensed matter, fluids, and astronomy.” 2 Aug 2007

Physics Colloquium, *Boston College*  
 “Low-dimensionality condensed matter experiments performed at an atomistic scale using strongly-coupled dusty plasmas” 9 Apr 2008

Physics Seminar, *Boston College*  
 “Non-Gaussian statistics & anomalous transport, with tests using dusty plasmas” 10 Apr 2008

Physics Seminar, *Grinnell College*  
 “Experiments with dusty plasmas performed on the International Space Station and in the laboratory” 28 Apr 2009

Physics Seminar, *St. Olaf College*  
 “The electrical charge and motion of objects inserted into a plasma” 21 Oct 2009

Mechanical Engineering Seminar, *University of Minnesota*  
 “Superheated solids and shear-induced melting experiments using dusty plasma as an analog system” 18 Nov 2009

Experimental Physics Seminar, *University of Kiel, Germany*,  
 “Superheated solids and shear-induced melting experiments using dusty plasma as an analog system” 9 Dec 2009

Seminar in Honor of Professor Alexander Piel’s 60<sup>th</sup> Birthday  
*University of Kiel, Germany*  
 “Pioneering the field of dusty plasmas” 7 Dec 2010

Physics Colloquium, *Illinois State University*  
 “The electrical charge and motion of objects inserted into a plasma” 19 Apr 2011

Physics Seminar, *Temple University*  
 “Laser-manipulated dusty plasmas as an analog system for studying melting and viscoelasticity” 21 Mar 2013

Physics and Astronomy Colloquium, *University of Nebraska at Lincoln*  
 “The First Measurement of Spatially-localized Viscous Heating” 3 Oct 2013

Physics Colloquium, *Auburn University*  
 “The First Measurement of Spatially-localized Viscous Heating” 31 Jan 2014

Physics Seminar, *Boston College*  
 “The First Measurement of Spatially-localized Viscous Heating” 20 Mar 2014

Complex Plasma Summer School, *Seton Hall University*  
 “Dusty Plasmas” 6 Aug 2014

Physics Seminar, <i>Emory University</i> "Flipping" method of teaching physics, with software demonstration	27 Apr 2015
Physics Colloquium, <i>Emory University</i> liu"Dusty Plasma"	28 Apr 2015
Physics Seminar, <i>Soochow University, China</i> "Introduction to dusty plasma, with a comparison to soft condensed matter"	7 Oct 2015
Physics Seminar, <i>University of Science and Technology of China</i> "Localized Viscous Heating Observed in a Two-Dimensional Dusty Plasma"	8 Oct 2015
Physics Seminar, <i>University of Science and Technology of China</i> "Flipped Classroom" and "Peer Instruction" Methods of Teaching Physics	9 Oct 2015
Plasma Physics Seminar, <i>University of Wisconsin, Madison</i> "Dusty plasmas for fundamental physics, fusion, semiconductor manufacturing and astronomy"	7 Dec 2015
Physics Colloquium, <i>Truman State University</i> "Brief Violations of the Second Law of Thermodynamics Observed in Dusty Plasma Experiments"	5 April 2017
Physics Seminar, <i>Lawrence University, Appleton, WI</i> "Violating the Second Law of Thermodynamics, Briefly"	7 Nov 2017
SoCal Plasma Zoom Seminar, Univ. of California at San Diego (online) "Shock Waves Observed Experimentally at the Particle Level in a Dusty Plasma"	Jan 2021
NYU Soft Matter Seminar, New York University (online) "Dusty plasma experiments to explore soft-matter concepts"	3 Nov 2021
JPP Frontiers of Plasma Physics Colloquium (online) "Dusty plasma experiments: strong coupling, shocks, and testing theories of statistical physics"	13 Jan 2022
Princeton Heliophysics Seminar (online) "Charging of dust grains in a plasma"	6 June 2022
Applied Materials Inc., COP Forum (online) "Particulates in a plasma: charging, forces, detection, and mitigation"	16 Sept 2022
Department of Aerospace Engineering Seminar, Worcester Polytechnic Institute (online) "Mitigating dust on surfaces for lunar exploration and spacecraft using plasmas and electron beams"	11 Nov 2022



## Departmental Colloquia and Seminars Presented at The University of Iowa, since 2004

Mechanical Engineering Seminar, <i>The University of Iowa</i> “Shear Flow Imaged at a Microscopic Level in a Dusty Plasma”	29 Jan 2004
Physics and Astronomy Colloquium, <i>The University of Iowa</i> “Two-Dimensional Liquids Studied at an Atomistic Level”	19 Sep 2005
Plasma Physics Seminar, <i>The University of Iowa</i> “Dusty plasmas in fusion and basic science”	26 Sep 2005
Physics and Astronomy Colloquium, <i>The University of Iowa</i> “Plasma Treatment for Biomedical Applications”	23 Jan 2006
Physics and Astronomy Colloquium, <i>The University of Iowa</i> “Experiments performed on the International Space Station to observe charged objects in plasma”	12 Oct 2009
Mechanical Engineering Graduate Seminar, <i>The University of Iowa</i> “Plasma Jet for Disinfection of Bacteria”	14 Apr 2011
Plasma Physics Seminar, <i>The University of Iowa</i> “Dusty Plasma Physics Facility for the International Space Station”	31 Jan 2012
Plasma Physics Seminar, <i>The University of Iowa</i> “Subsonic ion wake demonstrated in a microgravity experiment”	23 Apr 2012
Physical and Environmental Chemistry Seminar, <i>The University of Iowa</i> “Superheating of a melting solid studied experimentally using an analog physical system”	1 October 2012
Mechanical Engineering Graduate Seminar, <i>The University of Iowa</i> “Oscillatory motion of a row of droplets in a microfluidic flow”	8 Nov 2012
Physics and Astronomy Colloquium, <i>The University of Iowa</i> “The First Measurement of Spatially-localized Viscous Heating”	9 Sep 2013
Mechanical Engineering Graduate Seminar, <i>The University of Iowa</i> “Experiments on the thermodynamics and fluctuations in laminar shear flows of a very small size” -- talk given by Chun-Shang Wong	17 Sep 2015
Physics and Astronomy Colloquium, <i>The University of Iowa</i> Brief Violations of the Second Law of Thermodynamics in a Collisional Plasma	2 Oct 2016
Mechanical Engineering Graduate Seminar, <i>The University of Iowa</i> “Shock waves studied at a microscopic level in a solid 2D dusty plasma” -- talk given by Anton Kananovich	5 Sep 2019
Plasma Physics Seminar, <i>The University of Iowa</i> “Controlling a plasma afterglow to mitigate particle contamination in semiconductor manufacturing”	3 Apr 2023

Plasma Physics Seminar, *The University of Iowa*  
“Reversing the dust charge polarity in a plasma afterglow”

4 Mar 2024

*In addition to the above, John A. Goree is a co-author of several talks per year given by students and research scientists working under his supervision and presented in the Plasma Physics Seminar at The University of Iowa.*

**Microgravity experiments performed on the International Space Station**

PK-4 Campaign #5, “Nonlinear wave synchronization experiment”	7 Nov 2018
PK-4 Campaign #7, “Pulsed shear motion experiment”	26 July 2019
PK-4 Campaign #9, “Nonlinear wave synchronization experiment”	27 February 2020

## Publications in Refereed Journals

---

1. A. H. Boozer, T. K. Chu, R. L. Dewar, H. P. Furth, J. A. Goree, J. L. Johnson, R. M. Kulsrud, D. A. Monticello, G. Kuo-Petravic, G. Sheffield, S. Yoshikawa and O. Bettancourt  
**Two High-Beta Toroidal Configurations: A Stellarator and a Tokamak-Torsatron Hybrid**  
*Nuclear Fusion* Vol. III S, pp. 129-139, 1983
2. J. Goree, M. Ono, P. Colestock, D. McNeill and H. Park  
**Fast-Wave Current Drive in a Toroidal Plasma**  
*Physical Review Letters*, Vol. 55, pp. 1669-1672, 1985  
<https://doi.org/10.1103/PhysRevLett.55.1669>
3. J. Goree, D. K. Mansfield, M. Ono and K. L. Wong  
**Far-Infrared Laser Scattering in the ACT-I Toroidal Device**  
*Journal of Vacuum Science and Technology*, Vol. A3, 1074-1076, 1985  
<https://doi.org/10.1116/1.573120>
4. J. Goree, M. Ono and K. L. Wong  
**Observation of the Backward Electrostatic Ion-Cyclotron Wave**  
*Physics of Fluids*, Vol. 28, pp. 2845-2847, 1985  
<https://doi.org/10.1063/1.865204>
5. J. Goree  
**Double Lock-in Detection for Recovering Weak Coherent Radio Frequency Signals**  
*Review of Scientific Instruments*, Vol. 56, 1662-1664, 1985  
<https://doi.org/10.1063/1.1138121>
6. J. Goree and M. Ono  
**Lower-Hybrid Wave Excitation by a Fast-Wave Current Drive Antenna**  
*Nuclear Fusion*, Vol. 28, pp. 1105-1108, 1988  
<https://doi.org/10.1088/0029-5515/28/6/012>
7. J. Goree and J. S. Neff  
**Lidar Technique for Measuring Ionospheric Barium-Release Ion Density**  
*Journal of Geophysical Research*, Vol. 94, pp. 1533-1536, 1989  
<https://doi.org/10.1029/JA094iA02p01533>
8. M. J. Goeckner and J. Goree  
**Laser-Induced Fluorescence Measurements of Plasma Ion Temperatures: Corrections for Saturation Broadening**  
*Journal of Vacuum Science and Technology*, Vol. A7, pp. 977-981, 1989  
<https://doi.org/10.1116/1.575831>
9. T. E. Sheridan and J. Goree  
**Low-Frequency Turbulent Transport in Magnetron Plasmas**  
*Journal of Vacuum Science and Technology*, Vol. A7, pp. 1014-1018, 1989  
<https://doi.org/10.1116/1.576221>
10. T. E. Sheridan and J. Goree  
**Analytic Expression for the Electric Potential in the Plasma Sheath**  
*IEEE Transactions on Plasma Science*, Vol. 17, pp. 884-888, 1989  
DOI [10.1109/27.41228](https://doi.org/10.1109/27.41228)

