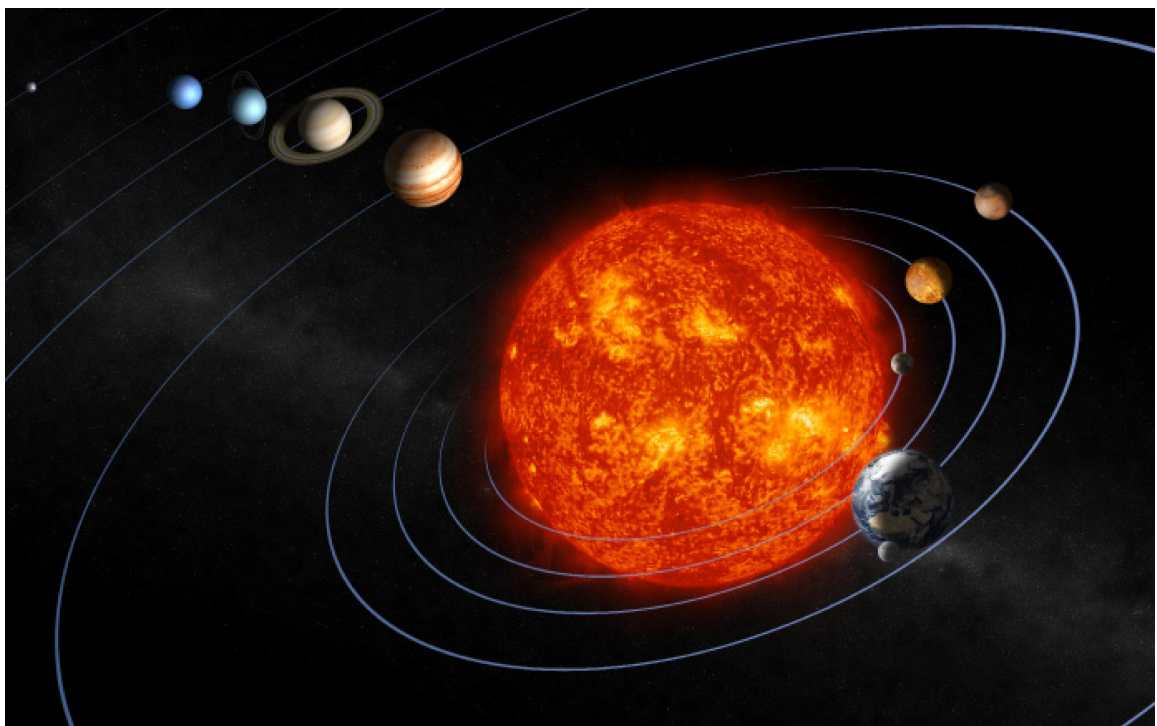


Laboratory for Atmospheric and Space Physics



Activity Report
2014
University of Colorado at Boulder

TABLE OF CONTENTS

A Brief History -----	2
A Message from the Director-----	3
In Remembrance-----	4
LASP Organization Chart-----	4
LASP Appropriated Funding -----	5
Missions and Projects-----	6
LASP Scientists -----	7
Visiting Scholars -----	7
2014 Retirees -----	8
Engineering/Missions Ops/Program Support/Science -----	8
Collaborators-----	11
2014 Graduates -----	12
Graduate Students-----	12
Undergraduate Students -----	13
Faculty Scientific Research Interests -----	15
Faculty Activities -----	20
Faculty Honors/Awards -----	36
Courses Taught by LASP Faculty -----	37
Colloquia and Informal Talks -----	37
Publications -----	39
Works in Progress-----	45
Papers Presented at Scientific Meetings -----	47
Sponsored Programs -----	61

LASP: A Brief History

In 1946-47, a handful of American universities joined with the military and with industry to initiate the era of space exploration. The University of Colorado was one of those pioneering universities. The first experiments to be performed in space were lofted by sub-orbital rockets. A key obstacle to these first rocket flights was providing a stabilized platform for cameras and other experiments. With support from the Naval Research Center and the Air Force Cambridge Research Laboratory (now the Phillips Laboratory), the University of Colorado formed a research group called the Upper Air Laboratory (UAL) to solve this problem. Their solution – called the biaxial pointing platform – cleared the way for some of the first major scientific discoveries made in space. Researchers and engineers from the UAL flew experiments into space on over 50 rocket flights before Sputnik. By 1965, the UAL had grown substantially. Along with this growth came a new building on campus and a new name: the Laboratory for Atmospheric and Space Physics. The public is invited to tour our facility and to observe the work that LASP does today.

A Message from the Director

The students and staff of LASP should be immensely proud of the continuing successes of our institute. We have seen in 2014 the fruition of years of hard work with the successful launch and operation of numerous flight missions – large and small. The data from these missions continue to push back the scientific frontiers in solar and space physics, in atmospheric research, and in planetary science. The progress being made in all these domains is truly astounding.

LASP researchers also continue their amazing work in modeling and mission operations. The dedication and hard work has assured that operating missions continue to return data despite the very long-time operation in space. Scientific and technical publications from LASP set new standards in terms of numbers and recognized quality.

LASP continues to be seen as a model for how to engage and involve students in the nation's space program. Students working in mission operations, in engineering, and in all areas of science within LASP are gaining tremendous hands-on experience. This is achieving LASP's mission of preparing new members of the nation's workforce for 21st Century challenges.

As noted in prior years, level, or reducing, federal budgets are putting stresses on the university space research community unlike anything experienced in earlier times. I continue to believe that academic research remains at the core of a successful national space program. It is crucial that this fact be fully acknowledged by policy makers, by business leaders, and by academic institutions themselves. Now, more than ever, there should be a reaffirmation of a commitment to space research in the academic setting. LASP remains ready to do more than its fair share to make this commitment a reality.

As I have noted previously, LASP succeeds in large measure by having the support of CU and its people. I thank very much the people in contracts administration, procurement, facilities management, and other key areas that help us do our unique job. I especially want to thank the Vice Chancellor for Research, the Dean of the Graduate School, the Provost, and the Chancellor for their tireless support of LASP and its mission. I also thank the staff, faculty, and students of LASP for their exceptional work. Finally, special thanks go to Ann Alfaro for her careful efforts in preparing this report for 2014.

Daniel N. Baker

Please visit LASP's Website for the latest developments: <http://lasp.colorado.edu>

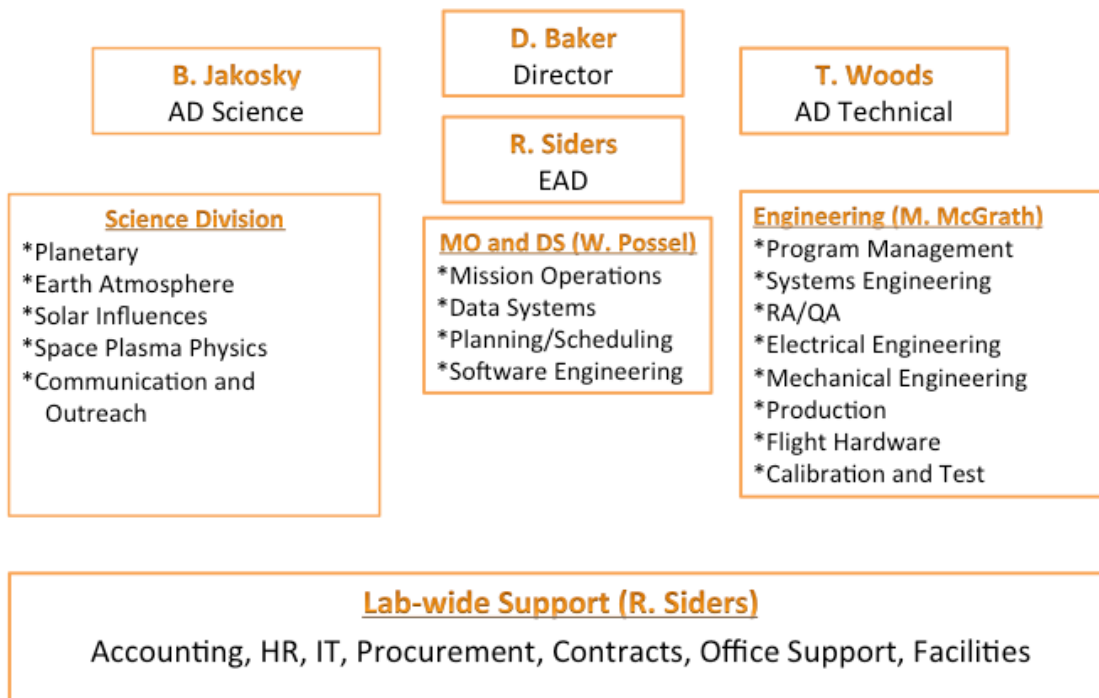
In Remembrance

The passing of Noel Hinners on September 5, 2014 and of Charles Barth on October 14, 2014 is a sober reminder of the inevitability of change. But their lives and careers also remind us that individuals matter—a lot.

As director of LASP in the 1970s, Dr. Barth had a vision to design, build, and operate a small spacecraft mission in a university setting. The concept—in partnership with Ball Aerospace—grew to become the Solar Mesosphere Explorer (SME) program. To become reality, however, this effort required NASA approval. Dr. Hinners, then associate administrator of NASA, had the vision and courage to take a chance on SME. This convergence of two great people with great ideas made the difference and set LASP on a path for science, engineering, and operations that is unparalleled.

The world has changed in important ways since then, but what remains constant is that choices need to be made and visions need to be relentlessly pursued. LASP continues its record of remarkable achievements yet still needs strong state and federal government support. We need courageous and decisive people such as Noel Hinners to do the right things at the right times. If LASP continues to advance great ideas and those in authority are willing to pursue them, the U.S. space program can continue to flourish well into the future. What a fitting legacy to Drs. Barth and Hinners this would be.

LASP Organization Chart



LASP Appropriated Funding

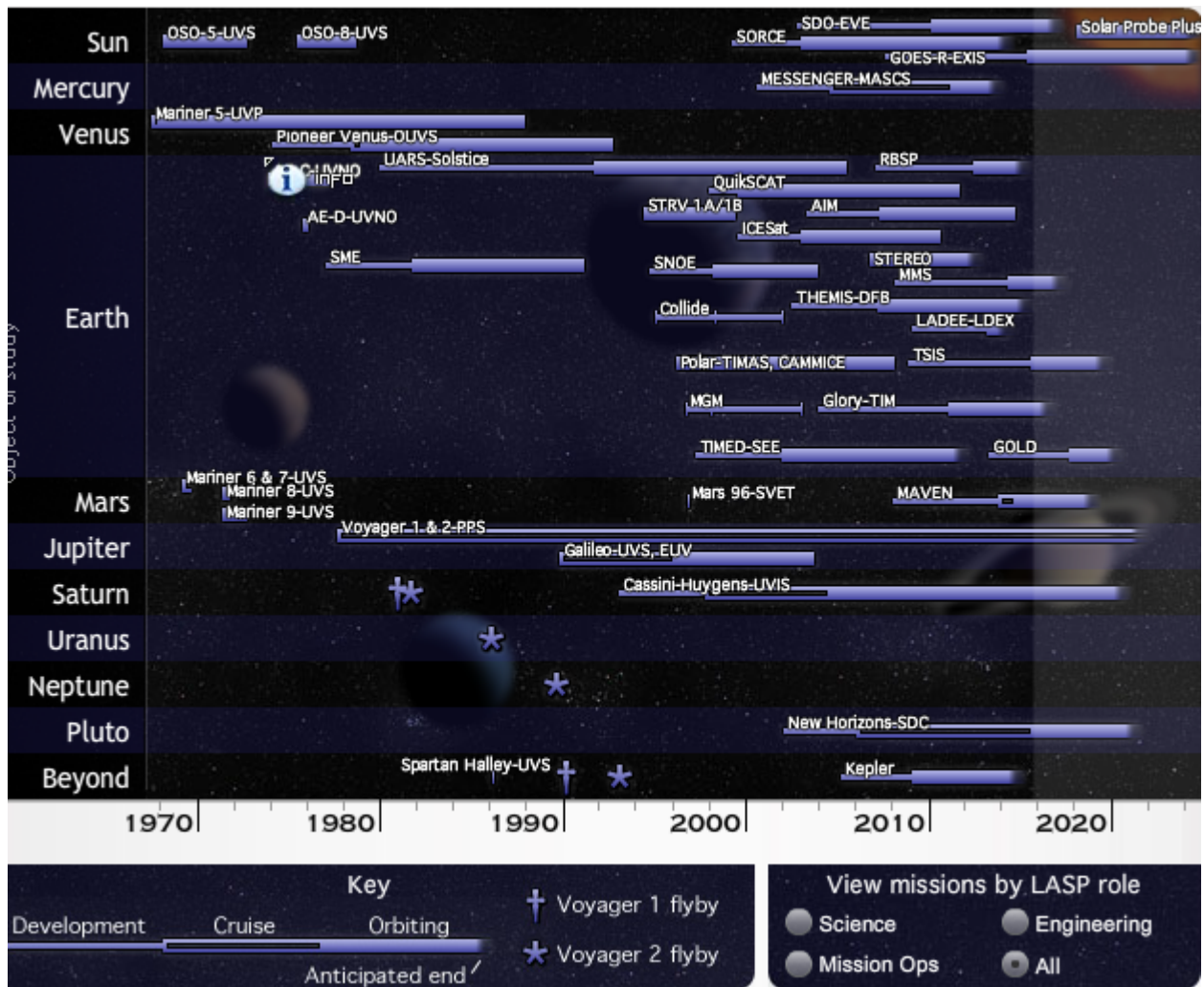
During the period 1/1/2014 to 12/31/2014 LASP appropriated funding totaled \$57,209,244.00 for support of 176 grants and contracts.

