Laboratory for Atmospheric and Space Physics

Activity Report
2012
University of Colorado at Boulder


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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 Laboratory for Atmospheric and Space Physics remains one of the premier research organizations in an academic setting. The science pursued extends from the inner workings of the Sun to the outermost fringes of the solar system. With LASP’s continuing operations role in the planet-hunting NASA Kepler mission, the Lab’s interests extend very importantly to new worlds far beyond our local cosmic neighborhood. I am delighted to always remind colleagues and policy makers of all sorts that LASP’s work covers science and engineering over an amazing range and includes all the support services to provide complete, end-to-end space systems.

For years – decades, really – LASP pursued a fairly traditional and stable approach based on federal agency funding of research grants and space hardware contracts. While we have every hope and expectation to continue this successful approach, we also recognize changes occurring in fundamental ways in the world space arena. These changes almost demand closer direct relationships between academic labs like LASP and industrial partners. These kinds of partnerships hold great potential for invigorating the nation’s space research enterprise, but it will take care and innovation in the academic world to attain a successful broadening of approaches.

My personal view is that academic research remains at the core of a successful national space program. It is very important, I believe, that this key fact be acknowledged by space policy makers, by business leaders, and by academic institutions themselves. Now, more than five decades on from the dawn of the Space Age, there should be a renewed national commitment to space research in the academic setting. LASP stands ready – as it has for this entire Space Age – to do more than its fair share to make this commitment a reality.

I continue to note that LASP succeeds in large measure by having the support of the CU administration. I sincerely thank the people in contracts administration, procurement, facilities management, and other key areas that help us do our very special job. I particularly want to acknowledge 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 remarkable work. Finally, special thanks go to Ann Alfaro for her careful efforts in preparing this report for 2012.

Daniel N. Baker

Please visit LASP’s Website for the latest developments: http://lasp.colorado.edu
LASP Organization Chart

**Science Division**
- Planetary
- Earth Atmosphere
- Solar Influences
- Space Plasma Physics
- Communication and Outreach

**MO and DS (W. Possel)**
- Mission Operations
- Data Systems
- Planning and Scheduling
- Software Engineering

**Engineering (M. McGrath)**
- Program Management
- Systems Engineering
- RA / QA
- Electrical Engineering
- Mechanical Engineering
- Production
- Flight Software
- Calibration and Test

**Lab-wide Support (C. Himes)**
Accounting, HR, IT, Procurement, Contracts, Office Support, Facilities
**LASP Appropriated Funding**

During the period 1/1/2012 to 12/31/2012, LASP appropriated funding totaled $57,225,982 for support of 130 grants and contracts.

**Appropriated Funding: 2012 Calendar Year**

<table>
<thead>
<tr>
<th>Source of Funding</th>
<th>Total Grant Dollars</th>
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</thead>
<tbody>
<tr>
<td><strong>Federal Agencies:</strong></td>
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<td>Commerce NOAA</td>
<td>-$27</td>
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<tr>
<td>Jet Propulsion Laboratory</td>
<td>$1,749,487</td>
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<tr>
<td>NASA Ames</td>
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<tr>
<td>NASA Goddard</td>
<td>$42,511,531</td>
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<tr>
<td>NSF</td>
<td>$223,719</td>
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<tr>
<td><strong>Total Federal Sources</strong></td>
<td>$45,153,204</td>
</tr>
<tr>
<td><strong>Non-Federal Sources:</strong></td>
<td></td>
</tr>
<tr>
<td>Ball Aerospace &amp; Technologies Corp.</td>
<td>$2,386,295</td>
</tr>
<tr>
<td>Blue Canyon Technologies LLC</td>
<td>$178,143</td>
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<tr>
<td>Boston University</td>
<td>$250,000</td>
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<tr>
<td>Carnegie Institution of Washington</td>
<td>$870,000</td>
</tr>
<tr>
<td>GeoOptics, LLC</td>
<td>$2,261,847</td>
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<tr>
<td>George Mason University</td>
<td>$40,449</td>
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<tr>
<td>Hampton University</td>
<td>$1,150,163</td>
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<tr>
<td>Johns Hopkins University</td>
<td>$55,614</td>
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<tr>
<td>Prisma Basic Research, Inc.</td>
<td>$39,046</td>
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<tr>
<td>Southwest Research Institute</td>
<td>$2,635,142</td>
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<td>Stellar Solutions, Inc.</td>
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<tr>
<td>Teledyne Brown Engineering</td>
<td>$14,797</td>
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<tr>
<td>TeraVision Inc. (TVI)</td>
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<tr>
<td>University Corporation for Atmospheric Research</td>
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<tr>
<td>University of Alaska Fairbanks</td>
<td>$78,991</td>
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<tr>
<td>University of Arizona</td>
<td>$11,815</td>
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<tr>
<td>University of California Berkeley</td>
<td>$840,730</td>
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<tr>
<td>University of California Los Angeles</td>
<td>$14,700</td>
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<tr>
<td>University of Central Florida</td>
<td>$162,005</td>
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<tr>
<td>University of Minnesota</td>
<td>$100,000</td>
</tr>
<tr>
<td>University of New Hampshire</td>
<td>$744,166</td>
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<tr>
<td>University of Washington</td>
<td>-$623</td>
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<tr>
<td>University of Wisconsin</td>
<td>$40,000</td>
</tr>
<tr>
<td>Vantage Systems, Inc.</td>
<td>$77,447</td>
</tr>
<tr>
<td><strong>Total Non-Federal Sources</strong></td>
<td><strong>$12,072,778</strong></td>
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</table>