11. M. J. Goeckner and J. Goree  
**Comment on "Optical Carriage for Laser-Induced Fluorescence in a Magnetized Plasma"**  
*Review of Scientific Instruments*, Vol. 60, pp. 3830-3831, 1989  
<https://doi.org/10.1063/1.1140453>
12. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Model of Energetic Electron Transport in Magnetron Discharges**  
*Journal of Vacuum Science and Technology*, Vol. A8, pp. 30-37, 1990  
<https://doi.org/10.1116/1.577093>
13. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Electron and Ion Transport in Magnetron Plasmas**  
*Journal of Vacuum Science and Technology*, Vol. A8, pp. 1623-1626, 1990  
<https://doi.org/10.1116/1.576776>
14. J. E. Miranda, M. J. Goeckner, J. Goree and T. E. Sheridan  
**Monte Carlo Simulation of Ionization in a Magnetron Plasma**  
*Journal of Vacuum Science and Technology*, Vol. A8, pp. 1627-1631, 1990  
<https://doi.org/10.1116/1.576777>
15. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Laser-Induced Fluorescence Characterization of Ions in a Magnetron Plasma**  
*Journal of Vacuum Science and Technology*, Vol. A8, pp. 3920-3924, 1990  
<https://doi.org/10.1116/1.576421>
16. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Pressure Dependence of Ionization Efficiency in a Magnetron Discharge**  
*Applied Physics Letters*, Vol. 57, pp. 2080-2082, 1990  
<https://doi.org/10.1063/1.103947>
17. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Monte Carlo Simulation of Ions in a Magnetron Plasma**  
*IEEE Transactions on Plasma Science*, Vol. 19, pp. 301-308, 1991  
 DOI: [10.1109/27.106828](https://doi.org/10.1109/27.106828)
18. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Observation of Two-Temperature Electrons in a Sputtering Magnetron Plasma**  
*Journal of Vacuum Science and Technology*, Vol. 9A, pp. 688-690, 1991  
<https://doi.org/10.1116/1.577344>
19. J. Goree and T. E. Sheridan  
**Magnetic Field Dependence of Sputtering Magnetron Efficiency**  
*Applied Physics Letters*, Vol. 59, pp. 1052-1054, 1991  
<https://doi.org/10.1063/1.106342>
20. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Laser-Induced Fluorescence Characterization of a Multidipole Filament Plasma**  
*Physics of Fluids B*, Vol. 3, pp. 2913-2921, 1991  
<https://doi.org/10.1063/1.859924>

21. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Ion Impact Etch Anisotropy Downstream from Diffusion Plasma Sources**  
*Journal of Vacuum Science and Technology*, Vol. 9A, pp. 3178-3180, 1991  
<https://doi.org/10.1116/1.577142>
22. T. E. Sheridan and J. Goree  
**Collisional Plasma Sheath Model**  
*Physics of Fluids B*, Vol. 3, pp. 2796-2804, 1991  
<https://doi.org/10.1063/1.859987>
23. T. E. Sheridan, J. Goree, Y. T. Chiu, R. L. Rairden and J. A. Kiessling  
**Observation of Dust Shedding from Material Bodies in a Plasma**  
*Journal of Geophysical Research: Space Physics*, Vol. 97, pp. 2935-2942, 1992  
<https://doi.org/10.1029/91JA02801>
24. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Measurements of Ion Velocity and Density in the Plasma Sheath**  
*Physics of Fluids B*, Vol. 4, pp. 1663-1670, 1992  
<https://doi.org/10.1063/1.860074>
25. J. Goree  
**Ion Trapping by a Charged Dust Grain in a Plasma**  
*Physical Review Letters*, Vol. 69, pp. 277-280, 1992  
<https://doi.org/10.1103/PhysRevLett.69.277>
26. J. Goree and T. E. Sheridan  
**Particulate Release from Surfaces Exposed to a Plasma**  
*Journal of Vacuum Science and Technology A*, Vol. 10, pp. 3540-3544, 1992  
<https://doi.org/10.1116/1.577781>
27. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Saturation Broadening of Laser-Induced Fluorescence from Plasma Ions**  
*Review of Scientific Instruments*, Vol. 64, pp. 996-1000, 1993  
<https://doi.org/10.1063/1.1144103>
28. J. Goree and Y. T. Chiu  
**Dust Contamination of the Spacecraft Environment by Exposure to Plasma**  
*Journal of Spacecraft and Rockets*, Vol. 30, pp. 765-767, 1993  
<https://doi.org/10.2514/3.26384>
29. Chunshi Cui and J. Goree  
**Fluctuations of the Charge on a Dust Grain in a Plasma**  
*IEEE Transactions on Plasma Science*, Vol. 22, pp. 151-158, 1994  
 DOI: [10.1109/27.279018](https://doi.org/10.1109/27.279018)
30. H. Thomas, G. Morfill, V. Demmel, J. Goree, B. Feuerbacher and D. Möhlmann  
**Plasma Crystal: Coulomb Crystallization in a Dusty Plasma**  
*Physical Review Letters* Vol. 73, pp. 652-656, 1994  
<https://doi.org/10.1103/PhysRevLett.73.652>

31. T. E. Sheridan and J. Goree  
**Langmuir Probe Characteristic in the Presence of Drifting Electrons**  
*Physical Review E* Vol. 50, pp. 2991-2996, 1994  
<https://doi.org/10.1103/PhysRevE.50.2991>
32. J. Goree  
**Charging of Particulates in a Plasma**  
*Plasma Sources Science and Technology* Vol. 3, pp. 400-406, 1994  
<https://doi.org/10.1088/0963-0252/3/3/025>
33. G. Praburam and J. Goree  
**Observations of Particle Layers Levitated in an rf Sputtering Plasma**  
*Journal of Vacuum Science and Technology A* Vol. 12, pp. 3137-3145, 1994  
<https://doi.org/10.1116/1.579227>
34. G. Praburam and J. Goree  
**Cosmic Dust Synthesis by Accretion and Coagulation**  
*Astrophysical Journal* Vol. 441, pp. 830-838, 1995  
<http://adsabs.harvard.edu/pdf/1995ApJ...441..830P>
35. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Electron Distribution Functions in a Sputtering Magnetron Discharge**  
*Japanese Journal of Applied Physics* Vol. 34, pp. 4977-4982, 1995  
<https://doi.org/10.1143/JJAP.34.4977>
36. F. Melandsø and J. Goree  
**Polarized Supersonic Plasma Flow Simulation for Charged Bodies such as Dust Particles and Spacecraft**  
*Physical Review E* Vol. 52, pp. 5312-5326, 1995  
<https://doi.org/10.1103/PhysRevE.52.5312>
37. G. Praburam and J. Goree  
**A Scattering Ratio Method for Sizing Sub-Micron Particles Suspended in a Plasma**  
*Plasma Sources Science and Technology* Vol. 5, pp. 84 - 92, 1996  
<https://doi.org/10.1088/0963-0252/5/1/011>
38. G. Praburam and J. Goree  
**Evolution of a Particulate Cloud in an RF Plasma**  
*IEEE Transactions on Plasma Science* Vol. 24, pp. 97-98, 1996  
 DOI: [10.1109/27.491710](https://doi.org/10.1109/27.491710)
39. R. A. Quinn, C. S. Cui, J. Goree, J. B. Pieper, H. Thomas and G. Morfill  
**Structural Analysis of a Coulomb Lattice in a Dusty Plasma**  
*Physical Review E* Vol.53, pp. R2049(R), 1996  
<https://doi.org/10.1103/PhysRevE.53.R2049>
40. G. Praburam and J. Goree  
**Plasma Method of Synthesizing Aerosol Particles**  
*Journal of Aerosol Science* Vol. 27, pp. 1257-1268, 1996  
[https://doi.org/10.1016/0021-8502\(96\)00020-1](https://doi.org/10.1016/0021-8502(96)00020-1)