Source of Funding	Fed Labs(L)	Federal (F)	Industry (I)	Orgs/ Assoc (O)	University (U)	Total
Ball Aerospace & Technologies			\$2,621,778			\$2,621,778
Carnegie Institution of				\$200,000		\$200,000
Composite Technology			\$49,297			\$49,297
DOD AF AFRL		\$80,516				\$80,516
DOD Navy NRL		\$38,000				\$38,000
Hampton University					\$1,315,725	\$1,315,725
Jet Propulsion Laboratory	\$2,503,859					\$2,503,859
Johns Hopkins University					\$155,188	\$155,188
Lockheed Martin Corporation			\$380,000			\$380,000
NASA		\$5,964,334				\$5,964,334
NASA Ames		\$1,043,496				\$1,043,496
NASA Goddard		\$24,236,900				\$24,236,900
NASA Headquarters		\$379,059				\$379,059
NorthWest Research Associates			\$20,651			\$20,651
National Science Foundation		\$1,137,789				\$1,137,789
Planetary Science Institute				\$12,577		\$12,577
SouthWest Research Institute				\$4,387,076		\$4,387,076
Space System Research			\$12,597			\$12,597
Space Telescope Science Institute	\$192,935					\$192,935
Stellar Solutions, Inc.			\$10,000			\$10,000
The Ohio State University					\$40,885	\$40,885
University Corporation for				\$25,167		\$25,167
University of Arizona					\$14,361	\$14,361
University of California Berkeley					\$1,954,669	\$1,954,669
University of Central Florida					\$9,185,688	\$9,185,688
University of Minnesota					\$400,000	\$400,000
University of New Hampshire					\$775,675	\$775,675
University of Southern California					\$21,453	\$21,453
Virginia Polytechnic Institute and					\$49,569	\$49,569
Grand Total	\$2,696,794	\$32,880,094	\$3,094,323	\$4,624,820	\$13,913,213	\$57,209,244

MISSIONS AND PROJECTS

LASP has a long history of involvement in space missions, beginning in the 1960s and remaining strong today. On any individual mission, LASP may have one or more roles: science direction and research; engineering of an individual instrument or component; engineering of an entire instrument suite; mission operations of individual instruments; or mission operations for the spacecraft as a whole.

CU undergraduate and graduate students are typically involved as part of any mission work that LASP undertakes. Sometimes, student teams lead instrument development under the supervision of professionals; examples include the Student Nitric Oxide Explorer, the Solar Mesosphere Explorer, and the Student Dust Counter. Mission timeline



Daniel N. Baker, Director
LASP Scientists

Tenure Track:

Frances Bagenal
Charles A. Barth (Ret.)
David Brain
Benjamin Brown
Robert Ergun
Larry W. Esposito
Mihály Horányi
Brian Hynek
Bruce M. Jakosky
Sasha Kempf
Xinlin Li
Peter Pilewskie
Cora E. Randall
Mark P. Rast
Nicholas M. Schneider
Zoltan Sternovsky
Owen B. Toon

Research Associates:

Nicole Albers
Laila Andersson
Amir Caspi
Timothy A. Cassidy
Odele Coddington
Andrew Collette
Jean-François Cossette
Jennifer Ditsler

Vincent Dols
Yaxue Dong
Scot Elkington
Jason English
Francis G. Eparvier
Stefan Eriksson
Xiaohua Fang
John Gosling
Katelynn Greer
Eberhard Grün
Jerald W. Harder
Lynn Harvey
Greg Holsclaw
Sean Hsu
Sonal Jain
Allison Jaynes
Andrew Jones
Lars Kalnajs
Bruce Kindel
Michael King
Greg Kopp
George M. Lawrence
(Ret.)
Wenlong Liu
Brian McClellan
William E. McClintock
Tom McCollom
Kevin McGouldrick

David Malaspina
Steven Massie
Aimee Merkel
Mikki M. Osterloo
William Peterson
Annick Pouquet
Erik C. Richard
Thomas Rimmele
Stuart Robbins
Gary J. Rottman (Ret.)
David W. Rusch
Sebastian Schmidt
Martin Snow
Miodrag Sremcevic
A. Ian F. Stewart
Glen R. Stewart
Gary E. Thomas (Ret.)
Weichao Tu
Maria Usanova
Xu Wang
Dick White (Ret.)
Frederick Wilder
Robert J. Wilson
Eric Wolf
Thomas N. Woods

Visiting Scholars

Joseph Ajello, Jet Propulsion Laboratory, Pasadena, CA
Gianna Cauzzi National Institute of Astrophysics, University of Florence, Italy.
Eberhard Grün, Max Planck Institute for Nuclear Physics, Heidelberg Germany
Antal Juhasz, KFKI Research Institute for Particle and Nuclear Physics, Budapest, Hungary
Robert McPherron, UCLA, IGPP, Los Angeles, CA
Jim McTiernan, UC, Berkeley, CA
Wayne Pryor, Central Arizona Coolidge, Coolidge, AZ
Theodore Sarris, Department of Physics University of Athens, Athens Greece
Harry Warren, National Research Laboratory

2014 Retirees

John Gosling
Gayle Jones
Beth McGilvray
Ian Stewart

Engineering/Missions Ops/Administration /Science

Engineering

Gregg Allison
Christine Andrews
Mike Anfinson
Rory Barrett
Susan Batiste
Wayne Baumann
Helmut P. Bay (Ret.)
Christopher Belting
Bryce Bolton
Mary Bolton
Brian D. Boyle
Shelley Bramer
Cat Brant
Nathaniel Brennan
Patrick Brown
Linda Buckhannon
Zachary G. Castleman
Elizabeth Cervelli
David Crotser
Elizabeth Devito
David Dewoina
Virginia Drake
Mark Drobilek
Charles Dumont
Gary Eldridge
Andrew Engelmann
Darren Erickson
Joey Espejo
Donald Farneth
Kaiti Fenz-Trimble
Nicolas Ferrington
Tim Flaherty
Kathleen Fletcher
Nicolas Ferrington
John Fontanese
David Gathright
Andrew Germer
Kevin A. Gomez

Alan Goodrich
Scott Gurst
David Hall
David Harber
Kelly Hepburn
Karl Heuerman
Carl Himpfel
Patricia Soto Hoffman
Alan Hoskins
Vaughn Hoxie
Karl Hubbell
Jack Hunsaker
Marston R. Jacobson
David James
Lisa Jilek
Magnus Karlsson
Mark Kien
Matthew King
Camden Kittredge
Michael Klapetzky
Scott Knappmiller
Edith Knehans
Richard Kohnert
Kraig Koski
Chelsey Krug
Jean-Francois Lalonde
Bret Lamprecht
Brett Landin
Mark Lankton
Ryan Lewis
Ian Macfarlane
Michael McGrath
Karen Mackison
Dave Martin
Mat Merkow
David Meyer
Colin Miller
Brenton Motz
Aref Nammari

James Neeley
Gregory Newcomb
Darren O'Connor
Glen Otzinger
Joseph Papa
Heather Passe
Nicholas Patzer
Norman C. Perish
Amal C.
Ramachandran-Nair
Joe Ramas
Thomas Reese
Mary Rider
Timothy Ruske
Joel Rutkowski
Cameron Seamans
Durbin Seidel
Patti Sicken
Erin Simons-Brown
Alan Sims
Matthew Smith
Paul Smith
Thomas Sparn
Jerry Spivey
Jacob Sprunk
Stephen Steg
Kathleen Summers
Dwayne Swieter
Gail Tate
Trenton Taylor
Jon Theide
Edward M. Thiemann
Wayne Tighe
Matt Triplett
Kathy Troxel
Scott A. Tucker
Gregory Ucker
Ryan VanHalle
Tracy Vincent

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Pamela J. Wagner
Isaac Wanamaker
Neil White
Heather Reed Withnell
Peter Withnell
Greg Wright
Ray Wrigley
Ed Wullschleger
Alan Yehle
Kenny J.S. Yoo
Jason Young
Jennifer Young
Stephen Ziegler

Mission Ops/Data Systems

Nicholas Aberle
William Barrett
Jason Beech
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Michelle Bourgeois
Karen Beth Bryant
Michael Gabbert
Benjamin Busby
Steve Carson
Carissa Chen
Rachael Collins
Michael Cox
James Craft
Charles Davies
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Alexandra DeWolfe
Kevin Dinkel
Michael Dorey
Teddy Eberts
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Kristina Entzel
Jack Faber
Sierra Flynn
Sasha Forsyth
Tyler Fox
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Samuel Gagnard
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Taylor Graham

Evan Graser
Ken Griest
Luke Groeninger
Jason Gurgel
Edward Hartnett
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Christian Jeppeson
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Michelle Kelley
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Elise Kowalski
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Jerel Moffatt
Steve P. Monk
Caelan Morrison
Steven Mueller
Matthew Muszynski
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Lillian Reynolds
Lon Riesberg
Pat Ringrose
Esteban Rodriguez
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Wayne Russell
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Crystal Salcido
Corey Schafer
Nathan Sheiko
Erin Simons-Brown
Jacquelyn Smith
Patrick Smith
John Stearns
Colin Stewart
Robert Stimpfling
Jacob Stufflebeam
Ryan Sullivan
Scott Taylor
Brian Templeman
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Jonathan Thomas
Tyler Traver
Blake Vanier
Zachary Wehner
David Welch
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Brett Wiesman
Margaret Williams
Forrest Williams
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Donald Woodraska
Jonnie L. Yaptengco
Nathan Yeo

Administration

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Marc Bode
Donovan Bonney
Jeff Brown
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Paul deFalco
Zachary Eaton
Brian Evans

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Christin Gearhart
Debbie Gordillo
Alex Green
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Matthew Groeninger
Vincent Guarino
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Spenser Hang
Robin Harris
Bonnie W. Hotard
(Ret.)
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Edgar Johannson
Seth Kaplan
Brad Keiser
Jason LaClair
David Laumbach
Cara Little
Richard Loche
Anna Long
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Jennifer Methlie
Greg Mecca
Brook Motz
Debra Nastaj
John M. Padgett
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Kathleen Pilewskie
Radu Popescu
Sam Powell
Katherine Pilewskie
Austin Puckett
Robert Rezendes
Byron Samaripa
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Thomas Spooner
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Ryan Dewey
Christopher Donaldson
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Ariana Giorgi
Codie Gladney

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Caitlin Heath
Richard Hodges
Nancy Holden
Bryan Holler
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Laura Holt
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John Janiczek
Riku Jarvinen
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Andrew Kren
Hanna Kristensen
Mariah Law
Spencer LeBlanc
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Juliet Pilewskie
Marcus Piquette
Ganna Portyankina
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Drake Ranquist

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Stuart Robbins
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Anthony Shu
Evan Sidrow
Scott Siler
Karen Simmons
Mark Slipiski
Jake Snow

Shi Song
Benjamin Southworth
Julia Stawarz
Demi St John
Jordan Stone
Andrew Sturner
Katherine Suess
Sara Swenson
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Frederick Thayer
Ed Thiemann
Evan Thomas
Summer Thresher
Chana Tilevitz
Karlheinz Trattner

Natalie Vezina
Xu Wang
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Eleanor Williamson
William Wilson
Erin Wood
Logan Wright
Derek Young
Pengei Yu
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Yunqian Zhu

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Justin Carstens
Jean-Yves Chaufray
John Clarke
Gregory Colegrove
John Correlra
James Cox
William Crain
Gregory Delory
Elizabeth DeVito
Jennifer Ditsler
Mark Dobrowski
Kate Donlin
Francis Dumont
Richard Eastes
Dennis Ebbets
Matthew Eliot
Jason English
Joseph Scott Evans
Tianyi Fan

Teresa Ferguson
Charles Fleet
James Flemer
Kevin France
Warren Gallaher
Vince Guarino
Andrew Germer
David Gerhardt
Debbie Gordillo
James Green
Vince Guarino
Brian Gunderson
Alexandra Hackett
Kaitlin Hegarty
Roger Helizon
Rachel Hock
Monica Hoke
Peng Hong
Briana Ingermann
Riku Jarvinen
Steven Jones
Bodil Margareta
Karlsson
Marten Kendall
Rosemary Killen
Jim Knepley
Andrey Krywonos
Rob (Emil) Kursinski
Sandy Kwan
Kevin Langone