**TOTAL FUNDING**

$57,225,982

**Historical Financial Data Points by Fiscal Year (July 1 – June 30):**

<table>
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<th></th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
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<th>FY12</th>
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<tr>
<td>Expenses</td>
<td>$54.8M</td>
<td>$43.0M</td>
<td>$43.0M</td>
<td>$37.9M</td>
<td>$44.9M</td>
<td>$67.4M</td>
<td>$73.3M</td>
<td>$66.2M</td>
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<tr>
<td>Awards</td>
<td>$49.5M</td>
<td>$42.9M</td>
<td>$48.6M</td>
<td>$40.2M</td>
<td>$66.9M</td>
<td>$100.4M</td>
<td>$55.3M</td>
<td>$48.9M</td>
</tr>
</tbody>
</table>
Daniel N. Baker, Director
LASP Scientists

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

Research Associates:
Nicole Albers
Laila Anderssen
Amir Caspi

Timothy A. Cassidy
Andrew Collette
Peter Delamere
Scot Elkington
Francis G. Eparvier
Stefan Eriksson
John Gosling
Cesare Grava
Jerald W. Harder
Lynn Harvey
Noel Hinners
Greg Holsclaw
Andrew Jones
Lars Kalnajs
Michael King
Greg Kopp

George M. Lawrence (Ret.)
William E. McClintock
Tom McCollom
Kevin McGouldrick

David Malaspina
Aimee Merkel
Anna Mocke
Mikki M. Osterloo
William Peterson
Manny Presicci
Erik C. Richard
Stuart Robbins
Gary J. Rottman (Ret.)
David W. Rusch (Ret.)
Sebastian Schmidt
Jamison Smith
Martin Snow
Miodrag Sremcevic
A. Ian F. Stewart
Glen R. Stewart
Gary E. Thomas (Ret.)
Feng Tian
Weichao Tu
Xu Wang
Robert J. Wilson
Thomas N. Woods

Visiting Scholars

Joseph Ajello, Jet Propulsion Laboratory, Pasadena, CA
Mats Andre, Swedish Institute of Space Physics
Jorn Helbert, German Aerospace Center, Institute of Planetary Research, Berlin, Germany
Antal Juhasz, KFKI Research Institute for Particle and Nuclear Physics, Budapest, Hungary
Robert McPherron, UCLA, IGPP, Los Angeles, CA
Eric Quemerias, L’Atmos/CNRS, France
Wayne Pryor, Central Arizona Coolidge, Coolidge, AZ
Theodore E. Sarris, Demokritos University of Thrace
Chao Shen, National Space Science Center, Chinese Academy of Sciences, Beijing, China
Peter Strub, Max-Planck Institut fur Sonnensystemforschung, Katlenberg-Lindau, Germany
Engineering/Missions Ops/Program Support/Science