41. G. Praburam and J. Goree  
**Experimental Observation of Very Low-Frequency Macroscopic Modes in a Dusty Plasma**  
*Physics of Plasmas* Vol. 3, pp. 1212-1219, 1996  
<https://doi.org/10.1063/1.871745>
42. J. B. Pieper, J. Goree and R. A. Quinn  
**Experimental Studies of 2D and 3D Structure in a Crystallized Dusty Plasma**  
*Journal of Vacuum Science and Technology A* Vol. 14, pp. 519-524, 1996  
<https://doi.org/10.1116/1.580118>
43. F. Melandsø and J. Goree  
**Particle Simulation of Two-Dimensional Dust Crystal Formation**  
*Journal of Vacuum Science and Technology A* Vol. 14, pp. 511- 518, 1996  
<https://doi.org/10.1116/1.580117>
44. J. B. Pieper, J. Goree and R. A. Quinn  
**Three-Dimensional Structure in a Crystallized Dusty Plasma**  
*Physical Review E* Vol. 54, pp. 5636-5640, 1996  
<https://doi.org/10.1103/PhysRevE.54.5636>
45. J. B. Pieper and J. Goree  
**Dispersion of Plasma Dust-Acoustic Waves in the Strongly-Coupled Regime**  
*Physical Review Letters* Vol. 77, pp. 3137-3140, 1996  
<https://doi.org/10.1103/PhysRevLett.77.3137>
46. T. E. Sheridan, M. J. Goeckner and J. Goree  
**Electron Velocity Distribution Functions in a Sputtering Magnetron Discharge in the E×B Direction**  
*Journal of Vacuum Science and Technology* Vol. A 16, pp. 2173-2176, 1998  
<https://doi.org/10.1116/1.581325>
47. J. A. Goree, G. Morfill and V. N. Tsytovich  
**Excitation of Collective Plasma Modes during Collisions between Dust Grains and the Formation of Dust Plasma Crystals**  
*Plasma Physics Reports* Vol. 24, pp. 490-497, 1998  
<http://dx.doi.org/10.1134/1.952596>
48. D. Samsonov and J. Goree  
**Instabilities in a Dusty Plasma with Ion Drag and Ionization**  
*Physical Review E* Vol. 59, 1047-1058, 1999  
<https://doi.org/10.1103/PhysRevE.59.1047>
49. D. Samsonov and J. Goree  
**Line Ratio Imaging of a Gas Discharge**  
*IEEE Transactions on Plasma Science* Vol. 27, 76-77, 1999  
 DOI: [10.1109/27.763046](https://doi.org/10.1109/27.763046)
50. D. Samsonov and J. Goree  
**Particle Growth in a Sputtering Discharge**  
*Journal of Vacuum Science and Technology A* Vol. 17, 2835-2840, 1999  
<https://doi.org/10.1116/1.581951>

51. J. Goree, G. E. Morfill, V. N. Tsytovich and S. V. Vladimirov  
**Theory of Dust Voids in Plasmas**  
*Physical Review E* Vol. 59, 7055-7067, 1999  
<https://doi.org/10.1103/PhysRevE.59.7055>
52. G. E. Morfill, H. M. Thomas, U. Konopka, H. Rothermel, M. Zuzic, A. Ivlev and J. Goree  
**Condensed Plasmas under Microgravity**  
*Physical Review Letters* Vol. 83, pp. 1598-1601, 1999  
<https://doi.org/10.1103/PhysRevLett.83.1598>
53. D. Samsonov, J. Goree, Z. W. Ma, A. Bhattacharjee, H. M. Thomas and G. E. Morfill  
**Mach Cones in a Coulomb Lattice and a Dusty Plasma**  
*Physical Review Letters* Vol. 83, pp. 3649-3652, 1999  
<https://doi.org/10.1103/PhysRevLett.83.3649>
54. A. V. Ivlev, D. Samsonov, J. Goree and G. Morfill  
**Acoustic Modes in a Collisional Dusty Plasma**  
*Physics of Plasmas* Vol. 6, pp. 741-750, 1999  
<https://doi.org/10.1063/1.873311>
55. R. A. Quinn and J. Goree  
**Single-Particle Langevin Model of Particle Heating in a Dusty Plasma**  
*Physical Review E* Vol. 61, pp. 3033-3041, 2000  
<https://doi.org/10.1103/PhysRevE.61.3033>
56. U. Konopka, D. Samsonov, A. V. Ivlev, J. Goree, V. Steinberg and G. E. Morfill  
**Rigid and Differential Plasma Crystal Rotation Induced by Magnetic Fields**  
*Physical Review E* Vol. 61, pp. 1890-1898, 2000  
<https://doi.org/10.1103/PhysRevE.61.1890>
57. D. Samsonov, J. Goree, H. M. Thomas and G. E. Morfill  
**Mach Cone Shocks in a Two-Dimensional Yukawa Solid Using a Complex Plasma**  
*Physical Review E* Vol. 61, pp. 5557-5572, 2000  
<https://doi.org/10.1103/PhysRevE.61.5557>
58. S. Nunomura, D. Samsonov and J. Goree  
**Transverse Waves in a Two-Dimensional Screened-Coulomb Crystal (Dusty Plasma)**  
*Physical Review Letters* Vol. 84, pp. 5141-5144, 2000  
<https://doi.org/10.1103/PhysRevLett.84.5141>
59. A. Melzer, S. Nunomura, D. Samsonov, Z. W. Ma and J. Goree  
**Laser-Excited Mach Cones in a Dusty Plasma Crystal**  
*Physical Review E* Vol. 62, pp. 4162-4176, 2000  
<https://doi.org/10.1103/PhysRevE.62.4162>
60. R. A. Quinn and J. Goree  
**Experimental Investigation of Particle Heating on a Strongly-Coupled Dusty Plasma**  
*Physics of Plasmas* Vol. 7, pp. 3904-3911, 2000  
<https://doi.org/10.1063/1.1286988>



61. M. Zuzic, A. V. Ivlev, J. Goree, G. E. Morfill, H. M. Thomas, H. Rothermel, U. Konopka, R. Sütterlin and D. D. Goldbeck  
**Three-Dimensional Strongly-Coupled Plasma Crystal under Gravity Conditions**  
*Physical Review Letters* Vol. 85, pp. 4064-4067, 2000  
<https://doi.org/10.1103/PhysRevLett.85.4064>
62. V. N. Tsytovich, S. V. Vladimirov, G. E. Morfill and J. Goree  
**Theory of Collision-Dominated Dust Voids in Plasmas**  
*Physical Review E* Vol. 63, pp. 056609-1 056609-11 2001  
<https://doi.org/10.1103/PhysRevE.63.056609>
63. D. Samsonov, A. V. Ivlev, G. E. Morfill and J. Goree  
**Long-range Attractive and Repulsive Forces in a Two-Dimensional Complex (Dusty) Plasma**  
*Physical Review E* Vol. 63, pp. 025401-1(R) - 025401-4(R), 2001  
<https://journals.aps.org/pre/abstract/10.1103/PhysRevE.63.025401>
64. Xiaogang Wang, A. Bhattacharjee, S.K. Gou and J. Goree  
**Ionization Instabilities and Resonant Acoustic Modes**  
*Physics of Plasmas* Vol. 8, pp. 5018-5024, 2001  
<https://doi.org/10.1063/1.1398283>
65. R. A. Quinn and J. Goree  
**Experimental Test of Two-Dimensional Melting Through Disclination Unbinding**  
*Physical Review E* Vol. 64 art. no 051404, 2001  
<https://doi.org/10.1103/PhysRevE.64.051404>
66. V. Nosenko, J. Goree, Z. W. Ma and A. Piel  
**Observation of Shear-Wave Mach Cones in a 2D Dusty-Plasma Crystal**  
*Physical Review Letters* Vol. 88, art. no 135001, 2002  
<https://doi.org/10.1103/PhysRevLett.88.135001>
67. S. Nunomura, J. Goree, S. Hu, X. Wang and A. Bhattacharjee  
**Dispersion Relations of Longitudinal and Transverse Waves in Two-Dimensional Screened Coulomb crystals**  
*Physical Review E* Vol. 65, art. no 066402, 2002  
<https://doi.org/10.1103/PhysRevE.65.066402>
68. R. A. Quinn and J. Goree  
**Particle Interaction Measurements in a Coulomb Crystal Using Caged-Particle Motion**  
*Physical Review Letters*, Vol. 88, art. no 195001, 2002  
<https://doi.org/10.1103/PhysRevLett.88.195001>
69. V. Nosenko, S. Nunomura and J. Goree  
**Nonlinear Compressional Pulses in a 2D Crystallized Dusty Plasma**  
*Physical Review Letters* Vol. 88, art. no 215002 2002  
<https://doi.org/10.1103/PhysRevLett.88.215002>
70. S. Nunomura, J. Goree, S. Hu, X. Wang, A. Bhattacharjee and K. Avinash  
**Phonon Spectrum of a Plasma Crystal**  
*Physical Review Letters* Vol. 89, art. no 035001, 2002  
<https://doi.org/10.1103/PhysRevLett.89.035001>