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Daniel Lo
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Janet Machol
James Mason
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Vidhi Nath
Ryan Neely
Angel Otarola
Jeffrey Parker
Courtney Peck
Joshua Pettit
Dale Phelps
William Purcell
Flora Quinby
Thomas Rimmele
Timothy Ross
Keith Rust
Robert Satala
Megan Scheele
Amrik Sen
Mindy Short
Arnaud Stiepen
Michael Stevens

Jon Thiede
Eric Threet
Ronald Vervack
Abel Wakrim
Jan-Erik Wahlund

Dale Ward
Mark Warner
Robert Watt
Erik Wilkinson
Richard Willson

Zachary Wilson
Roger Yelle
Justin Yonker
Kathy Young

2014 Ph.D. Graduates

Aberle, Nicholas

May 9, 2014

"Thesis title"

Thesis Advisor: Ken Griest

Blum, Lauren Weber, Aerospace Engineering Sciences

Aug 2014

"Relativistic Electrons in Earth's Outer Radiation Belt: Wave-Particle Interactions and Precipitation Loss"

Thesis Advisor: Xinlin Li

Larson, Erik: Atmospheric and Oceanic Sciences

May 9, 2014

"Three-dimensional modeling of Titan's aerosols and winds"

Thesis Advisor: Owen B. Toon

Marcus, Holly

May 9, 2014

"Thesis title"

Thesis Advisor: Owen B. Toon

Wolf, Eric T., Atmospheric and Oceanic Sciences

May 9, 2014

"Solutions to the faint young Sun paradox simulated by a general circulation model"

Thesis Advisor: Owen B. Toon

Graduate Students

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Sarah Black
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Mariel Desroche
Tina (Tianyi) Fan
Jason Farmer
Seth Folley
Kier Fortier
Andrew Gemer
Mark Gerber
Luke Groeninger

Max Hampson
Keri Hoadley
Justin Holmes
Rachel Humphrey
Briana Ingermann
Margaux Krahe
Andrew C. Kren
Erik Larson
Spencer LeBlanc

Jesse Lord
Sean McGill
Sreenivas
Madhusudhanan
Holly Marcus
John Martin
James Paul Mason
Bena Mero
Colin A. Miller
Joshua J. Murphy
Siddhesh Naik
Rudolfs Namikis
Vu Nguyen

Courtney Peck
Ethan D. Peck
Emily B. Pilinski
Andrew Poppe
Drake Ranquist
Anthony P. Rasca
Javier Rocha
Miranda Rohlfing
Quintin Schiller
Anthony Shu
Marek Slipski
Shi Song
Benjamin Southworth

David Stokowski
Sara Swenson
Jamey Robert Szalay
Scott F. Taylor
Andrew Tomchek
Corinne Vannatta
Tristan Weber
Donovan Wheeler
Eric Wolf
Pengfei Yu
Yunqian Zhu

Undergraduate Students

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Eric A. Anderson
Graham Annett
Trevor Aparicio
Sung Bae
Robyn Barber
Nicholas R. Beaty
Gabriel Bershenyi
Nikki Bloch
Kaleb Bodish
Chip Bollendonk
Donovan Bonney
Michael F. Bonnici
David M. Borncamp
Natalie Bremer
Karalee Brugman
Emma Bunnell
Joseph Christopher
Burns
Spenser James Burrows
Liam Burke
Damien Burks
Benjamin Busby
Dain Cilke
Rachel Anne Collins
Daniel J. Copel
Michael Cox
Martin Crespo

Martin Czerep
Jesse Caldwell
Michael Carl
Lane Caudill
Carissa Chen
Dain Cilke
Adam J. Clarke
Cristopher Shearer-
Cooper
Daniel J. Copel
Chris Costello
Martin Czerep
Raymond Dao
Charles Davies
Elizabeth A. DeVito
Ryan Dewey
Kevin Dinkel
Zachary J. Dischner
Christopher Donaldson
Alexander Dornan
Logan Dougherty
David Eason
Theodore Eberts
Justin Edrington
Don Elsborg
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Colin Fitzgerald
Christopher Flemming
Sierra Flynn
John Fontanese

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Andrew H. Fruge
Erin George
M. Tess Geiger
Taylor Graham
Evan Graser
Quynce Grenis
Erin Griggs
Gabrielle Guneratne
Amber Hall
Spenser Hang
Andrew S. Haynes
Lillian Herrick-
Reynolds
Emily A. Howard
Calvin Howes
Rachel Humphrey
Michael D. Hutchinson
Valentin Vadimovich
Ivanitski
John Janiczek
Eric Junkins
Jennifer Kampmeier
Joshua Tree Karpel
Jesse Keefer
Scott Yong Kim
Roberto Kingsley
Elise Ellen Kowalski
Jean-Francois Lalonde
Christopher J. LaPanse
Dane T. Larsen

Huy Le
Samuel LeBlanc
Jeremy D. Lewis
Keita Linden
Austin Longo
Steven James MacCoun
Katelynn McCalmont
Ian MacFarlane
Eric McNeil
Abhisek
Mahendrakumar
Sudarsh Suresh
Mallaya
Carolyn Mason
Taylor Maurer
Lucas Migliorini
Clifford Min
Paul E. Morgan
Caelan Morrison
Matthew Muszynski
Casey L. Myers
Irfan Nadiadi
Muralikrishna
Nallamothu
Kareem Nammari
James Neeley
Alexia Newgord
Shawn Noland
Michael Nothem
Alexandra Okeson
John O'Neal
Sean Ray Ortiz
Morgan Dene Osborne
Kiran Pachhai
Kaitlyn Parsons
Nicholas Peper
Bryce A. Peters
Samantha Pettus

Marcus Ryan Piquette
Rachel Plesha
Kareesha Potter
Zachary Y. Pranger
Anna Ptasznik
Drake Ranquist
Marcus Reason
Krista S. Reed
Willow Reed
Matthew Reichenbach
Lillian Reynolds
David Rimel
Justin Rouse
Danielle Russell
Wayne Russell
Cassidy Sainsbury
Esteban Rodriguez
Byron Samaripa
Jason Schelz
Emily Schloesser
Rebecca Seigel
Tanvi Shah
Evan Sidrow
Erin Simons-Brown
Alijah Smith
Matt A. Smith
Terry Smith
Jake Snow
David Solomon
Vladislav Soukhovei
Benjamin Southworth
Landon Spear
Thomas Spooner
Justin Spurgeon
Jared Stanley
Gregory Steiner
Colin Stewart
Joseph Stewart

Jason Strong
Jacob Stufflebeam
Samuel Stuver
Stacey Sueoka
Katherine (Wren) Sues
Ryan Sullivan
Jennifer Symalla
Evan Thomas
Cassidy Damon
Thompson
Allison Toltz
Levey Trac Tran
Tyler J. Traver
Wiechao Tu
William Van Orden
Zachary Vargas
Audrey M. Vertovec
Timothy Villabona
Karen Vohra
Khoa Chao Vu
Isaac R. Wanamaker
Christopher J. Warren
Zachary J. Wehner
Brett Michael Weisman
Dylan Whitman
Ethan Williams
Forrest Williams
Margaret Williams
Tyler Wingfield
Adam Wolf
Shana Worel
Paul Wright
Hanchao Wu
Nathan Yeo
Frank Li Zhang
Michael Zucker

Faculty Scientific Research Interests

Laila Andersson

Kinetic processes in space plasmas such as double layers, electron phase space holes and Alfvén waves (anywhere where measurement has or will be made).

Atmospheric loss through ion outflow for objects such as Earth and Mars.

Instrumentation for space plasma missions, for the moment to develop new techniques for future missions.

laila.andersson@lasp.colorado.edu (303) 492-1689

Linnea Avallone

Experimental and theoretical studies of tropospheric and stratospheric chemistry, particularly of halogens and related species. Analyzing measurements of chemical species to understand dynamical processes in the stratosphere and troposphere. Development of instrumentation for autonomous in situ measurements of trace species related to understanding the lifetimes of anthropogenic pollutants.

avallone@miranda.colorado.edu (303) 492-5913

Frances Bagenal

Magnetic fields and plasma environments of solar system objects: mainly Jupiter and the Sun, but more recently, other planets, comets and asteroids.

bagenal@colorado.edu (303) 492-2598

Daniel N. Baker

Research in space instrument design and calibration, space physics data analysis, and magnetospheric modeling. Study of plasma physical and energetic particle phenomena in the magnetospheres of Jupiter and Mercury, along with the plasma sheet and magnetopause boundary

regions of the Earth's magnetosphere.

Analysis of large data sets from spacecraft; involvement in missions to Earth's deep magnetotail and comets; the study of solar wind-magnetospheric energy coupling; theoretical modeling of magnetotail instabilities. Study of magnetosphere-atmosphere coupling; applying space plasma physics to study of astrophysical systems. Research to understand space weather and effects on human technology. Teaching of space physics and public policy, as well as public outreach to space technology community and general public.

daniel.baker@lasp.colorado.edu (303) 492-4509

David Brain

Exchange of energy and material between un-magnetized planets and their surroundings. Consequences of atmospheric source and loss processes for climate evolution. Analysis of spacecraft observations of planetary upper atmospheres and plasma environments.

david.brain@lasp.colorado.edu (303) 735-5606

Benjamin Brown

Focus on astrophysical fluid dynamics and magnetohydrodynamics (MHD) of stellar interiors. Exploration of stellar dynamo physics. Special focus on global-scale dynamo action and properties of convection.

benjamin.brown@lasp.colorado.edu (303-735-2774)

Scot Elkington

Space physics theory and modeling, primarily understanding energetic particle dynamics in the inner magnetosphere in the context of radial diffusion and adiabatic transport processes

within the radiation belts. Also working on models of plasma sheet access of energetic particles to the inner magnetosphere through convection/substorm injection, development of physical space weather radiation belt models, and magnetohydro-dynamic/particle simulations.
elkingto@lasp.colorado.edu (303) 735-0810

Francis G. Eparvier

Research interests include the aeronomy of the upper atmosphere, the effects of solar irradiance and particle flux variability on the upper atmosphere, and the sources of that solar variability. Approaches include rocket and satellite measurements of the solar outputs and of the atmosphere, and data analysis and theoretical modeling. Currently Co-Investigator on the Thermosphere-Ionosphere-Mesosphere Energetics and Dynamics (TIMED) satellite Solar EUV Experiment (SEE).
eparvier@colorado.edu, (303) 492-4546, <http://stripe.colorado.edu/~eparvier>

Robert Ergun

Robert Ergun specializes in space and astrophysical plasmas with applications to Earth's and Jupiter's magnetosphere, Mars' ionosphere, and the solar wind. He has developed space-flight electric field instruments for several NASA mission. Theoretical programs focus on small-scale plasma phenomena at Earth, Jupiter, Mars, and the solar wind, and include simulation and analytical modeling of magnetic reconnection, electron phase-space holes, parallel electric fields carried by double layers, and solar wind turbulence.
Bob.ergun@lasp.colorado.edu (303) 492-1560

Larry W. Esposito

Observational and theoretical studies of planetary atmospheres and rings; chemistry and dynamics of the Venus clouds; waves in Saturn's rings; numerical methods for radiation transfer.
espo@lasp.colorado.edu (303) 492-7325

Jerald Harder

Measurement and interpretation of solar spectral irradiance; Development of space-borne prism spectrometers.
jerry.harder@lasp.colorado.edu (303) 492-1891

Mihály Horányi

Dusty space and laboratory plasmas. Electrodynamical processes and their role in the origin and evolution of the solar system. Comets, planetary rings, plasma surface interactions at moons and asteroids. Aerosol charging, in situ and remote observations of dust.
mihaly.Horanyi@lasp.colorado.edu (303) 492-6903

Brian M. Hynek

Geological processes that have affected terrestrial planets. Studies of water on Mars: geochemical history of Mars; planetary geologic mapping; studying impact craters to better address the history of planets.
brian.hynek@lasp.colorado.edu (303) 735-4312

Bruce M. Jakosky

Teaching and research activities focus on understanding the nature of planetary surfaces and atmospheres and the possibility for the existence of life in the universe. Specific activities include teaching undergraduate and graduate courses, training graduate students, research and grant activity pertaining to planetary science and exobiology, leading the campus effort in

astrobiology, exploring the nature of the interactions between science and society, and outreach to the public.
bruce.jakosky@argyre.colorado.edu (303) 492-8004

Greg Kopp

Development and characterization of the SORCE, Glory, and NPOESS Total Irradiance Monitors for solar irradiance measurements. Solar physics. Electro-optical instrumentation and electrical substitution radiometry.

Greg.Kopp@lasp.colorado.edu (303) 735-0934

Xinlin Li

Space physics, data analysis and modeling. Especially interested in understanding the dynamics of relativistic electrons in the magnetosphere: the source, loss, and transportation of these MeV electrons; also interested in charged particle injections into inner magnetosphere during magnetic storms and substorms, and magnetosphere-atmosphere coupling due to energetic particle precipitations.

lix@kotron.colorado.edu (303) 492-3514

William E. McClintock

Observational Astrophysics - Ultraviolet observations of the outer atmospheres of cool stars and the very local ($d < 20$ pc) interstellar medium. Ultraviolet Observations of Planetary Atmospheres. Development of state-of-the-art instrumentation for high-resolution spectroscopy for the 900-2500/wavelength range.

bill.mcclintock@lasp.colorado.edu (303) 492-8407

Peter Pilewskie

Research interests include solar spectral variability and its effects on terrestrial climate; SORCE and JPSS

measurements and analysis of solar irradiance; quantifying the Earth-atmosphere radiative energy budget; surface, airborne, and satellite remote sensing of clouds and aerosols; and theoretical atmospheric radiative transfer.
peter.pilewskie@lasp.colorado.edu (303) 735-5589

Cora E. Randall

Primary interests include atmospheric chemistry and dynamics, mainly of the stratosphere, and secondarily of the mesosphere and troposphere. Work is experimental in nature, relying on data from remote sensing satellites. The emphasis is on ozone, NO₂, and aerosol data from the Polar Ozone and Aerosol Measurement (POAM) instrument as well as from the Stratosphere Aerosol and Gas Experiment (SAGE). Measurements from instruments on the Upper Atmosphere Research Satellite (UARS) and the Solar Mesosphere Explorer (SME) are also used. Other interests include the spectroscopy of comets and laboratory polarization measurements.
cora.randall@lasp.colorado.edu (303) 492-8208

Mark Rast

Astrophysical fluid dynamics with emphasis on convective dynamics and scale selection, turbulence, the excitation of the solar p-modes, and the origin of solar/stellar irradiance variations. In addition to theoretical and computational work, efforts include operation of the Precision Solar Photometric Telescope (PSPT) at Mauna Loa Solar Observatory (MLSO) that obtains full disk images of the Sun at five wavelengths with 0.1% photometric precision.

mark.rast@lasp.colorado.edu (303) 492-5348

Nicholas M. Schneider

The physics of planetary magnetospheres, particularly the interactions between planetary plasmas and the satellites of the outer planets. Extensive ground-based observations of the Jupiter/Io system, especially imaging and spectroscopy of the Io atmosphere and plasma torus. Program has been expanded to include Hubble Space Telescope observations. Designing and building of a spacecraft to study the Jupiter/Io system. nick.schneider@lasp.colorado.edu (303) 492-7672
<http://ganesh.colorado.edu/nick>

Martin Snow

Primary research interests include ultraviolet spectroscopy of stars and the sun and the interaction of comets with the solar wind. The SOLSTICE instruments on UARS and SORCE provide a wealth of information about solar activity in the 115-300 nm range on a variety of timescales, ranging from minutes (solar flares) to decades (solar cycle). Understanding the variation in the solar output will lead to understanding its influence on the Earth. The interaction of comets with the solar wind is best-studied using wide-field photography. Both amateur and professional astronomers contribute to this effort, and one research activity has been to help coordinate the interaction of the two groups. marty.snow@lasp.colorado.edu (303) 735-2143

Zoltan Sternovsky

Instrument scientist and physicist; research is focused on detection and characterization of cosmic dust. Development of flight instruments for space missions and sounding rocket campaigns. Zoltan.sternovsky@lasp.colorado.edu (303) 7356272

A. Ian F. Stewart

The investigation by ultraviolet emissions of the aeronomy of planetary and satellite atmospheres, cometary comae, and Io's plasma torus. stewart@viral.f.colorado.edu (303) 492-4630

Glen R. Stewart

Origin and evolution of the solar system, with an emphasis on modeling the solid-body accretion of the terrestrial planets and the solid cores of the giant planets. Accretion of the Moon after a giant impact on the Earth. Modeling of satellite wakes and spiral density waves in planetary rings. Nonlinear dynamics of the three-body problem as applied to problems in solar system dynamics. glen.stewart@lasp.colorado.edu (303) 492-3737

Owen B. Toon

Theoretical studies of stratospheric aerosols; investigations of volcanic aerosols and studies of polar stratospheric clouds; theoretical studies of tropospheric clouds, aerosols and radiative transfer; experimental investigations of stratospheric and tropospheric phenomena; theoretical investigations of planetary atmospheres. btoon@lasp.colorado.edu (303) 492-1534

Thomas N. Woods

Observational studies of the solar ultraviolet (UV) radiation, its variability, and its interaction with Earth's atmosphere. Principal investigator of NASA suborbital program to study the solar irradiance and thermospheric airglow. Principal investigator of the Solar EUV Experiment (SEE) on the TIMED mission. Co-investigator of the Solar Stellar Irradiance Comparison (SOLSTICE) experiment currently making

solar UV irradiance measurements on the
Upper Atmosphere Research Satellite
(UARS) and planned for the Earth Ob-
serving System (EOS) missions.
tom.woods@lasp.colorado.edu (303) 492-
4224

Faculty Activities

Air Force Technical Applications Center (AFTAC)

Baker, Daniel (Chair, Satellite Review Panel)

Baker, Daniel (Member, Air Force Technical Applications Center)

American Association for the Advancement of Science (AAAS)

Baker, Daniel (Fellow)

American Astronomical Society (AAS)

Bagenal, Frances (Chair, Heinemann Prize committee)

Bagenal, Frances (Chair of Local Organizing Committee, Division of Planetary Sciences (DPS))

Brown, Benjamin (Member of Employment Committee)

Schneider, N.M. (Education and Public Outreach Officer)

Schneider, N.M. (Shapley Lecturer)

Schneider, Nicholas (Education and Public Outreach Officer, Division for Planetary Sciences)

Schneider, Nicholas (Congressional visits with members of Congress, Senators and Staffers)

Schneider, Nicholas (Shapley Lecturer)

American Geophysical Union (AGU)

Baker, Daniel (Member)

Baker, Daniel (Fellow)

Baker, Daniel (Convenor of special sessions at annual meeting)

Brain, David (Session Convenor for AGU Fall meeting)

Collette, Andrew (Organizer/Co-Chair of session for AGU Fall meeting)

Delamere, Peter (Co-Convenor for 2013 AGU Chapman Conference on Comparative Planetary Magnetotails)

Elkington, Scot (Organizer of session for AGU Meeting of Americas, Cancun, Mexico)

Elkington, Scot (Judge of three student papers presented at AGU Fall Meeting)

Ergun, Robert, Fellow, 2013

Ericksson, Stefan (Meeting Session Chair, AGU Fall meeting 2013)

Esposito, Larry (Session Organizer, AGU Fall meeting, Planetary Rings)

Fang, X. (Judged Outstanding Student Poster at AGU Fall meeting)

Horányi, Mihály (Session organizer on “Lunar Plasma Science” at AGU Fall meeting)

Hsu, Hsiang-Wen (Sean) Convenor of a session at AGU Fall meeting

Malaspina, David (Co-Chaired session, AGU Fall meeting)

McGouldrick, Kevin (Judged Outstanding Student Poster at AGU Fall meeting)

McGouldrick, Kevin (Co-chair and organizer of session “Understanding Venus using numerical models” at AGU Fall Meeting)

Rusch, David (Member of organizing committee for Chapman Conference held April 2013)

Sternovsky, Zoltan (Session Convenor, AGU Fall meeting)

Wang, X. (Co-Convenor of session for AGU Fall meeting)

Wang, X. (Judge for Outstanding Student Paper Award at AGU Fall 2014 meeting)

American Meteorological Society (AMS)

King, Michael (Member, Atmospheric Research Awards Committee)

American Physical Society Division of Plasma Physics (APS DPP)

Sternovsky, Zoltan (Member, Program Committee)

Boulder Solar Alliance

Baker, Daniel (Member)

Kopp, Greg (Chair)

Snow, Martin (Member)

Boulder Solar Day

Kopp, Greg (Chair, Organizing Committee: Boulder Solar Day)

Canadian Network for Space Research

Baker, Daniel (Member, External Review Committee)

CLUSTER Science Working Team

Baker, Daniel (Member)

Committee on Space Research (COSPAR)

Baker, Daniel (Member, Commission D)

Esposito, Larry (Deputy Scientific Organizer, COSPAR 38 (Planetary Atmospheres))

Dust, Atmosphere, and Plasma: The Moon and Small Bodies

Horányi, Mihály (Meeting Organizer)

Editor or Editorial Board Member

Baker, Daniel (Co-editor of Encyclopedia of Planetary Landforms, Springer Press)

Baker, Daniel (Editor of Journal of Atmospheric and Solar Terrestrial Physics and Space Weather Journal)

Brain, David (Associate Editor for the Journal of Geophysical Research – Space Physics)

King, Michael (Guest Editor, Atmospheric Chemistry and Physics, and Atmospheric Measurement Techniques)

Li, Xinlin (Member, Editorial Committee of J. of Chinese Space Sciences)

McCollom, T.M. (Associate Editor, *Geochimica et Cosmochimica Acta*)

Peterson, William K. (Editor, Geophys. Res. Lett.)

Schmidt, K. Sebastian (Associate Editor, Atmospheric Measurement Techniques)

Sternovsky, Zoltan (Senior Editor, IEEE Transaction of Plasma Science)

Education and Public Outreach

Coddington, O. (Chair-in-training for EPO Committee)

Eparvier, Frank (Presented public talk on the Sun and Space Weather to Denver Astronomical Society, Space Weather Overview lecture to REU class, Lecture on MAVEN to MAVEN Educators Ambassadors Workshop, Presented talk at MAVEN Orbital Insertion Event, conducted 4 tours of LASP for various visiting groups)

Eriksson, S. (Presentation to Fireside Elementary School kindergartners on the Sun and magnetic fields)

Kalnajs, Lars (LASP EPO future directions committee)
Kalnajs, Lars (LASP EPO future directions committee)
Kalnajs, Lars (LASP EPO lead search committee)
Merkel, Aimee (Volunteer at Niwot Elementary School)
Morooka, Michiko (volunteer on MAVEN and Mars study for 4th grade students in Fireside Elementary School)

European Fleet for Airborne Research (EUFAR)

Pilewskie, Peter (Member)

Faculty Awards

Baker, Daniel, Solar and Terrestrial Sciences Distinguished Lectureship, Asia Oceania Geosciences Society (AOGS)
Baker, Daniel (Associate Fellow, American Institute of Aeronautics and Astronautics (AIAA))
Caspi, Amir (NASA LWS Workshop Travel Award (RHESSI/SDO Workshop, Petaluma, CA))
Gosling, John T. (Arctowski Medal, National Academy of Sciences)
NASA Group Achievement Award, CLARREO Mission Concept Team
NASA Group Achievement Award, MAVEN Phase B Team
NASA Group Achievement Award, SDO Science Investigation Team

Fiske Planetarium Committee

Brown, Benjamin (Member)

Graduate Admissions Committee

Brown, Benjamin (Member)

International Academy of Astronautics (IAA)

Baker, Daniel (Member)
Baker, Daniel (Vice Chair, Commission 1)

International Association of Geomagnetism and Aeronomy (IAGA)

Baker, Daniel (Member)

International Association of Meteorology and Atmospheric Sciences (IAMAS)

Pilewskie, Peter (Member, International Radiation Commission (IRC))

International Space Science Institute (ISSI)

Baker, Daniel (Member, Institute Working Group)
Kopp, Greg (Lead of team to create improved TSI composite)
Snow, Martin (Editor of ISSI Scientific Report #13: Cross Calibration of past and present for UV spectra of solar system objects and the heliosphere)
Snow, Martin (Member, ISSI Working Group)

International Union of Geodesy and Geophysics (IUGG)

Baker, Daniel (Member)

International Workshop on Solar-Terrestrial Physics

Baker, Daniel (Co-Convenor)

Laboratory for Atmospheric and Space Physics

Baker, Daniel (Director)

Associate Director for Science

Jakosky, Bruce

Associate Director for Technical Divisions

Woods, Thomas

Business Committee

Baker, Dan (Chair)

Jakosky, Bruce

McGrath, Mike

Possel, Bill

Woods, Tom

Cassini CAPS Team

Bagenal, Fran

Sand, Susan

Wilson, Robert

Computer Systems Advisory Committee (CSAC)

Elkington, Scot (Chair)

Kopp, Greg (Chair Emeritus)

Eriksson, Stefan (Space Phys.)

Fang, Xiaohua (Atmospheric)

Groeninger, Matt (IT)

Jones, Andrew (Solar)

Lewis, Ryan (Engineering)

Osborne, Darren (MO&DS)

Pankratz, Chris (Data Proc.)