71. A. Piel, V. Nosenko and J. Goree  
**Experiments and MD Simulation of Elastic Waves in a Plasma Crystal Radiated from a Small Dipole Source**  
*Physical Review Letters* Vol. 89, art. no 085004, 2002  
<https://doi.org/10.1103/PhysRevLett.89.085004>
72. V. A. Schweigert, I. V. Schweigert, V. Nosenko and J. Goree  
**Acceleration and Orbits of Charged Particles Beneath a Monolayer Plasma Crystal**  
*Physics of Plasmas* Vol. 9, pp. 4465-4472, 2002  
<https://doi.org/10.1063/1.1512656>
73. Bin Liu, V. Nosenko, J. Goree and L. Boufendi  
**Radiation Pressure and Gas Drag Forces on a Melamine-Formaldehyde Microsphere in Dusty Plasma**  
*Physics of Plasmas* Vol. 10, pp. 9-20, 2003  
<https://doi.org/10.1063/1.1526701>
74. V. Ivlev, M. Kretschmer, M. Zuzic, G. E. Morfill, H. Rothermel, H. M. Thomas, V. E. Fortov, V. A. V. Ivlev, M. Kretschmer, M. Zuzic, G. E. Morfill, H. Rothermel, H. M. Thomas, V. E. Fortov, V. I. Molotkov, A. P. Nefedov, A. M. Lipaev, O. F. Petrov, Yu. M. Baturin, A. I. Ivanov and J. Goree  
**Decharging of Complex Plasmas: First Kinetic Observations**  
*Physical Review Letters* Vol. 90, art. no 055003, 2003  
<https://doi.org/10.1103/PhysRevLett.90.055003>
75. Anatoli P. Nefedov, Gregor E. Morfill, Vladimir E. Fortov, Hubertus M. Thomas, Hermann Rothermel, Tanja Hagl, Alexei V. Ivlev, Milenko Zuzic, Boris A. Klumov, Andrey M. Lipaev, Vladimir I Molotkov, Oleg F Petrov, Yuri P Gidzenko, Sergey K. Krikalev, William Shepherd, Alexandr I. Ivanov, Maria Roth, Horst Binnenbruck, John A. Goree and Yuri P. Semenov  
**PKE-Nefedov: Plasma Crystal Experiments on the International Space Station**  
*New Journal of Physics* Vol. 5, article no. 33, 2003  
<https://doi.org/10.1088/1367-2630/5/1/333>
76. A. Piel, A. Homann, M. Klindworth, A. Melzer, C. Zafiu, V. Nosenko and J. Goree  
**Waves and Oscillations in Plasma Crystals**  
*Journal of Physics B*, Vol. 36, 533-543, 2003  
<https://doi.org/10.1088/0953-4075/36/3/311>
77. S. Nunomura, S. Zhdanov, G.E. Morfill, and J. Goree  
**Nonlinear Longitudinal Waves in a Two-Dimensional Screened Coulomb Crystal**  
*Physical Review E*, Vol. 68, art. no 026407, 2003  
<https://doi.org/10.1103/PhysRevE.68.026407>
78. K. Avinash, P. Zhu, V. Nosenko and J. Goree  
**Nonlinear Compressional Waves in a Two-Dimensional Yukawa Lattice**  
*Physical Review E*, Vol. 68, art. no 046402, 2003  
<https://doi.org/10.1103/PhysRevE.68.046402>
79. V. Nosenko, J. Goree, Z.W. Ma, D.H.E. Dubin and A. Piel  
**Compressional and Shear Wakes in a 2D Dusty Plasma Crystal**  
*Physical Review E* Vol. 68, art. no 056409, 2003  
<https://doi.org/10.1103/PhysRevE.68.056409>
80. Bin Liu, K. Avinash and J. Goree  
**Transverse Optical Mode in a One-Dimensional Yukawa Chain**  
*Physical Review Letters*, Vol. 91, art. no 255003, 2003  
<https://doi.org/10.1103/PhysRevLett.91.255003>

81. V. Nosenko, K. Avinash, J. Goree and Bin Liu  
**Nonlinear Interaction of Compressional Waves in a 2D Dusty Plasma Crystal**  
*Physical Review Letters*, Vol. 92, art. no 085001, 2004  
<https://doi.org/10.1103/PhysRevLett.92.085001>
82. Bin Liu, K. Avinash and J. Goree  
**Characterizing potentials using the structure of a one-dimensional chain demonstrated using a dusty plasma crystal**  
*Physical Review E*, Vol. 69, art. no 036410, 2004  
<https://doi.org/10.1103/PhysRevE.69.036410>
83. Robert L. Merlino and John A. Goree  
**Dusty Plasmas in Industry, the Laboratory and Space**  
*Physics Today*, Vol. 57, 32-38, 2004  
<http://doi.org/10.1063/1.1784300>
84. V. Nosenko and J. Goree  
**Shear Flows and Shear Viscosity in a Two-Dimensional Yukawa System (Dusty Plasma)**  
*Physical Review Letters*, Vol. 93, pp. art. no 155004, 2004  
<https://doi.org/10.1103/PhysRevLett.93.155004>
85. Bin Liu and J. Goree  
**Natural Phonons in a One-Dimensional Yukawa Chain: Dusty Plasma Experiment and Model**  
*Physical Review E*, Vol. 71, pp. art. no 046410, 2005  
<https://doi.org/10.1103/PhysRevE.71.046410>
86. Bin Liu and J. Goree  
**Shear Viscosity of Two-Dimensional Yukawa Systems in Liquid State**  
*Physical Review Letters*, Vol. 94, article no. 185002, 2005  
<https://doi.org/10.1103/PhysRevLett.94.185002>
87. Bin Liu, J. Goree, and O. Vaulina  
**Test of Stokes-Einstein Relation in a Two-Dimensional Yukawa Liquid**  
*Physical Review Letters*, Vol. 96, article no. 015005, 2006  
<https://doi.org/10.1103/PhysRevLett.96.015005>
88. V. Nosenko, J. Goree, and F. Skiff  
**Bispectral Analysis of Nonlinear Compressional Waves in a Two-Dimensional Dusty Plasma Crystal**  
*Physical Review E*, Vol. 73, article no. 016401, 2006  
<https://doi.org/10.1103/PhysRevE.73.016401>
89. Z. Donkó, J. Goree, P. Hartmann, and K. Kutasi  
**Shear Viscosity and Shear Thinning in Two-Dimensional Yukawa Liquids**  
*Physical Review Letters*, Vol. 96, article no. 145003, 2006  
<https://doi.org/10.1103/PhysRevLett.96.145003>
90. J. Goree, Bin Liu, David Drake, and E. Stoffels  
**Killing of *S. mutans* Bacteria Using a Plasma Needle at Atmospheric Pressure**  
*IEEE Transactions on Plasma Science* Vol. 34, pp. 1317 – 1324, 2006  
 DOI : [10.1109/TPS.2006.878431](https://doi.org/10.1109/TPS.2006.878431)

91. J. Goree, Bin Liu, and David Drake  
**Gas Flow Dependence for Plasma-Needle Disinfection of *S. mutans* Bacteria**  
*Journal of Physics D*, Vol. 39, pp. 3479-3486, 2006  
<https://doi.org/10.1088/0022-3727/39/16/S05>
92. V. Nosenko, J. Goree, and A. Piel  
**Laser Method of Heating Monolayer Dusty Plasmas**  
*Physics of Plasmas*, Vol. 13, article no. 032106, 2006  
<https://doi.org/10.1063/1.2182207>
93. A. Piel, V. Nosenko, and J. Goree  
**Laser-Excited Shear Waves in Solid and Liquid Two-Dimensional Dusty Plasmas**  
*Physics of Plasmas*, Vol. 13, article no. 042104, 2006  
<https://doi.org/10.1063/1.2196327>
94. O. S. Vulina, S. V. Vladimirov, A. Yu. Repin, and J. Goree  
**Effect of electrostatic Plasma Oscillations on the Kinetic Energy of a Charged Macroparticle**  
*Physics of Plasmas*, Vol. 13, article no. 012111, 2006  
<https://doi.org/10.1063/1.2167311>
95. V. Nosenko, J. Goree, and A. Piel  
**Cutoff Wave Number for Shear Waves in a Two-Dimensional Yukawa System (Dusty Plasma)**  
*Physical Review Letters*, Vol. 97, article no. 115001, 2006  
<https://doi.org/10.1103/PhysRevLett.97.115001>
96. A. Piel and J. Goree  
**Relationship between Dust Acoustic Waves in Two and Three Dimensions**  
*Phys. Plasmas*, Vol. 13, article no. 104510, 2006  
<https://doi.org/10.1063/1.2370696>
97. T. Flanagan and J. Goree  
**Dust Release from Surfaces Exposed to Plasma**  
*Physics of Plasmas*, Vol.13, article no. 123504, 2006  
<https://doi.org/10.1063/1.2401155>
98. Bin Liu and J. Goree  
**Superdiffusion in Two-Dimensional Yukawa Liquids**  
*Physical Review E*, Vol. 75, article no. 016405, pp. 1-5, 2007  
<https://doi.org/10.1103/PhysRevE.75.016405>
99. Yan Feng, J. Goree, and Bin Liu  
**Accurate Measurement of Particle Positions from Images**  
*Review of Scientific Instruments*, Vol. 78, article no. 053704, pp. 1-10, 2007  
<https://doi.org/10.1063/1.2735920>
100. Z. Donkó, P. Hartmann, and J. Goree  
**Shear Viscosity of Strongly-Coupled Two-Dimensional Yukawa Liquids: Experiment and Modeling**  
*Modern Physics Letters B*, Vol. 21, pp. 1357 – 1376, 2007  
<https://doi.org/10.1142/S0217984907013948>