Ramas, Joe (Engineering/Cal)

Smith, Dona (IT)

Smith, Smith (IT)

Spivey, Jerry (IT)

Summers, David (Engineering)

Stewart, Glen (Planetary)

Education and Public Outreach Advisory Committee (EPO)

Odele Coddington (Chair)

Laila Andersson

David Brain

Frank Eparvier
Aimee Merkel
Peter Pilewskie
Bill Possel
Stephanie Renfrow
Snow, Martin
Glen Stewart
Bruce Jakosky, Business Rep.

Executive Associate Director

Sider, Randy

Executive Committee

Baker, Dan (Chair)
Elkington, Scot
Gosling, John
Jakosky, Bruce
Jones, Andrew
King, Michael
Kopp, Greg
McClintock, Bill
McGrath, Mike
Pilewskie, Peter
Possel, Bill
Randall, Cora
Toon, Owen B.
Woods, Tom
Haugen, Cheryl (ex-comm support)

Friends of Magnetospheres (FOM) Seminar Series

Wilson, Robert (Seminar organizer)

LASP Data Stewardship Definition Committee

Randall, Cora (Member)

LASP LISIRD Steering Committee

Caspi, Amir
Jones, Andrew
Kopp, Greg
Snow, Martin

LASP Seminar Series Committee

Sternovsky, Zoltan (Chair)
Collette, Andrew (co-organizer)
Schmidt, K. Sebastian (co-organizer)

LASP Seminar Series

Schmidt, Konrad (Co-organizer)

LASP Tablet Users Group

Beech, Jason

Brown, Pat

Evans, Brian

Gathright, David

Jones, Andrew

Lewis, Ryan

Mack, James

Wilson, Rob

Yehle, Alan

Planetary Journal Club

Albers, Nicole (Organizer)

Proposal Development Committee (PDC)

Woods, Tom (Chair)

Sparr, Tom (Co-chair)

Avallone, Linnea

Baker, Dan

Caspi, Amir

DeNeen, Matt

Drake, Ginger

Ergun, Robert

George, Vanessa (PDC support0

Jakosky, Bruce

Rick Kohnert

Kopp, Greg

Lankton, Mark

Laumbach, David

McClintock, Bill

McGilvray, Beth

McGrath, Mike

Pankratz, Chris

Possel, Bill

Reed, Heather

Renfrow, Stephanie

Richard, Erik

Ryan, Sean

Sparr, Tom

Sternovsky, Zoltan

Tate, Gail

White, Neil

Wrigley, Ray

Social Committee

Bloom, Laura (Chair)
Bryant, Karen
Cirbo, Kathleen
Davis, Nina
DeNeen, Mathew
Fenz-Trimble, Kaiti
Ferrington, Nic
Griest, Ken
Guy, Carol
Hand, Molly
Harvey, Lynn
Osborne, Darren
Possel, Bill
Reddick, Michelle
Theiling, Dale

SORCE Science Meeting Organizing Committee

Pilewskie, Peter (Member)
Richard, Erik (Co-Organizer of 2012 Meeting; Session Chair for 2012 Meeting)

Sponsored Visitor Committee

Harder, Jerry (Chair)
Bagenal, Fran
Coddington, Odelle
Collette, Andrew
Eparvier, Frank
Eriksson, Stefan
Harvey, V. Lynn
King, Michael
Rast, Mark
Renfrow, Stephanie
Schmidt, Sebastian

Magnetospheres of the Outer Planets

Bagenal, Frances (Member, Scientific Organizing Committee)
Wilson, Robert (Webmaster)

MESSENGER/Mercury Orbiter Science Working Team

Baker, D.N. (Member)

National Academies

Baker, Daniel (Chair, Steering Committee: A decadal survey for solar and space physics)
King, Michael (Member, Committee on Earth Science and Application from Space)

National Academy of Engineering (NAE)

Baker, Daniel (Member)

National Academy of Sciences (NAS)

Baker, Daniel (Associate Member)

Baker, Daniel (Chair, Committee on Solar and Space Physics)

Esposito, Larry (Organizer, workshop on Decadal Surveys, November 2012)

National Aeronautics and Space Administration (NASA)

Bagenal, Frances (Chair, Planetary Science Survey)

Bagenal, Frances (Panel Chair, Review of Cassini Data Analysis Program)

Bagenal, Frances (Member, Science Definition Team for Europa Mission)

Baker, Daniel (Member, NASA Planetary Data System Committee)

Baker, Daniel (Member, SAMPEX Science Working Team)

Baker, Daniel (Member, Magnetospheric Multiscale Mission Science Team)

Baker, Daniel (Member, MESSENGER/Mercury Orbiter Science Working Team)

Brain, David (Member NASA review panel for MAVEN Participating Scientist Program)

Eparvier, Franck (Member LWS TR&T Steering Committee)

Horányi, Mihály (Member, NASA Planetary Data System Small Bodies Node Advisory Board)

Horányi, Mihály (Member, NASA Planetary Sciences Subcommittee)

Jakosky, Bruce (Member, NASA Mars Exploration Program Analysis Group (MEPAG))

Kopp, Greg (Member, Science Definition Team for Decadal Survey Mission)

McCullom, Thomas (Review Panel, Exobiology)

Pilewskie, Peter (Member, Science Definition Team for NASA Climate Absolute Radiance and Refractivity Observatory (CLARREO) Decadal Survey Mission)

Randall, Cora (Co-Organizer of NASA LWS workshop on Extreme Events)

National Center for Atmospheric Research (NCAR)

Randall, Cora (Member, Steering Committee for NASA Living With a Star Heliophysics Postdoctoral program)

National Oceanic and Atmospheric Administration (NOAA)

Baker, Daniel (Member Strategic Planning Group, External)

National Research Council (NRC)

Pilewskie, Peter (Member, Committee on the Effects of solar variability on Earth's climate: A workshop)

National Science Foundation (NSF)

Baker, Daniel (Member, Geosciences Advisory Committee)

Baker, Daniel (Chair, Committee on Visitors – Geospace)

Elkington, Scot (Coordinator, Inner Magnetosphere and Storms Research Area, NSF GEM Program)

Merkel, Aimee (Member, Cubesat review panel, 2012)

Optical Society of America

Kopp, Greg (Director at Large for Rocky Mountain Section)

Planetary Society

Jakosky, Bruce (Member, Advisory Board)

Radiation Belt Storm Probe Science Team

Baker, Daniel (Member)

Reviewer of Proposals, Manuscripts, or Creative Work

Albers, Nicole (Reviewer of manuscripts for Icarus and Astronomical Journal)

Albers, Nicole (Member of science review panel for NASA ROSES2014 Solar System Workings program (SSW))

Andersson, Laila (Reviewer for NASA)

Bagenal, Frances (Reviewer of manuscripts for AGU)

Baker, Daniel (Reviewer of manuscripts for Geophysical Research Letters, International Association of Geomagnetism and Aeronomy (IAGA), Journal of Atmospheric and Terrestrial Physics, Journal of Geophysical Research, Nature, Nature Geoscience, Icarus, and Planetary and Space Science)

Baker, Daniel (Review of proposals for NASA and NSF)

Brain, David (Review panel for NASA's Planetary Mission Data Analysis Program)

Brain, David (Reviewer of manuscripts for Planetary and Space Science, Geophysical Research Letters, and Journal of Geophysical Research – Space Physics)

Brain, David (Review panel for NASA's Planetary Atmospheres Program)

Brain, David (Reviewer of proposals for NASA)

Caspi, Amir (Reviewer of manuscripts for Solar Physics)

Cassidy, Tim (Reviewer of manuscripts for J. Geophys. Res., and Icarus)

Cassidy, Tim (Reviewer of proposals for NASA)

Coddington, Odelle (Reviewer of manuscripts for Journal of Atmospheric Sciences, and Atmospheric Chemistry and Physics)

Coddington, Odelle (Reviewer of proposals for NASA)

Collette, Andrew (Reviewer of manuscript for IEEE Transactions on Plasma Science; External reviewer for 2014 Lunar Data Analysis Program; Reviewer of manuscripts for Advances in Space Research and Icarus)

Crary, Frank (Reviewer for Planetary and Space Science and AGU Monograph Series)

Crary, Frank (Reviewer of proposals for NASA)

Elkington, Scot (Reviewer of manuscripts for AGU, Nature, GRL, and JGR)

Elkington, Scot (Reviewer of proposals for NASA and NSF)

Eparvier, Frank (Reviewer of manuscripts for Icarus, J. of Space Weather and Space Climate)

Eparvier, Frank (Reviewer of proposals for NASA)

Ergun, Robert (Reviewer of manuscripts for J. Geophys. Res., Geophys. Res. Lett., and Physics of Plasmas)

Ericksson, Stefan (Reviewer of manuscripts for J. Geophysical Res. And Geophys. Res. Lett.)

Esposito, Larry (Reviewer of manuscripts for Science, Icarus, Geophys. Res. Lett.)

Esposito, Larry (Reviewer of proposals for NASA and NSF)

Fang, X. (Reviewer of Proposals for NASA)

Fang, X. (Reviewer of manuscripts for J. Geophys. Res., Geophys. Res. Lett., Earth and Space science, and Planetary and Space Science)

Gosling, John (Reviewer of manuscripts for Science, Nature Physics, J. Geophys. Res., Geophys. Res. Lett., ApJ., Annales Geophysicae and Solar Wind 13 Proceedings)

Harder, Jerry (Reviewer of manuscripts for Solar Physics and J. Geophys. Res.)

Harder, Jerry (Review of proposals for National Science Foundation)

Harvey, V. Lynn (Reviewer of proposals for NSERC of Canada, NASA LWS program, and NSF)

Harvey, V. Lynn (Reviewer of manuscripts for J. Geophys. Res., Atmos. Chemistry and Physics, and Geophys. Res. Lett.)

Holsclaw, Greg (Reviewer of proposal for NASA)

Horányi, Mihály (Reviewer of manuscripts for J. Geophys. Res., Nature, Icarus, and Physics of Plasmas)

Horányi, Mihály (Reviewer of proposals for NSF, DOE, and NASA)

Hsu, Hsiang-Wen (Sean), (Reviewer of proposals for NASA; reviewer of manuscripts for J. Geophys. Res., Astrophysical Journal, and Planetary and Space Science)

Jones, Andrew (Reviewer of proposals for NASA, reviewer of manuscripts for Solar Physics)

Kalnajs, Lars (Reviewer of manuscripts for Atmospheric Chemistry and Physics)

Kalnajs, Lars (Reviewer of proposals for NSF Atmospheric Chemistry)

King, Michael (Reviewer of manuscripts for American Chemistry and Physics, Geophys. Res. Lett., J. Geophys. Res., Journal of Selected topics in Applied Earth Observations and Remote Sensing, Journal of Quantitative Spectroscopy and Radiative Transfer)

Kopp, Greg (Reviewer of manuscripts for Astronomy and Astrophysics, Solar Physics, Atmospheric Chemistry and Physics, and Surveys in Geophysics)

Li, Xinlin (Reviewer of proposals for NASA and NSF)

Li, Xinlin (Reviewer of manuscripts for J. Geophys. Res., Geophys. Res. Lett., J. Space Weather, J. Atmos. and Solar-Terrestrial Physics, and Annales Geophysicae)

Malaspina, D.N. (Reviewer of manuscripts for Geophysical Res. Letters, Physics of Plasmas, and Journal of Geophysical Research)

McClintock, William (Write-in reviews for Discovery Data Analysis Program)

McClintock, William (Three ICON engineering peer reviews to support Goddard Explorers Office)

McCullom, T.M. (Reviewer of manuscripts for Science, Nature, J. Geophys. Res., Earth and Planetary Science Lett., Astrobiology, Phil. Transaction of Royal Society, Lithos, Organic Geochemistry)

McCullom, T.M. (Reviewer of proposals for National Science Foundation, NASA and Petroleum Research Fund)

McGouldrick, Kevin (Reviewer of proposals for NASA)

McGouldrick, Kevin (Reviewer of manuscripts for Icarus, American Journal of Chemistry)

Malaspina, David (Reviewer of proposals for NASA)

Massie, Steven (Review of manuscripts for J. Geophys. Res., Atmosphere Measurement Technology, and NCAR, plus NASA proposals)

Merkel, Aimee (Reviewer of Proposals for NASA and NSF)

Merkel, Aimee (reviewer of manuscripts for J. Geophys. Res. and Geophys. Res. Lett.)

Morooka, Michiko (reviewer of manuscripts for Geophysical Research Letters, Planetary and Space Science, and Journal of Geophysical Research)

Osterloo, Mikki (Reviewer of manuscripts for J. Geophys. Res., Icarus, Geophys. Res. Lett., and Scientific Reports)
Pilewskie, Peter (Panel Reviewer, NASA New Investigator Program)
Pilewskie, Peter (Reviewer of manuscripts for J. Atmospheric Chemistry and Physics and Surveys in Geophysics)
Portyankina, G., (Reviewer of proposals for NASA and Netherlands Organization for Scientific Research)
Randall, Cora (Reviewer of manuscripts for J. Geophys. Res.)
Randall, Cora (Reviewer of proposals for NASA and NSF)
Robbins, Stuart (Reviewer of proposals for NASA)
Rusch, David (Reviewer of proposals for NASA)
Schmidt, K. Sebastian (Reviewer of proposals for NASA and NSF)
Schmidt, K. Sebastian (Reviewer of manuscripts for AMT, SCP, JGR, and JAMC)
Schneider, Nicholas (Reviewer of proposals for NASA and NSF)
Snow, Martin (Reviewer of proposals for NSF)
Sternovsky, Zoltan (Reviewer of proposals for NSF/DOE)
Sternovsky, Zoltan (Reviewer of manuscripts for Annales Geophysicae, Planetary and Space Science, Advances in Space Research)
Stewart, Glen (Reviewer of proposals for NASA)
Toon, Owen B. (Reviewer of manuscripts for NASA and NSF)
Wang, X. (Reviewer of manuscripts for JGR, ASP, JPP, PSS, Icarus and IEEE)
Wilder, Frederick (review of proposals for NSF and NASA, Review of manuscripts for Science, Geophys. Res. Lett., Annales Geophysicae, Advances in Space Research, and J. Geophys. Res.)
Wilson, Robert J. (Reviewer of manuscripts for J. Geophysical Research, Planetary and Space Science)
Wilson, Robert J., (Reviewer of proposals for NASA)
Wolf, E.T., (Reviewer of manuscripts for Astrophysical Journal Letters, Astrobiology, and Climates of the Past Discussion)
Woods, Thomas (Reviewer of manuscripts for Astronomy and Astrophysics, Solar Physics, and History of Geo- and Space-Sciences).

Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

Baker, Daniel (Member)
Merkel, Aimee (Member CAWSES II Task-2 Project 3 Member)
Merkel, Aimee (Member, CAWSES II organizing committee)
Randall, Cora (Co-Chair, CAWSES 11 Theme Group 1)

Sigma Xi

Baker, Daniel (Member)

Student Advising

Andersson, Laila
Coddington, Odelle
Collette, Andrew
Elkington, Scot

Eparvier, Frank
Fang, X.
Harder, Jerry
Harvey, V. Lynn
Kalnajs, Lars
Kindel, Bruce
Kopp, Greg
Li, Xinlin
McClintock, William
Malaspina, David
Merkel, Aimee
Osterloo, Mikki
Peterson, W.K.
Robbins, Stuart
Schmidt, K. Sebastian
Snow, Martin
Trattner, Karlheinz
Wang, X.
Woods, Thomas

University of Colorado

Aerospace Engineering Department (ASEN)

Baker, Daniel (Member, External Advisory Board)
Li, Xinlin (Member, Graduate Committee)
Li, Xinlin (Member, Tanner Evaluation Committee)
Li, Xinlin (Member, Undergraduate Teaching Curriculum Committee)
Sternovsky, Zoltan (Member, Undergraduate Committee)
Sternovsky, Zoltan (Member, Graduate Committee)
Sternovsky, Zoltan (Major revision of existing course ASEN3300)

Arts and Sciences (A&S)

Horányi, Mihály (Physics advising)

Arts and Sciences Support for Education Through Technology (ASSETT)

Avallone, Linnea (Member, ASSETT Advisory Committee)

Astrophysics and Planetary Sciences (APS)

Bagenal, Frances (Executive Committee – Fall 2014)
Bagenal, Frances (Member, Faculty Search Committee)
Baker, Daniel (Member, Graduate Admissions Committee)
Brain, David (Member, Graduate Admissions Committee)
Brain, David, (Graduate Admissions Committee, 2013-2014)
Ergun, Robert (Member, Graduate Admissions Committee)
Ergun, Robert (Member, Course Fees Committee)
Ergun, Robert (Chair, Search committee for Department Chair)

Ergun, Robert (Member, Executive Committee)
Rast, Mark (Undergraduate Advisor)
Rast, Mark (Examinations Committee)
Rast, Mark (Executive Committee)
Schneider, Nicholas (Undergraduate Program Director, Lead Mentor, Lead Course Scheduler, and Curriculum Committee Chair)

Atmospheric and Oceanic Sciences Department (ATOC)

Avallone, Linnea (Chair, ATOC graduate admissions committee)
Coddington, Odelle (Poster judge for department annual poster conference)
Harvey, V.L. (Faculty Advisor of seminar series)
Harvey, V.L. (Judge for ATOC student poster conference)
Pilewskie, Peter (Chair, Laboratory and facilities Committee)
Pilewskie, Peter (Member, Course Fees Committee)
Randall, Cora (Department Chair, 2010-present)
Randall, Cora (Member ATOC Executive committee)
Randall, Cora (Chair: ATOC space committee)
Randall, Cora (Chair; ATOC new building committee)
Randall, Cora (Member, ATOC awards committee)
Randall, Cora (Member, ATOC admissions committee)
Randall, Cora (Grader: ATOC Comprehensive 1 examinations)
Randall, Cora (Chair: ATOC graduate student admissions committee)
Randall, Cora (ATOC graduate student advisor)
Randall, Cora (ATOC Faculty peer review/visitation)
Schmidt, Konrad (ATOC admissions committee)
Smith, Jamison (Hosted Seminar Series)
Toon, Owen B. (Department Chair)

Boulder Faculty Assembly

Eparvier, Francis (Member at Large)
Harvey, Lynn (LASP Research Scientist Representative)

Boulder Faculty Survey (HERI CU)

Rast, Mark (Member)

Chancellor's Federal Relations Advisory Committee (FRAC)

Baker, Daniel (Member)

College of Arts and Science

Avallone, Linnea (Member, search committee for advisors)

Conference on World Affairs

Schneider, Nicholas (Moderator; "An Apple Fell into a Bar")

Excellence in Leadership Program

Randall, Cora (Participant)

External Advisory Board (Aerospace Engineering)

Baker, Daniel (Member)

Faculty Assembly Committee on Women

Avallone, Linnea (Member)

Geology Department

Hynek, Brian (Member Executive Committee)

Hynek, Brian ((Member, Undergraduate Curriculum Committee)

Graduate School

Baker, Daniel (Member, Institute Directors Group)

Bagenal, Frances (Member, Executive Advisory Council)

Joint Faculty (Aerospace)

Li, Xinlin

Sternovsky, Zoltan

Joint Faculty (Astrophysics and Planetary Sciences Department (APS))

Bagenal, Frances

Baker, Daniel

Ergun, Robert

Esposito, Larry

Rast, Mark

Schneider, Nicholas

Joint Faculty (Atmospheric and Oceanic Sciences Department (ATOC))

Toon, Owen B. (Chair)

Avallone, Linnea

Pilewskie, Peter

Randall, Cora E.

Joint Faculty (Geology Department)

Hynek, Brian (Member, Executive Committee)

Jakosky, Bruce (Member)

Joint Faculty (Physics Department)

Horányi, Mihaly

Member of a Dissertation/Thesis Committee

Avallone, Linnea

Bagenal, Frances

Baker, Daniel

Brain, David

Coddington, Odelle

Crary, Frank
Elkington, Scot
Ergun, Robert
Fang, Xiaohua
Gosling, John
Harvey, V. Lynn
Horányi, Mihaly
Hsu, Hsiang-Wen (Sean)
Hynek, Brian
Jakosky, Bruce
Kalnajs, Lars
Kempf, Sasha
King, Michael
Li, Xinlin
McCollom, Thomas M.
Malaspina, David
Newman, David L.
Peterson, W.K.
Pilewskie, Peter
Randall, Cora
Rast, Mark
Schmidt, Konrad
Schneider, Nicholas
Smith, Jamison
Sternovsky, Zoltan
Stewart, Glen
Toon, Owen B.

Member of a Masters or Ph.D. Qualifying Examination Committee

Avallone, Linnea
Bagenal, Frances
Brain, David
Caspi, Amir
Fang, Xiaohua
Horányi, Mihaly
Hynek, Brian
Jones, Andrew
Kempf, Sasha
Li, Xinlin
Pilewskie, Peter
Randall, Cora
Rast, Mark
Schneider, Nicholas
Sternovsky, Zoltan

New Course Development

Avallone, Linnea
Hynek, Brian
Rast, Mark
Schneider, Nicholas
Toon, Owen B.

Principal Dissertation/Thesis Advisor

Andersson, Laila
Avallone, Linnea
Bagenal, Frances
Baker, Daniel
Brain, David
Delamere, Peter
Ergun, Robert
Esposito, Larry
Harvey, V.L.
Horányi, Mihaly
Hynek, Brian
Jakosky, Bruce
King, Michael
Kopp, Greg
Li, Xinlin
Pilewskie, Peter
Randall, Cora
Rast, Mark
Schneider, Nicholas
Sternovsky, Zoltan
Toon, Owen B.
Woods, Tom

Student Advising

Andersson, Laila
Avallone, Linnea
Bagenal, Frances
Baker, Daniel
Brain, David
Caspi, Amir
Cassidy, Tim
Coddington, Odelle
Delamere, Peter
Harvey, V.L.
Hynek, Brian
Jones, Andrew
Kalnajs, Lars
Kopp, Greg
McClintock, William E.

McCollom, Thomas
Malaspina, David
Merkel, Aimee
Randall, Cora
Rast, Mark
Schmidt, Konrad
Schneider, Nicholas
Snow, Martin
Sternovsky, Zoltan
Toon, O.B.

Sungazing Comets Working Group

Snow, Martin (Member)

Supervisor of Postdoctoral Researchers

Avallone, Linnea
Bagenal, Frances
Brain, David
Schneider, Nicholas
Sternovsky, Zoltan

Vice Chancellor's Research Cabinet

Baker, Daniel (Member)

University of Northern Iowa

Baker, Daniel (Member, External Advisory Board, Department of Earth Sciences)
Hynek, Brian (Member, External Advisory Board, Department of Earth Sciences)

University Space Research Association (USRA)

Baker, Daniel (Council of Institutes Representative)
Baler, Daniel (Member, Issues and Program Committee)

Whole Heliospheric Interval Science Team

Snow, Martin (Member)

Workshop on Radiation Belts

Baker, Daniel (Organizing Committee)

Honors/Awards

Baker, Daniel, University of Colorado Distinguished Professor Award, 2014.
Crary, Frank, NASA Robert H. Goddard Exceptional Achievement for Engineering Team, MAVEN Team, 2014.

Fang, Xiaohua, NASA Robert H. Goddard Exceptional Achievement for Engineering Team, MAVEN Team, 2014.
 Jakosky, Bruce, NASA Distinguished Public Service Medal, 2014.
 Schmidt, Konrad (NASA Group Achievement Award SEAC4RS experiment)
 Schmidt, Konrad (NASA Agency Honors Award for ARISE experiment)
 Usanova, Maria, EGU 2015 Young Scientist Travel Award
 Usanova, Maria, AGU travel grant
 Woods, Thomas, (American Geophysical Fellow, December 2014)

Courses Taught by LASP Faculty

Bagenal, Frances	Graduate Seminar – Planetary Science from the Hubble Space Telescope
Bagenal, Frances	Planetary Atmospheres
Bagenal, Frances	Graduate Seminar on Designing Planetary Missions
Bagenal, Frances	Accelerated Intro Astro
Brain, David	Observations, data analysis, and statistics
Brain, David	Introductory Astronomy
Brain, David	Independent Study
Brown, Benjamin	Mathematical Methods
McGouldrick, Kevin	Accelerated Introductory Astronomy – The Solar System

Colloquia and Informal Talks

Ajello, Joseph, JPL/Caltech, UV spectroscopy of the Titan Airglow and Molecular Nitrogen Gas

Andrews, David, Swedish Institute of Space Physics, The Martian ionosphere and induced magnetosphere, studied with Mars Express

Andrews-Hanna, Jeff, Colorado School of Mines, The early evolution of the Moon: Looking beneath the surface with GRAIL gravity data

Baker, Daniel, CU/LASP, Punctuated enhancements and sudden losses of highly

relativistic radiation belt electrons: Van Allen Probes observations

Baker, Daniel, CU/LASP, The space physics part of “LASP”: Understanding particles and fields throughout the solar system

Baker, Daniel, CU/LASP, An impenetrable barrier to ultra-relativistic electrons in the Van Allen radiation belts

Black, Carrie, NASA/GSFC, Understanding magnetic reconnection: The physical mechanism driving space weather

Braun, Robert D., Georgia Tech, Entry, Descent and landing technology development

Brito, Thiago, CU/LASP, Radiation belt precipitation: An overview of mechanisms and recent simulation results

Brown, Pat, CU/LASP, Microsoft OneNote: Digital notebooks for you and your project

Caspi, Amir, CU/LASP, Thermal processes in the solar corona

Coddington, Ian, NIST, Optical Frequency Combs in the Open Air

Coddington, Odelle, CU/LASP, LASP and the International Space Station: Future measurements of solar irradiance and the continuation of a climate data record

Cravens, Tom, Kansas Univ., The Jovian Polar Cap Aurora

Esposito, Larry W., CU/LASP, LASP Explores the Planets

France, Kevin, CU/CASA, Current and future space instruments for astrophysics and planetary science: Hubble and beyond

Garrick-Bethell, Ian, UCSC), Lunar magnetic anomalies and a cubesat mission to study them

Greer, Katelynn, CU/LASP, Disturbances of the wintertime polar upper stratosphere and lower mesosphere: Observations, Modeling, and mechanisms

Hanley, Jennifer, SwRI, Peering into the modern Martian climate and geophysical processes: Studies on Martian regolith analogs

Hertzog, Albert (CNRS), Strateole 2: A long-duration balloon project for studying the upper troposphere and lower stratosphere in the deep tropics

Horanyi, Mihaly, CU/LASP, First Results from LDEX

Howett, Carly, SwRI, Geysers, spiders and arcade icons – a tour of the unlikely characters of Saturn's icy satellites

Kretke, Katherine, SwRI, From pebbles to planets

Li, Xinlin, CU/LASP, Our first Student CubeSat Mission: Concept to reality and impact

Little, Mike, Langley, The ASDC data access: earth's radiation budget, clouds, aerosols and tropospheric chemistry observations

McGrath, Melissa, NASA/Marshall Space Flight Center, Europa's atmosphere, aurora and plumes

Marshall, Robert A., Stanford, The artificial relativistic electron beam; a new type of active experiment for space physics

Massie, Steven, Satellite Capability, ACOM/NCAR/John Gille Symposium, November 2014.