101. V. Nosenko, S. Zhdanov, A. Ivlev, G. Morfill, J. Goree and A. Piel  
**Heat transport in a two-dimensional complex (dusty) plasma at melting conditions**  
*Physical Review Letters*, Vol. 100, article no. 025003, pp. 1-4 Jan 2008  
<https://doi.org/10.1103/PhysRevLett.100.025003>
102. Bin Liu and J. Goree  
**Superdiffusion and non-Gaussian statistics in a driven-dissipative 2D dusty plasma**  
*Physical Review Letters*, Vol. 100, article no. 055003, pp. 1-4 Feb 2008  
 Arxiv 0801.3991  
<https://doi.org/10.1103/PhysRevLett.100.055003>
103. Yan Feng, J. Goree, and Bin Liu  
**Solid Superheating Observed in Two-Dimensional Strongly Coupled Dusty Plasma**  
*Physical Review Letters*, Vol. 100, article no. 205007, pp. 1-4 May 2008  
 Arxiv 0805.0126  
<https://doi.org/10.1103/PhysRevLett.100.205007>
104. T. E. Sheridan, V. Nosenko and J. Goree  
**Experimental Study of Nonlinear Solitary Waves in Two-Dimensional Dusty Plasma**  
*Physics of Plasmas*, Vol. 15, article no. 073703, pp. 1-6 July 2008  
<https://doi.org/10.1063/1.2955476>
105. Yan Feng, Bin Liu, and J. Goree  
**Rapid Heating and Cooling in Two-Dimensional Yukawa Systems**  
*Physical Review E*, Vol. 78, article no. 026415, Aug 2008  
<https://doi.org/10.1103/PhysRevE.78.026415>
106. Bin Liu, J. Goree, and Yan Feng  
**Non-Gaussian Statistics and Superdiffusion in a Driven-Dissipative Dusty Plasma**  
*Physical Review E*, Vol. 78, article no. 046403, Oct 2008  
<https://doi.org/10.1103/PhysRevE.78.046403>
107. Z. Donkó, J. Goree, P. Hartmann, and Bin Liu  
**Time Correlation Functions and Transport Coefficients of Two-Dimensional Yukawa Liquids**  
*Physical Review E*, Vol. 79, article no. 026401, pp. 1-12, Feb 2009  
<https://doi.org/10.1103/PhysRevE.79.026401>
108. Bin Liu and J. Goree, V.E. Fortov, A.M. Lipaev, V.I. Molotkov, O.F. Petrov, G.E. Morfill, H.M. Thomas, H. Rothermel, and A.V. Ivlev  
**Transverse Oscillations in a Single-Layer Dusty Plasma under Microgravity**  
*Physics of Plasmas*, Vol. 16, article no. 083703, Aug 2009  
<https://doi.org/10.1063/1.3204638>
109. T.M. Flanagan and J. Goree  
**Gas flow driven by thermal creep in dusty plasma**  
*Physical Review E*, Vol. 80, article no. 046402, pp. 1-7, Oct 2009  
<https://doi.org/10.1103/PhysRevE.80.046402>
110. Oliver Arp, David Caliebe, Kristoffer O. Menzel, Alexander Piel, and John A. Goree  
**Experimental Investigation of Dust Density Waves and Plasma Glow**  
*IEEE Transactions on Plasma Science*, Vol. 38, pp. 842-846, April 2010  
 DOI : [10.1109/TPS.2009.2034312](https://doi.org/10.1109/TPS.2009.2034312)

111. Yan Feng, J. Goree, and Bin Liu  
**Evolution of shear-induced melting in a dusty plasma**  
*Physical Review Letters*, Vol. 104, article no. 155003, April 2010  
<https://doi.org/10.1103/PhysRevLett.104.165003>
112. Bin Liu, J. Goree, V. E. Fortov, A. M. Lipaev, V. I. Molotkov, O. F. Petrov, G. E. Morfill, H. M. Thomas, and A. V. Ivlev  
**Dusty plasma diagnostics methods for charge, electron temperature, and ion density**  
*Physics of Plasmas* Vol. 17, article no. 053701, May 2010  
<https://doi.org/10.1063/1.3400225>
113. Z. Donkó, J. Goree, and P. Hartmann  
**Viscoelastic response of Yukawa liquids**  
*Physical Review E*, Vol. 81, article no. 056404, May 2010  
<https://doi.org/10.1103/PhysRevE.81.056404>
114. Yan Feng, J. Goree, and Bin Liu  
**Viscoelasticity of 2D liquids quantified in a dusty plasma experiment**  
*Physical Review Letters*, Vol. 105, article no. 025002, July 2010  
<https://doi.org/10.1103/PhysRevLett.105.025002>
115. Bin Liu, J. Goree and Yan Feng  
**Mode coupling for phonons in a single-layer dusty plasma crystal**  
*Physical Review Letters*, Vol. 105, article no. 085004, August 2010  
<https://doi.org/10.1103/PhysRevLett.105.025002>  
 Erratum: *Physical Review Letters*, Vol. 105, article no. 269901 December 2010
116. Yan Feng, J. Goree, and Bin Liu  
**Identifying anomalous diffusion and melting in dusty plasmas**  
*Physical Review E*, Vol. 82, article no. 036403, September 2010  
<https://doi.org/10.1103/PhysRevE.82.036403>
117. T.M. Flanagan and J. Goree  
**Observation of the spatial growth of self-excited dust-density waves**  
*Physics of Plasmas*, Vol. 17, article no. 123702, December 2010  
<https://doi.org/10.1063/1.3524691>
118. T.M. Flanagan and J. Goree  
**Development of nonlinearity in a growing self-excited dust-density wave**  
*Physics of Plasmas*, Vol. 18, article no. 013705, January 2011  
<https://doi.org/10.1063/1.3544938>
119. Yan Feng, J. Goree, and Bin Liu  
**Viscosity calculated in simulations of strongly-coupled dusty plasmas with gas friction**  
*Physics of Plasmas*, Vol. 18, 057301, April 2011  
<https://doi.org/10.1063/1.3560584>
120. Yan Feng, John Goree, and Bin Liu  
**Errors in particle tracking velocimetry with high-speed cameras**  
*Review of Scientific Instruments*, Vol. 82, article no. 053707, May 2011  
<https://doi.org/10.1063/1.3589267>

121. W.D. Suranga Ruhunusiri, J. Goree, Yan Feng, and Bin Liu  
**Polygon construction to investigate melting in 2D strongly-coupled dusty plasma**  
*Physical Review E*, Vol. 83, article no. 066402, June 2011  
<https://doi.org/10.1103/PhysRevE.83.066402>
122. Yan Feng, John Goree, Bin Liu, and E.G.D. Cohen  
**Green-Kubo relation for viscosity tested using experimental data for a two-dimensional dusty plasma**  
*Physical Review E*, Vol. 84, article no. 046412, October 2011  
<https://doi.org/10.1103/PhysRevE.84.046412>
123. W.D. Suranga Ruhunusiri and J. Goree  
**Synchronization and Arnold tongues for dust density waves**  
*Physical Review E*, Vol. 85, article no. 046401, April 2012  
<https://doi.org/10.1103/PhysRevE.85.046401>
124. O. Arp, J. Goree, and A. Piel  
**Particle chains in a dilute dusty plasma with subsonic ion flow**  
*Physical Review E*, Vol. 85, article no. 046409, April 2012  
<https://doi.org/10.1103/PhysRevE.85.046409>
125. J. Goree, Z. Donkó, and P. Hartmann  
**Cutoff wave number for shear waves and Maxwell relaxation time in Yukawa liquids**  
*Physical Review E*, Vol. 85, article no. 066401, June 2012  
<https://doi.org/10.1103/PhysRevE.85.066401>
126. Yan Feng, J. Goree, and Bin Liu  
**Frequency-dependent shear viscosity of a liquid two-dimensional dusty plasma**  
*Physical Review E*, Vol. 85, article no. 066402, June 2012  
<https://doi.org/10.1103/PhysRevE.85.066402>
127. Amit K. Mukhopadhyay and J. Goree  
**Two-particle distribution and correlation function for a 1D dusty plasma experiment**  
*Physical Review Letters*, Vol. 109, article no. 165003, Oct 2012  
<https://doi.org/10.1103/PhysRevLett.109.165003>  
Erratum: *Physical Review Letters*, Vol. 111, article no. 139902, Sep 2013  
<https://doi.org/10.1103/PhysRevLett.111.139902>
128. Yan Feng, J. Goree, and Bin Liu  
**Observation of temperature peaks due to strong viscous heating in a dusty plasma flow**  
*Physical Review Letters*, Vol. 109, article no. 185002 Oct 2012  
<https://doi.org/10.1103/PhysRevLett.109.185002>
129. Bin Liu, J. Goree, and Yan Feng  
**Waves and instability in a one-dimensional microfluidic array**  
*Physical Review E*, Vol. 86, article no. 046309, Oct 2012  
<https://doi.org/10.1103/PhysRevE.86.046309>
130. Yan Feng, J. Goree, and Bin Liu  
**Energy transport in a shear flow of particles in a two-dimensional dusty plasma**  
*Physical Review E*, Vol. 86, article no. 056403, Nov 2012  
<https://doi.org/10.1103/PhysRevE.86.056403>

131. Yan Feng, J. Goree, and Bin Liu  
**Longitudinal viscosity of two-dimensional Yukawa liquids**  
*Physical Review E*, Vol. 87, article no. 013106, Jan 2013  
<https://doi.org/10.1103/PhysRevE.87.013106>
132. J. Goree, Yan Feng, and Bin Liu  
**Diagnostics for transport phenomena in strongly coupled dusty plasmas**  
*Plasma Physics and Controlled Fusion*, Vol. 55, article no. 124004, Nov 2013  
<https://doi.org/10.1088/0741-3335/55/12/124004>
133. Alexander Piel and John A. Goree  
**Collisional and collisionless expansion of Yukawa balls**  
*Physical Review E*, Vol. 88, article no. 063103, Dec 2013  
<https://doi.org/10.1103/PhysRevE.88.063103>
134. M. Rosenberg, G. J. Kalman, P. Hartmann, and J. Goree  
**Effect of strong coupling on the dust acoustic instability**  
*Physical Review E*, Vol. 89, article no. 013103, Jan 2014  
<https://doi.org/10.1103/PhysRevE.89.013103>
135. Bin Liu and J. Goree  
**Mobility in a strongly coupled dusty plasma with gas**  
*Physical Review E*, Vol. 89, article no. 043107 Apr 2014  
<https://doi.org/10.1103/PhysRevE.89.043107>
136. W. D. Suranga Ruhunusiri and J. Goree  
**Dispersion relations for the dust-acoustic wave under experimental conditions**  
*Physics of Plasmas*, Vol. 21, article no. 053702 May 2014  
<https://doi.org/10.1063/1.4879816>
137. Bin Liu and J. Goree  
**Perpendicular diffusion of a dilute beam of charged dust particles in a strongly coupled dusty plasma**  
*Physics of Plasmas*, Vol. 21, article no. 063704 June 2014  
<https://doi.org/10.1063/1.4885353>
138. Amit K. Mukhopadhyay and J. Goree  
**Experimental measurement of velocity correlations for two microparticles in a plasma with ion flow**  
*Physical Review E*, Vol. 90, article no. 013102 July 2014  
<https://doi.org/10.1103/PhysRevE.90.013102>
139. Yan Feng, J. Goree, Bin Liu, T. P. Intrator and M. S. Murillo  
**Superdiffusion of 2D Yukawa liquids due to a perpendicular magnetic field**  
*Physical Review E*, Vol. 90, article no. 013105 July 2014  
[10.1103/PhysRevE.90.013105](https://doi.org/10.1103/PhysRevE.90.013105)
140. W. D. Suranga Ruhunusiri and J. Goree  
**Imaging of the dust acoustic wave to explore synchronization**  
*IEEE Transactions on Plasma Science*, Vol. 42, pp. 2688-2689, Oct 2014  
<https://doi.org/10.1109/TPS.2014.2321105>



141. Bin Liu and J. Goree  
**Simulation of three-dimensional dusty plasmas**  
*IEEE Transactions on Plasma Science*, Vol. 42, pp. 2686-2687 Oct 2014  
<https://doi.org/10.1109/TPS.2014.2321324>
142. Bin Liu, John Goree, and W. D. Suranga Ruhunusiri  
**Characterization of three-dimensional structure using images**  
*Review Scientific Instruments*, Vol. 86, article no. 033703 March 2015  
<https://doi.org/10.1063/1.4914468>
143. M. T. Gabdullin, T. S. Ramazanov, M. M. Muratov, T. N. Ismagambetova, G. B. Akhtanova, and J. A. Goree  
**Structural Characteristics and Equation of State of the Complex Plasmas**  
*Contributions to Plasma Physics*, Vol. 55, pp. 366-372, May 2015  
[doi:10.1002/ctpp.201400090](https://doi.org/10.1002/ctpp.201400090)
144. Bin Liu and John Goree  
**Test of the Einstein Relation in Dusty Plasmas**  
*IEEE Transactions on Plasma Science*, Vol. 44, pp. 483-486, Aug 2015  
 DOI: [10.1109/TPS.2015.2467966](https://doi.org/10.1109/TPS.2015.2467966)
145. Zachary Haralson and John Goree  
**Laser Heating of Two-Dimensional Dusty Plasmas Using a Random Arc Pattern**  
*IEEE Transactions on Plasma Science*, Vol. 44, pp. 549-552, Aug 2015  
 DOI: [10.1109/TPS.2015.2498526](https://doi.org/10.1109/TPS.2015.2498526)
146. Yan Feng, J. Goree, Z. Haralson, C.-S. Wong, A. Kananovich, and Weil Li  
**Particle position and velocity measurement in dusty plasmas using particle tracking velocimetry**  
*Journal of Plasma Physics*, Vol. 82, article no. 615820303, pp. Feb 2016  
 DOI: [10.1017/S0022377816000593](https://doi.org/10.1017/S0022377816000593)
147. Roman Belousov, E.G.D. Cohen, Chun-Shang Wong, John Goree, and Yan Feng  
**Skewness of steady state current fluctuations in nonequilibrium systems**  
*Physical Review E*, Vol. 93, art. no. 042125, Apr 2016  
 DOI: [10.1103/PhysRevE.93.042125](https://doi.org/10.1103/PhysRevE.93.042125)
148. Yan Feng, J. Goree, Bin Liu, Lei Wang, Wen-de Tian  
**Pressure of two-dimensional Yukawa liquids**  
*Journal of Physics D*, Vol. 49, article no. 235203, May 2016  
 DOI: [10.1088/0022-3727/49/23/235203](https://doi.org/10.1088/0022-3727/49/23/235203)
149. Bin Liu and J. Goree  
**Coupling of an acoustic wave to shear motion due to viscous heating**  
*Physics of Plasmas*, Vol. 23, article no. 073707, July 2016  
[dx.doi.org/10.1063/1.4956444](https://dx.doi.org/10.1063/1.4956444)
150. Zach Haralson and J. Goree  
**Temperature dependence of viscosity in a two-dimensional dusty plasma without the effects of shear thinning**  
*Physics of Plasmas*, Vol. 23, article no. 093703, Sept. 2016  
<http://dx.doi.org/10.1063/1.4962512>