Matsuo, Tomoko, CU/CIRES, From Earth to Space; Data assimilation as engineering solutions for ozone monitoring, satellite and space debris tracking, and beyond.

Mlynczak, Marty, NASA Langley, Infrared limb sounding: A robust technique for Earth science and heliophysics missions

Osterloo, Mikki, CU/LASP, Diverse surface materials on Mars: Revealing the Red Planet's past environments

Pilewskie, Peter, CU/LASP, Airborne science at LASP Extending observations of the Earth from above

Pillet, Valentin M., National Solar Observatory, From balloons to the volcano: A journey into high spatial resolution solar physics

Popescu, Radu, CU/LASP, Our new SharePoint collaboration environment – How it can help us to communicate and collaborate

Ray, L.C., UCL/UK, Local time variations in Jupiter's M-1 coupling

Rusch, David, CU/LASP, The Atmospheric part of "LASP": Ozone, Nitric Oxide, and Solar Influences

Semeter, Joshua, Boston Univ., The ionosphere as an Earth system sensor

Slavin, James, U. of Michigan, Solar wind – magnetosphere – planetary core coupling at Mercury

Schmidt, Konrad, CU/LASP, Toward the next generation Earth-Climate observing system

Title, Alan, Lockheed Martin Solar and Astrophysics Lab, Flare clustering – The non-random nature of the GOES data

Troeltzsch, John, Ball Aerospace, Kepler to K2: Repurposing a Great Observatory

Tsang, Constantine, SwRI, Io: Jupiter's volcanic wonderland told through the story of its atmosphere

Walther, Andi, CIMSS, U. Wisconsin, Satellite-based cloud algorithms at CIMSS, Madison

Wahlund, Jan-Erik, Swedish Institut of Space Physics, The Jupiter Icy Moons Explorer (JUICE) mission and the Radio and Plasma Wave Investigation (RPWI)

Zalucha, Angela, SETI Institute, The atmospheric circulation of Pluto and Triton as predicted by a general circulation model.

Publications

Ajello, J., et al., Cassini UVIS solar Zenith angle studies of Titan dayglow based on N₂ high resolution spectroscopy, AAS/Division for Planetary Sciences Meeting Abstracts, 46, Nov. 2014.

Bagenal, F., et al., Magnetospheric science objectives of the Juno Mission, Space Sci. Rev., doi:10.1007/s 11214-014-0036-8, 2014.

Bagenal, F., Juno: Interior of Jupiter and formation of the solar system, Physics Dept. Colloquium, Lawrence University, 2014.

Bagenal, F., NASA's New Horizons Mission to Pluto, Physics Department seminar, Lancaster University, 2014.

Bagenal, F., Planetary Auroras: Northern Lights across the solar system, Space Series Forum, Boulder, CO, 2014.

Bailey, S.M., et al., A multi tracer analysis of thermosphere to stratosphere descent triggered by the 2013 Stratospheric Sudden Warming, Geophys. Res. Lett., 2014.

Baker, D.N., et al., An impenetrable barrier to ultra-relativistic electrons in the Van Allen Radiation Belt, Nature, 515, 531-534, doi:10.1038/nature13956, 2014.

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Sponsored Programs

PI	Agency	Title
Albers, N	NASA Goddard	Unraveling the Complexities of Saturn's F Ring
Andersson, L	NASA	Oxygen Transport in the Magnetotail During Active Times
Andersson, L	NASA	Particle/Wave Interactions at Mars and their Importance for Ion Escape Over Magnetic Crustal Field Regions
Bagenal, F	Massachusetts Institute of Technology	Archiving Voyager Planetary Data
Bagenal, F	NASA	Colorado Europa Langmuir Probe (CELP)
Bagenal, F	NASA	Modeling Europa's Coupled Atmosphere-Plasma Interaction
Bagenal, F	NASA	Surface Evolution of Pluto and Charon
Bagenal, F	Southwest Research Institute	Howett ECF: VGT3D Model Validation and Surface Characterization of the Galilean Satellites
Bagenal, F	Southwest Research Institute	New Horizon Pluto Kuiper Belt Mission – Phase E – FY2015
Bagenal, F	Southwest Research Institute	New Horizon Pluto Kuiper Belt Mission – Phase E – FY2015 – EPO Activities
Bagenal, F	Southwest Research Institute	Proposal to continue to provide instrument operations support to the Juno JADE instrument (supplement to SwRI contract 699050X)
Bagenal, F	Southwest Research Institute	Surface Evolution of Pluto and Charon
Bagenal, F	University Corporation for Atmospheric Research	The Visiting Scientist Program: Heliophysics Summer School 2014

Baker, D	University of New Hampshire	Relativistic Electron-Proton Telescope Instrument on the "Radiation Belt Storm Probes - Energetic Particle, Composition, and Thermal Plasma Suite (suppl. to 10-069)
Beland, S	NASA	Intercomparing Solar Spectral Irradiance Measurements from SOLSPEC, SORCE, SOLSTICE and SIM instruments
Brain, D	NASA	Charged Particle Transport in Martian Magnetic Cusps
Brain, D	NASA	Influence of Asteroid and Comet Impacts on Atmospheric Abundances at Venus, Earth and Mars
Brain, D	NASA	Ion Escape Rates from the Martian Atmosphere
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Caspi, A	NASA	A Database of High Resolution Solar Soft X-Ray Spectra for Geospace and Solar Physics Applications
Caspi, A	NASA	Probing the Origins of Solar Flare Thermal Plasma with RHESSI
Cassidy, T	NASA	Composition and Chemistry in the Inner Magnetosphere
Coddington, O	DOD Navy Naval Research Laboratory	How Does the Sun's Spectrum Vary?

Coddington, O	NASA	Improving Climate Signal Attribution with Hyperspectral Shortwave Earth-Reflected Radiation and a Combination of Multivariate Analysis, Source Signal Separation, and a Bayesian Framework
Coddington, O	NASA Goddard	Retrieval Studies in Support of Cloud Property Products from the PACE Ocean Color Imager
Collette, A	HDF Group	Services and HDF Access to Remote Experiments (SHAREX)
Collette, A	NASA	Experimental Investigation of High-Speed Ejecta from Meteoroid Impacts
Cranmer, S	NASA	Stirring Coronal Spaghetti – Determining the Importance of Jet Like and Filamentary Density Fluctuations in Accelerating the Solar Wind
Crary, F	Jet Propulsion Laboratory	Cassini Mission Support (suppl. to 1467206)
Crary, F	Jet Propulsion Laboratory	CubeSat for ice Layer Thickness (CSALT): A Europa CubeSat Concept Study
DeNeen, M	Jet Propulsion Laboratory	Continuous Integration in a Multi-Mission Environment
Drake, V	NASA	Transiting Exoplanet Explore Balloon (TEEBall) Spectrograph “University of Colorado Boulder Co-I”
Elkington, S	Geosynergies	A New MHD Propagated Solar Wind Data Set to Enable Science and Modeling
Elkington, S	NASA	Investigating the Effects of Azimuthal Structure on ULF-drive Particle Transport and Energization in the Radiation Belts
Elkington, S	NASA	Investigations of Radiation Belt Precipitation Modulation Observed by the Van Allen Probes and BARREL Campaigns

Elkington, S	NSF	Collaborative Research: GEM: Crucial Role of Pc 4-5 waves in EMIC Wave Development in the Outer Radiation Belt: Nonlinear Wave Energy Cascade and Growth Rate Modulation
Elkington, S	NSF	Collaborative Research: Nonlinear Wave Energy Cascade in Earth's Magnetosphere and its Effect on the Development of Electromagnetic Ion Cyclotron Waves
Elkington, S	Rice University	Using Stochastic Particle Simulations and Van Allen Probes Measurements to Understand Radiation Belt Dynamics
English, J	Columbia University	Role of Eruptive Volcanic Emissions on Atmospheric Composition and Climate
English, J	NASA	Contributions of Moderate Volcanoes, Surface SO ₂ , and Surface DMS to Measure Aerosols in the UTLS
English, J	NSF	Using a Comprehensive Model to Study Large Volcanic Eruptions and Stratospheric Geoengineering
English, J	University of Denver	New Particle Formation (NPF) in the Free Troposphere and Lower Stratosphere
Eparvier, F	NASA Goddard	EXIS SOW: Changes to address Mission OPS Support (CCR 2764) and CDRL Modifications for Mission OPS Support (CCR 2765) -- Suppl. to NNG07HW00C
Ergun, R	University of Minnesota	Electric Field and Waves (EFW) Instrument - Phase E Bridge Funding (suppl. to X5336545103)
Esposito, L	Jet Propulsion Laboratory	Cassini Solstice Mission (suppl. to 1409073)
Esposito, L	Jet Propulsion Laboratory	VASE - Venus Atmosphere and Surface Explorer

Esposito, L	NASA	Clumping in Saturnian Ring-Moon Resonances
Fang, X	NASA	The Regulation of the Rotating Mars Crustal Magnetic Field on Atmospheric Loss
Fang, X	University of California, Berkeley	Parameterizing and Simulating the Effects of Electron Impact in the Martian Thermosphere and Ionosphere: The Next Step in Mars Global Model Coupling
Fang, X	University of Michigan	Improving Predictability of Topside Ionospheric TEC Using Advanced Physics-based Models
Fang, X	University of Michigan	Quantifying the Non Linear Influence of Electric and Magnetic Field Feedback in the Inner Magnetosphere
France, J	NSF	Regional Planetary Wave Driven Stratosphere-Troposphere Coupling and the Impact on Cold Air Outbreaks
Harder, J	NASA	Construction of a SORCE-based Solar Spectral Irradiance (SSI) Record For Input Into Chemistry Climate Studies of Solar Cycle 23 – 24
Hartnett, E	NASA	Extension of CF Metadata Conventions to Support Space-Based Instrument Data
Harvey, L	NASA	Geopotential Height Anomalies in the Stratosphere and Their Influence on Tropospheric Weather Systems
Hodges, R	NASA	LADEE Neutral Mass Spectrometer Investigation (suppl. to NNX09AD75G)
Holsclaw, G	Jet Propulsion Laboratory	Kuiper - Revealing the Outer Solar System
Holsclaw, G	Planetary Science Institute	Plume Reconnaissance UV Experiment (PRUVE)
Horanyi, M	Jet Propulsion Laboratory	Cassini CDA Solstice (XXM) FY15-FY14 Phase E Proposal