151. Zach Haralson and J. Goree  
**Overestimation of viscosity by the Green-Kubo method in a dusty plasma experiment**  
*Physical Review Letters*, Vol. 118, article no. 195001, May 2017  
 DOI: [10.1103/PhysRevLett.118.195001](https://doi.org/10.1103/PhysRevLett.118.195001)
152. Chun-Shang Wong, J. Goree, Zach Haralson, and Bin Liu  
**Strongly coupled plasmas obey the fluctuation theorem for entropy production**  
*Nature Physics*, Vol. 14, No. 1, pp. 21-24 2018; published online 11 Sept 2017  
 DOI: [10.1038/NPHYS4253](https://doi.org/10.1038/NPHYS4253)
153. Chun-Shang Wong, J. Goree, Zach Haralson  
**Einstein Frequency Measurement for a Strongly Coupled Dusty Plasma**  
*IEEE Transactions on Plasma Science*, Vol. 46, pp. 763-767,  
 October 2017 online, April 2018 print  
 DOI: [10.1109/TPS.2017.2746012](https://doi.org/10.1109/TPS.2017.2746012)
154. Bin Liu and J. Goree  
**Determination of yield stress of 2D (Yukawa) dusty plasma**  
*Physics of Plasmas*, Vol. 24, article no. 103702, Sept 2017  
<http://scitation.aip.org/content/aip/journal/pop/24/10/10.1063/1.4994840>  
 DOI: [10.1063/1.4994840](https://doi.org/10.1063/1.4994840)
155. Bin Liu, J. Goree, M. Y. Pustynnik, H. M. Thomas, V. E. Fortov, A. M. Lipaev,  
 A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
**Particle velocity distribution in a three-dimensional dusty plasma under microgravity conditions**  
*AIP Conference Proceedings* Vol. 1925, article no. 020005 Jan 2018  
<https://doi.org/10.1063/1.5020393>.
156. Chun-Shang Wong, J. Goree, and Ranganathan Gopalakrishnan  
**Experimental demonstration that a free-falling aerosol particle obeys a fluctuation theorem**  
*Physical Review E*, Vol. 97, article no. 050601(R) May 2018  
<https://doi.org/10.1103/PhysRevE.97.050601>
157. Zach Haralson, J. Goree, and Roman Belousov  
**Dusty plasma experiment to confirm an expression for the decay of autocorrelation functions**  
*Physical Review E*, Vol. 98, article no. 023201, Physical Review E Aug 2018  
 DOI: [10.1103/PhysRevE.98.023201](https://doi.org/10.1103/PhysRevE.98.023201)
158. Bin Liu, John Goree, Tim Flanagan, Abhijit Sen, Sanat Tiwari, Gurudas Ganguli,  
 and Chris Crabtree  
**Experimental observation of cnoidal waveform of nonlinear dust acoustic waves**  
*Physics of Plasmas*, Vol. 25, Issue 11, article no. 113701, Nov 2018  
<https://doi.org/10.1063/1.5046402>, DOI: 10.1063/1.5046402
159. Chun-Shang Wong, J. Goree, and Zach Haralson  
**Multiple time scales in a strongly coupled dusty plasma revealed by survival-function analysis**  
*Physical Review E*, Vol. 98, article no. 063201, Dec 2018  
 DOI: 10.1103/PhysRevE.98.063201  
<https://journals.aps.org/pre/abstract/10.1103/PhysRevE.98.063201>
160. Chun-Shang Wong, J. Goree, Zach Haralson  
**Fluctuation-theorem method of measuring a particle's mass without knowing its shape or density**  
*Journal of Aerosol Science*, Vol. 129, pp. 116-123 Jan 2019.  
<https://doi.org/10.1016/j.jaerosci.2018.12.009>

161. Zian Wei, Bin Liu, John Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
**Diffusive Motion in a Three-Dimensional Cluster in PK-4**  
*IEEE Transactions on Plasma Science*, Vol. 47, pp. 3100-3106, July 2019  
 DOI: [10.1109/TPS.2019.2893155](https://doi.org/10.1109/TPS.2019.2893155)
162. Anton Kananovich and J. Goree  
**Experimental determination of shock speed versus exciter speed in a two-dimensional dusty plasma**  
*Physical Review E*, Vol. 101, 043211 April 2020  
 DOI: [10.1103/PhysRevE.101.043211](https://doi.org/10.1103/PhysRevE.101.043211)
163. B. Farr, X. Wang, J. Goree, I. Hahn, U. Israelsson and M. Horányi  
**Dust mitigation technology for lunar exploration utilizing an electron beam**  
*Acta Astronautica*, Vol. 177, pp. 405-409 Aug 2020  
<https://doi.org/10.1016/j.actaastro.2020.08.003>
164. Anton Kananovich and J. Goree  
**Shocks propagate in a 2D dusty plasma with less attenuation than that due to gas friction alone**  
*Physics of Plasmas*, Vol. 27, art no. 113704, Oct 2020  
<https://doi.org/10.1063/5.0016504>
165. J. Goree and Bin Liu, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, V. I. Molotkov, A. D. Usachev, O. F. Petrov, M. H. Thoma, E. Thomas Jr, U. Konopka, and S. Prokopiev  
**Correlation and spectrum of dust acoustic waves in a radio-frequency plasma using PK-4 on the International Space Station**  
*Physics of Plasmas*, Vol. 27, art no. 123701, Dec 2020  
<https://doi.org/10.1063/5.0024500>
166. Ajaz A. Mir, Sanat K. Tiwari, John Goree, Abhijit Sen, Chris Crabtree, and Gurudas Ganguli  
**A forced Korteweg–de Vries model for nonlinear mixing of oscillations in a dusty plasma**  
*Physics of Plasmas*, Vol. 27, art no. 113701, Nov 2020  
 DOI: [10.1063/5.0022482](https://doi.org/10.1063/5.0022482)
167. B. Farr, X. Wang, J. Goree, I. Hahn, U. Israelsson and M. Horányi  
**Improvement of the electron-beam lunar dust mitigation technology with varying the beam incident angle**  
*Astro Astronautica*, Vol. 188, pp. 362-366, Aug 2021  
<https://doi.org/10.1016/j.actaastro.2021.07.040>
168. Bin Liu, John Goree, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
**Time-Dependent Shear Motion in a Strongly Coupled Dusty Plasma in PK-4 on the International Space Station (ISS)**  
*IEEE Transactions on Plasma Science*, Vol. 49, pp. 2972-2978, 04 Aug 2021  
 DOI: [10.1109/TPS.2021.3100300](https://doi.org/10.1109/TPS.2021.3100300)
169. Dong Huang, Shaoyu Lu, Xia-qing Shi, J. Goree, Yan Feng  
**Fluctuation-theorem convergence in a viscoelastic medium demonstrated experimentally using a dusty plasma**  
*Physical Review E*, Vol. 104, art. no. 035207, Sep 2021  
<https://doi.org/10.1103/PhysRevE.104.035207>
170. Jorge Berumen and J. Goree  
**Experiment and model for a Stokes layer in a strongly coupled dusty plasma**  
*Physical Review E*, Vol. 104, art no. 035208, Sep 2021  
<https://doi.org/10.1103/PhysRevE.104.035208>

171. Anton Kananovich and J. Goree  
**Shock width measured under liquid and solid conditions in a 2D dusty plasma**  
*Physical Review E*, Vol. 104, art. no. 055201 Nov 2021  
 DOI: [10.1103/PhysRevE.104.055201](https://doi.org/10.1103/PhysRevE.104.055201)
172. Neeraj Chaubey, J. Goree, Steven J. Lanham, and Mark J. Kushner  
**Positive charging of grains in an afterglow plasma is enhanced by ions drifting in an electric field**  
*Physics of Plasmas*, Vol. 28, art no. 103702, Oct 13, 2021  
<https://doi.org/10.1063/5.0069141>
173. Bin Liu, John Goree, Stefan Schütt, Andre Melzer, M. Y. Pustyl'nik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, A. D. Usachev, V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
**Nonlinear Wave Synchronization in a Dusty Plasma under Microgravity on the International Space Station (ISS)**  
*IEEE Transactions on Plasma Science*, Vol. 49, pp. 3958-3962 Nov 2021  
[10.1109/TPS.2021.3123556](https://doi.org/10.1109/TPS.2021.3123556)
174. Jorge Berumen and J. Goree  
**Frequency-dependent complex viscosity obtained for a liquid two-dimensional dusty plasma experiment**  
*Physical Review E*, Vol. 105, art. no.015209 Jan 2022  
 DOI: [10.1103/PhysRevE.105.015209](https://doi.org/10.1103/PhysRevE.105.015209)
175. Zichang Xiong, Steven Lanham, Eric Husmann, Gunnar Nelson, Mohammad Ali, Eslamisaray, Jordyn Polito, Yaling Liu, John Goree, Mark J. Kushner, Elijah Thimsen, Uwe R. Kortshagen  
**Particle trapping, size-filtering, and focusing in the nonthermal plasma synthesis of sub-10 nanometer particles**  
*Journal of Physics D*, Vol. 55, art. no. 23502, Mar 2022  
 DOI: <https://doi.org/10.1088/1361-6463/ac57de>
176. Neeraj Chaubey and J. Goree  
**Preservation of a dust crystal as it falls in an afterglow plasma**  
*Frontiers in Physics*, Vol. 10, art. no. 879092 May 2022  
 DOI: <https://doi.org/10.3389/fphy.2022.879092>
177. Christina A. Knappek, L. Couedel, A. Dove, J. Goree, Uwe Konopka, A. Melzer, S. Ratynskaia, Markus H. Thoma, Hubertus M. Thomas  
**COMPACT—a new complex plasma facility for the ISS**  
*Plasma Physics and Controlled Fusion*, Vol. 64, art. no. 124006, Nov 2022  
 DOI: [10.1088/1361-6587/ac9ff0](https://doi.org/10.1088/1361-6587/ac9ff0)
178. B. Farr, X. Wang, J. Goree, I. Hahn, U. Israelsson and M. Horányi  
**Dust removal from a variety of surface materials with multiple electron beams**  
*Astro Astronautica*, Vol. 200, pp. 42-47 Nov 2022  
 DOI: <https://doi.org/10.1016/j.actaastro.2022.07.047>
179. Neeraj Chaubey and J. Goree  
**Coulomb expansion of a thin dust cloud observed experimentally under afterglow plasma conditions**  
*Physics of Plasmas*, Vol. 29, art. no. 113705 Nov 2022  
<https://doi.org/10.1063/5.0112680>
180. Job Beckers, Ranganathan Gopalakrishnan, John Goree  
**Particle interaction with afterglow plasma and non-quasi-neutral plasma**  
*Frontiers in Physics*, Vol. 10, p. 1167, May 2022  
 DOI: <https://www.frontiersin.org/articles/10.3389/fphy.2022.1070718>

181. Vitaliy Zhuravlyov, J. Goree, Jack F. Douglas, Paolo Elvati, and Angela Violi  
**Comparison of the static structure factor at long wavelengths for a dusty plasma liquid and other liquids**  
*Physical Review E*, Vol. 106, art. no. 055212, Nov 2022  
 DOI: [10.1103/PhysRevE.106.055212](https://doi.org/10.1103/PhysRevE.106.055212)
182. Ajaz Mir, Sanat Tiwari, Abhijit Sen, Chris Crabtree, Gurudas Ganguli, and John Goree  
**Synchronization of dust acoustic waves in a forced Korteweg-de Vries-Burgers model**  
*Physical Review E*, Vol. 107, article no. 035202, Mar 2023  
 DOI: <https://doi.org/10.1063/1.5020393>
183. Neeraj Chaubey and J. Goree  
**Controlling the charge of dust particles in a plasma afterglow by timed switching of an electrode voltage**  
*Journal of Physics D*, Vol. 56, art. no. 375202, Jun 2023  
 DOI: <https://doi.org/10.1088/1361-6463/acd78f>
184. Vitaliy Zhuravlyov, John A Goree, Paolo Elvati and Angela Violi  
**Finite-size effects in the static structure factor  $S(k)$  and  $S(0)$  for a 2D Yukawa liquid**  
*Physical Review E*, Vol. 108, art. no. 035211, Sep 2023  
 DOI: <https://doi.org/10.1103/PhysRevE.108.035211>
185. Neeraj Chaubey and J. Goree  
**Mitigating dust particle contamination in an afterglow plasma by controlled lifting with a DC electric field**  
*Journal of Physics D*, Vol. 57, art. no. 105201, Dec 2023  
 DOI: <https://iopscience.iop.org/article/10.1088/1361-6463/ad1148/pdf>
186. Neeraj Chaubey and J. Goree  
**Controlling the charge of dust particles in an afterglow by modulating the plasma power**  
*Journal of Physics D*, Vol. No. 57, art. no. 205202, Feb 2024  
 DOI: <https://iopscience.iop.org/article/10.1088/1361-6463/ad291c> NSF uploaded to here
187. Vitaliy Zhuravlyov, J. Goree, Paolo Elvati and Angela Violi  
**High-frequency dependence and convergence of moments of the dynamic structure factor in a liquid 2D dusty plasma**  
*Physical Review E*, submitted 30 Nov 2023
188. Anton Kananovich and J. Goree  
**Quadrilateral Particle Arrangement within Shocks in a Two-Dimensional Dusty Plasma**  
 In preparation 2024

## Publications: Book Chapter

---

1. A. Melzer and J. Goree, “*Fundamentals of Dusty Plasmas*,” chapter in **Low Temperature Plasma Physics**, Volume 1, edited by R. Hippler, Wiley, pp. 129-173 (45 pages) 2008

## Publications: Proceedings of International Conferences

---

1. J. Goree, M. Ono, P. Colestock, R. Horton, D. McNeill and H. Park  
**Fast-Wave Current Drive**  
*Proceedings of the Sixth Topical Conference on Radiofrequency Heating of Plasmas*, Callaway Gardens, GA 13-15 May 1985 [American Institute of Physics, New York, p. 65] 1985 and AIP Conf. Proc. 129, 65 (1985); <http://dx.doi.org/10.1063/1.3523>
2. M. J. Goeckner, J. Goree and T. E. Sheridan  
**Laser-Induced Fluorescence Measurement of Plasma Ion Distribution Functions: Correcting for Spatially Inhomogeneous Laser Intensities**  
*Proceedings of the Fourth International Laser Science Conference*, Atlanta, GA 2-6 October 1988 [American Institute of Physics, New York, pp. 761-766 ] 1989 and AIP Conf. Proc. 191, 761 (1989); <http://dx.doi.org/10.1063/1.38579>
3. J. Goree and M. J. Goeckner  
**Laser-Induced Fluorescence Measurement of Plasma Ion Distribution Functions**  
*Proceedings of the NATO Advanced Study Institute on Plasma Surface Interactions and Plasma Processing of Materials*, Alicante, Spain 2-15 September 1988 [Martinus Nijhoff, Netherlands, pp. 163-166] 1990
4. J. Goree  
**Charge Shielding by Trapped Ion Orbits in Dusty Plasmas**  
*International Conference on Plasma Physics*, Innsbruck, Austria 29 June - 3 July 1992 [European Physical Society, pp. 1365-1368] 1992
5. J. Goree  
**Plasma Dust Crystallization**  
*Second Microgravity Fluid Physics Conference*, Columbus, Ohio 21 - 23 June 1994 [NASA Conference Publication 3276, pp. 325-330] 1994
6. J. Goree  
**Experiments with Strongly-Coupled Dusty Plasmas**  
*Strongly-Coupled Plasma Conference*, 11 - 15 Sep 1995, Binz, Germany 1996
7. J. Goree and D. Samsonov  
**Instabilities Driven by Ion Drag**  
*Physics of Dusty Plasmas*, ed. by Mihaly Horanyi, Scott Robertson and Bob Walch American Institute of Physics, Vol. 446 pp. 157-166, 1998 doi: 10.1063/1.56664

8. R. Quinn and J. Goree  
**A model of Particle Temperature in Dusty Plasmas**  
*Physics of Dusty Plasmas*, ed. by Mihaly Horanyi, Scott Robertson and Bob Walch  
 American Institute of Physics, pp. 67-72, 1998  
 and AIP Conf. Proc. 446, 67 (1998); <http://dx.doi.org/10.1063/1.56686>
9. J. Goree, D. Samsonov, Z. W. Ma, A. Bhattacharjee, H. M. Thomas, U. Konopka, G. E. Morfill  
**Monolayer Plasma Crystals: Experiments and Simulations**  
 Proceedings of the Second International Conference on Dusty Plasmas, Hakone, Japan  
 24-28 May 1999
10. Hubertus M. Thomas, John A. Goree, Alexey Ivlev, Uwe Konopka, Gregor E. Morfill, Lorenz  
 Ratke, Hermann Rothermel and Milenko Zuzic  
**Complex (Dusty) Plasmas – A new field of research under microgravity conditions**  
 Proceedings of the Spacebound Conference, Vancouver, Canada, May 2000
11. T. Stuffer, D. Turrini, J. Burfeindt, R. Klett, G. Morfill, H. Thomas, U. Konopka, H. Rothermel,  
 M. Zuzic and J. Goree  
**IMPF - an International Facility for Advanced  $\mu$ G-Plasma Experiments on ISS**  
 Proceedings of the International Microgravity Conference, Sorrento, Italy, September 2000
12. S. Nunomura, J. Goree, S. Hu, X. Wang, A. Bhattacharjee and K. Avinash  
**Observation of Naturally-Occurring Waves in a Strongly Coupled Plasma**  
 Proceedings of the International Conference on Plasma Physics, Sydney, Australia, July  
2002  
 and AIP Conf. Proc. 669, 93 (2003); <http://dx.doi.org/10.1063/1.1593874>
13. A. Piel, V. Nosenko, and J. Goree,  
**Experiments and Simulation of Elastic Waves in a Plasma Crystal Radiated from a  
 Point-Dipole-Source**  
 Proceedings of the Third International Conference on the Physics of Dusty Plasmas, Durban,  
 AIP Conference Proceedings Vol. 69, p. 200 2002  
 doi: 10.1063/1.1527760
14. V. A. Schweigert, I. V. Schweigert, V. Nosenko, and J. Goree,  
**Dynamical Phase Transition in Dust Crystals**  
 Proceedings of the Third International Conference on the Physics of Dusty Plasmas, Durban,  
 AIP Conference Proceedings Vol. 69, p. 418-421 2002  
 doi: 10.1063/1.15277813
15. Z. Donkó, J. Goree and P. Hartmann  
**Complex viscosity of 3D Yukawa liquids**  
 6<sup>th</sup> International Conference on the Physics of Dusty Plasmas, Garmisch, Germany May 2011  
 and AIP Conf. Proc. 1397, 307 2011; <http://dx.doi.org/10.1063/1.3659816>
16. Bin Liu, J. Goree M. Y. Pustynnik, H. M. Thomas, V. E. Fortov, A. M. Lipaev, A. D. Usachev,  
 V. I. Molotkov, O. F. Petrov, and M. H. Thoma  
**Particle Velocity Distribution in a Three-Dimensional Dusty Plasma under Microgravity  
 Conditions**  
 8<sup>th</sup> International Conference on the Physics of Dusty Plasmas, Prague, Czech Republic May  
2017  
 and AIP Conference Proceedings Vol. 1925, article no. 020005 January 2018  
<https://doi.org/10.1063/1.5020393>.

## **Publications: Research News Articles**

---

John Goree and Gary Selwyn, “Dusty Plasmas in the Cosmos and Chip Manufacturing,”  
**Physics News in 1994**, pp. 59-61, American Institute of Physics, 1994