Horanyi, M	NASA	Constraining Na and K in the Lunar Exosphere and Surface with LADEE Data and Models
Horanyi, M	NASA	LADEE Dust Experiment Instrument (Science Team Extension to NNG09EI26C)
Horanyi, M	NASA	Lunar Graduate Conference (LunGradCon) 2014
Horanyi, M	NASA	The Dusty Plasma Environment of Airless Bodies in the Solar System
Horanyi, M	Southwest Research Institute	Student Dust Counter - New Horizons Mission – FY2015 Cost Proposal Revision
Hsu, H	NASA	Dynamics and Composition Analysis for the Cassini-Galileo Joint Nanodust Measurements at Jupiter
Hsu, H	NASA	Multi-Instrument Characterization of Saturn's Dust-Laden Magnetosphere
Hynek, B	NASA	The Explosive to Effusive Transition: Identification and Modeling of Pryoclastic Deposits and Lava flows on Alba Mons, Mars
Hynek, B	Planetary Science Institute	Evaluation of Formation Mechanisms for Stepped Fans
Hynek, B	Southern Illinois University	Life, Habitability and Biosignatures in Sulfur-Rich Environments
Hynek, B	Southwest Research Institute	A Global Lunar Small Crater Database
Hynek, B	Southwest Research Institute	Understanding Layered Ejecta ("Lobate") Craters on Mars: Keys to Subsurface Water
Hynek, B	University of Tennessee	Determining Origin and Formation Timescales of Sulfates on Mars Using Terrestrial Analogs from Hawaii and Iceland
Hynek, B	University of Wisconsin - Milwaukee	Understanding Relict Martian Hydrothermal Systems Using Icelandic Analogs

Jakosky, B	NASA	Mars Atmosphere and Volatile Evolution Mission (MAVEN) - supplement to NNH10CC04C
Jaynes, A	NASA	Microburst Auroral Pulsation Loss Experiment (MAPLE)
Jaynes, A	NASA	Proton electron Advanced Sensor for Magnetosphere-Ionosphere Coupling (PLASMIC)
Jones, A	NASA	Control and Mitigation of the Contamination of Solar Ultraviolet Space Optics
Jones, A	NASA	Development of the Doppler Shift Data Project for SDO EVE
Kempf, S	Jet Propulsion Laboratory	Cassini CDA Solstice (XXM)
Kempf, S	Jet Propulsion Laboratory	Europa Clipper Mission Concept Data Products: Modeling Plume Composition and Physical Parameters
Kempf, S	Jet Propulsion Laboratory	Towards Miniaturization of Instrumentation for In-Situ Organic Detection: Hands-Off PicoTOF
Kempf, S	NASA	SURface Dust Analyzer (SUDA)
Kopp, G	NASA	A TSI Community Consensus Composite Based on an Assessment of the Accuracies and Uncertainties of Space-borne TSI Measurements
Kopp, G	NASA	Miniature Solar Irradiance Radiometer
Kopp, G	NASA Goddard	Carbon Absolute Electrical Substitution Radiometers (CAESR)
Li, X	NASA	L5 Solar Wind and Eruptive Event Probe (L5 SWEEP)
Li, X	NASA	On The Precipitation Loss of Outer Belt Electrons
Li, X	NASA	Sudden Enhanced Precipitation Loss of Radiation Belt Electrons: Microbursts and Precipitation Bands
Li, X	NSF	Analysis and Modeling of the Data from CubeSat: Colorado Student Space Weather Experiment

Li, X	NSF	On the Dynamics of 100s keV Electrons in the Slot Region and Inner Belt
Li, X	NSF	Severe Space Weather: Solar Wind Coupling and Radiation Belt Response (suppl to AGS 0940277)
Malaspina, D	NASA	A Dust Impact Database for the Wind Spacecraft
Massie, S	NASA	Absorptive Aerosols and Clouds: Application of the PNNL-MMF Model and Analysis
Massie, S	NASA	Aerosol Effects on Cloud Heights and Precipitation
Massie, S	NASA	Decadal Changes in Cloud Geographical Distributions
Massie, S	NASA	Quantification of the 3D Effects of Clouds and Aerosols in OCO-2 Operational Data
Massie, S	NASA	The Influences of Clouds and Aerosols on OCO-2 Spectra
Massie, S	University Corporation for Atmospheric Research	Actinic Radiation In and Near Clouds: Model Evaluation with Data from Satellites and Field Campaigns
Massie, S	University Corporation for Atmospheric Research	Past and Future Trends in Air Quality in South Asia
McCullom, T	NASA	Investigating the Factors That Control the Composition of Serpentine During Aqueous Alteration of Meteorite Parent Bodies
McCullom, T	NASA	Laboratory Investigation of Five-Carbon Amino Acids as Tracers of Early Organic Chemistry in Meteorites
McCullom, T	NASA	The Hard Rock Lifestyle: Understanding Life within Subsurface Basalt Aquifers
McCullom, T	NASA Ames	Evolutionary Innovation in Action

McCullom, T	NSF	Collaborative Research: Biodegradation of Polycyclic Aromatic Hydrocarbons (PAH) in Thermal Springs
McCullom, T	NSF	Collaborative Research: Experimental Investigation of Reaction Pathways and Rates During Serpentinization
McCullom, T	NSF	Experimental Study of Hydrogen Generation During Low-Temperature Water-Basalt Interactions
McCullom, T	Simons Foundation	Making Life From the Bottom Up: An Experimental Study
McCullom, T	University of Southern California	Center for Dark Energy Biosphere Investigations (C-DEBI) – Investigation Theme Team Leadership
McGouldrick, K	NASA	Characterization of the Meteorology of the Troposphere of Venus Using VIRTIS / Venus Express Data
McGouldrick, K	NASA	Multispectral Characterization of Venusian Aerosols from 30 Years of Spacecraft Data
McGouldrick, K	NASA	Preliminary Investigation into the Dynamical Effects of Cloud Variability in the Venus Atmosphere
McGrath, M	Composite Technology Development	Cost-Effective Solar Array Based on Thin-Film Crystalline Technology
McGrath, M	Composite Technology Development	Electric Potential and Field Instrument for CubeSat (EPIC)
McGrath, M	Composite Technology Development	Low Cost, Lightweight, Thermally Stable, and Compactly Stowed Electric Field Boom
McGrath, M	Emirates Institution for Advanced Science and Technology	Concept and Technology Development Study Proposal Mars Exploration for Emirates Institution for Advanced Science and Technology
McGrath, M	Hampton University	Aeronomy of Ice in the Mesosphere (AIM) (Supplement to 03-10)

McGrath, M	Hampton University	Aeronomy of Ice in the Mesosphere (AIM) AIM Safe Mode Recovery (suppl. to NAS5-03132)
Merkel, A	DOD Navy Naval Research Laboratory	Understanding the Polar Lower Atmospheric Hydrogen Hole: Causes and Consequences (A Proposal to the Naval Research Laboratory – BAA #76 13-01, #7600)
Merkel, A	NASA	A Comprehensive Model for Mercury’s Exosphere from MESSENGER Data
Merkel, A	NASA	Investigating the Impact of Solar Spectral Irradiance Variability in an Earth System Climate Model
Morooka, M	NASA	Cassini Langmuir Probe Data Archiving for the Kronian Magnetosphere
Osterloo, M	NASA	Investigation of Highland Crustal Evolution and Alteration History in the Terra Sirenum Region of Mars
Pilewskie, P	NASA	LASP CLARREO Science Definition Team Studies: Using Measurements of Scattered Spectral Shortwave Radiation to Define Requirements, and to Develop Methods for Trend Detection and Attribution (suppl. to NNX11AE71G)
Pilewskie, P	NASA	Total and Spectral Irradiance Sensor (TSIS): In response to mod 35: Total Spectral and Solar Irradiance (TSIS) on the International Space Station (ISS)
Portyankina, G	NASA	Interaction of Dusty Polar Cryo Jets with the Lower Atmosphere on Mars
Portyankina, G	NASA	Shapes of Martian Spiders: Diffusion-Limited Aggregation Model for Polar Surface Erosion
Portyankina, G	University of California, Los Angeles	Extensive Analysis of Seasonal Activity in the South Polar Region

Possel, W	Ball Aerospace & Technologies Corp.	Mission Operations of the NASA QuikSCAT Satellite (suppl. to 97BSM00005)
Possel, W	Lockheed Martin	Space Based Infrared Systems (SBIRS) - Engineering Support
Possel, W	NASA Goddard	Mars Atmosphere and Volatile Evolution Mission (MAVEN) (Supplement to NNG07EK31C)
Possel, W	NDP	Network-Independent Open Source Messaging Service (NOMS)
Possel, W	Southwest Research Institute	SARUX
Possel, W	University of Arizona	OSIRIS-REx Science Payload Operations Center Review Board
Possel, W	University of Arizona	Payload Operation Review Panels 2015
Pouquet, A	NSF	CEDAR: The Combined Dynamics of Waves and Turbulent Eddies in the Stratified Mesosphere and Lower Thermosphere
Randall, C	NSF	Atmospheric Coupling via Energetic Electron Precipitation (EEP)
Randall, C	Utah State University	Mass Spectrometry of the Turbopause Region (MSTR)
Rast, M	NASA	A Radiometric Solar Imager: Resolving the Origins of Solar Spectral Irradiance Variations
Rast, M	NASA	Modulating the Solar Output at the Smallest Scales: Origin of the Solar Spectral Irradiance Variations
Reed, H	Southwest Research Institute	CYGNSS Stop Lite Analysis
Richard, E	NASA	The Analysis of Improved Laboratory Measurements in the Recalibration and Revaluation of the SORCE SIM Data Record
Robbins, S	NASA	Developing a New Crater Production Function for Moon, Mars, and Mercury for Modeling Planetary Surface Ages

Royer, E	NASA	A Multi-Wavelength Investigation of the Surface Properties of Icy Bodies in the E-ring Region of the Saturn System
Schmidt, S	NASA	Corrections to the Radiative Effect of Inhomogeneous Cloud Fields from Multi-spectral Passive Imagery
Schmidt, S	NASA	Exploring New Methods to Exploit the Relationship Between Cloud Spatial Structure and Their Spectral Radiative Signature in Cloud-Aerosol Remote Sensing and Energy Budget Applications
Schmidt, S	NASA	Measurement of Solar Spectral Irradiance in Support of the Southeast Asia Composition, Cloud, Climate Coupling Regional Study (SEAC4RS)
Schmidt, S	NASA	Measurement of Solar Spectral Irradiance in Support of the Southeast Asia Composition, Cloud, Climate Coupling Regional Study (SEAC4RS) (Supplement to NNX12AC11G)
Schmidt, S	NASA Ames	Linking the Radiative Energy Budget and Remote Sensing of Cloud and Aerosol Fields
Schmidt, S	NASA Ames	Retrieval and Evaluation of Aerosol Above Cloud (AAC) Properties with Combined Polarimeter, Lidar and Spectrometer Observations
Schneider, N	Planetary Science Institute	Synoptic Monitoring of Io Volcanic Activity and the Io Plasma Torus During the Juno Mission
Snow, M	NASA	Mag Squared: Understanding Chromospheric Magnetic Structures Through Analysis of the IRIS Magnesium II Spectrum
Snow, M	NASA	Solar Spectral Irradiance Lyman Alpha Magnesium II and Sigma K (SSIAMESe)

Sternovsky, Z	NASA	Experimental Investigation of Micrometeoroid Ablation
Sternovsky, Z	NASA	Nano-Dust Dynamics and Distribution in the Inner Heliosphere
Sternovsky, Z	NSF	Collaborative Research: Experimental Investigation of Micrometeoroid Ablation
Stewart, G	NASA	Nonlinear Evolution of Baroclinic Instabilities in Protoplanetary Disks (Exoplanet Research Program)
Toon, O	NASA	Can Water Ice Clouds Create a Sustained Warm Martian Paleoclimate?
Toon, O	NASA	Cirrus Cloud Simulations Using the CESM/CARMA Model and Comparisons with Satellite and Aircraft Observations
Toon, O	NASA	Improving Cloud Processes in Climate Models
Toon, O	NASA	Investigations of Wet Removal Processes in Deep Convective Clouds
Toon, O	NASA	The Faint Young Sun Problem
Toon, O	NASA	Understanding How the Climate Changes as Aerosol Pollution Shifts from the U.S. and Europe to Asia
Toon, O	NASA	Using Aircraft, Satellite and Ground Based Data to Improve Models of Clouds and Aerosols and to Apply Them to Problems of Interest to Atmospheric Chemistry and Climate
Toon, O	University Corporation for Atmospheric Research	Investigating the Effects of the Chicxulub Impact Event on the Climate System
Trattner, K	NASA	The Relationship Between Multiple Reconnection Lines and Flux Transfer Events
Trattner, K	Southwest Research Institute	HPCA (continuation of PO G69122)
Trattner, K	Southwest Research Institute	HPCA Bridge Proposal

Trattner, K	Southwest Research Institute	Magnetic Topology at the Earth's Magnetopause: Low Latitude Reconnection for Northward IMF
Trattner, K	University of Iowa	Twin Rockets to Investigate Cusp Electrodynamics 2 (TRICE-2)
Wang, X	NSF	Understanding Langmuir Probes in Plasma Sheath
White, N	University of Massachusetts Lowell	Warm Hot Intergalactic Pathfinder Survey (WHIPS)
Wilson, A	NASA	Improving the Capabilities of the LASP Extended Metadata Repository, LEMR, with a Space Based Ontology, SBO, to Better Serve Space Data Metadata
Woods, T	NSF	CubeSat: Miniature X-ray Solar Spectrometer (MinXSS)