**Engineering**
Gregg Allison
Christine Andrews
Michael D. Anfinson
Judy Antman (Ret.)
Rory St. John Barrett
Susan Batiste
Wayne Baumann
Douglas Bausch
Helmut P. Bay (Ret.)
Ryan Behner
Christopher Belting
Jeffrey Blunk
Bryce Bolton
Mary Bolton
Brian D. Boyle
Shelley Bramer
Catherine Brant
David Braun
Nathaniel Brennan
Vanessa Briggs
Jeff Brown
Patrick Brown
Chelsey Bryant
Heather Buck
Linda Buckhannon
Zachary G. Castleman
Elizabeth Cervelli
Jose Chavez
Wesley Cole
David Crotser
Jacob Costner
David Dewoina
Thomas Dixon
Sharon Dooley
Virginia Drake
Mark Droblek
Charles Dumont
Gary Eldridge
Jenni Elke
Darren Erickson
Donald Farneth
Jason Farren
Tim Flaherty
Nicolas Ferrington
Bryan French
David Gathright
David Gerhardt
Alan Goodrich
Scott Gurst
David Hall
Ward Handley
Douglas Hansen
David Harber
Cindy Hendrickson
Kelly Hepburn
James Herring
Karl Heuerman
Carl Himpsel
Patricia Soto Hoffman
Alan Hoskins
Vaughn Hoxie
Marston R. Jacobson
David James
James Johnson (Ret.)
Mark Jones
Magnus Karlsson
Joshua Kern
Mark Kien
Matthew King
Camden Kittredge
Michael Klapetzky
Scott Knappmiller
Edith Knehans
Richard Kohnert
Kraig Koski
Bret Lamprecht
Mark R. Lankton
Ryan Lewis
Michael McGrath
James Mack
Karen Mackison
Jennifer Methlie
David Meyer
Edward Mores
Brooklyn Motz
Brenton Motz
Aref Nammar
Gregory Newcomb
David Normen
Glen Otzinger
Heather Passe
Norman C. Perish
Dan Prichard
Brian Pyke
Thomas Reese
Dwight Reinhardt
Mary Rider
Carol Jean Rigelsky
Timothy Ross
Timothy Ruske
Joel Rutkowski
Durbin Seidel
William Sharp
Patti Sicken
Alan Sims
Paul Smith
Thomas Sparn
Stephen Steg
David Street
Kathleen Summers
Trenton Taylor
Jon Theide
Edward M. Thiemann
William Thompson
Wayne Tighe
Katherine Trimble
Matt Triplett
Kathy Troxel
Valerie Trujillo
Scott A. Tucker
Gregory Ucker
Robert Valentine
William Vermeer
Tracy Vincent
Stacy Wade
Pamela J. Wagner
James Wallace
Dale Ward
James Westfall
Neil White
Derrick Williams
Heather Reed Withnell
Peter Withnell
Ray Wrigley
Ed Wullschleger
Alan Yehle
Kenny J.S. Yoo
Jason Young
Jennifer Young
Stephen Ziegler
Mission Ops/Data Systems
William Barrett
Jason Beech
Stephane Beland
Michelle Bourgeois
Karen Beth Bryant
Michael Bryant
Steve Carson
James Craft
Jason M. Dahl
Justin Deighan
Mat Deneen
Alexandra DeWolfe
Michael Dorey
Thomas Eden
Donna Elsborg
Jack Faber
Sasha Forsyth
Samuel Gagnard
Ken Griest
Jason Gurgel
Edward Hartnett
Amanda Heaton
Christian Jeppeson
Alain J. Jouchoux
David E. Judd
Michelle Kelley
Barry Knapp
Laura Kohnert
Kim Kokkonen
Jay Kominek
Kristopher Larsen
Douglas M. Lindholm
Debra McCabe
Jerel Moffatt
Steve P. Monk
Steven Mueller
Michael Packard
Chris Pankratz
Russell Panneton
Thomas L. Patton
Bill Possel
Tyler Redick
Lee Reedy
Jennifer Reiter
Randy Reukauf
Pat Ringrose
Stephen Roughton
Sean Ryan
Crystal Salcido
Karen Simmons
Patrick Smith
Robert Stimpfling
Gail Tate
Brian Templeman
Dale Theiling
Blake Vanier
Douglas Vincent
Anne Wilson
Robert John Wilson
Donald Woodraska
Jonnie Lynn Yaptengco

Administration
Cristina Barcilon
Robert P. Biro
Nina Davis
Paul deFalco
Michael Dillon
Barbara DiPasquale
Melissa Dozier
Zachary Eaton
Steve Ericksen
Brian Evans
Jason Feickert
Christin Gearhart
Alex Green
Don Gritzmacher
Matthew Groeninger
Carol Guy
Barbara Hahn
Molly Hand
Caroline Himes
Rose A. Hoag
Bonnie W. Hotard (Ret.)
Gayle Jones
Brad Keiser
Mazn Kuldinow
Jason LaClair
David Laumbach
Lindsay McCandless
Beth McGilvrar
Andrew May
Debra Nastaj
John M. Padgett
Katherine Piliewski
Radu Popescu
Gary Rashkov
Lonnie Riesberg
Susan Rogers
Susan Sand
Gary Schut
Dona Smith
Doug Smith
John D. Smith
Lisa Sparhawk
Jerry Spivey
Karen Springfield
Peter Wise
Aaron Zimmerlin

Science
Ann Alfaro (Ret.)
Laura Bloom
Ransom Christofferson
Kathleen Cirbo
Stephanie Renfrow Collins
Frank Crary
Ian Dahlke
Shannon Dickson
Vincent Dols
Keith Drake
Vanessa George
Cheryl Haugen
Peng Hong
Marisa Lubeck
Thomas Mason
Stuart Robbins
Erin Wood
Collaborators

Erika Barth
Timothy Berman
Felix Bidner
Peter Delamere
Elizabeth DeVito
Joseph S. Evans
Christopher Grasso
Monica Hoke
Kevin Langone
Jeremy McCaslin
Lansing Madry
Michael Mellon
David Normen
Courtney Peck
Dale Phelps
Cortlandt Pierpont
Alicia Ray
Yolanda Roberts
Bryan Staley
Kenneth Stevens
Casey Swilley
Susan Tazelaar
Heather Walsh
Paul Weidmann
Zachary Wilson

2012 Retirees

Anfinson, Michael
Gunderson, Roger
Jones, Lou
Lankton, Mark
Westfall, James

2012 Ph.D. Graduates

Benze, Susanne, Atmospheric and Oceanic Sciences
May 11, 2012
“Spectral cloud transmittance used to study cloud properties and aerosol cloud interactions”
Thesis Advisor: Cora E. Randall

Dove, Adrienne R., Astrophysical and Planetary Sciences
May 11, 2012
“Experimental investigations of the lunar photoelectron environment and related dust dynamics”
Thesis Advisor: Mihály Horányi

Hock, Rachel, Astrophysics and Planetary Sciences
May 11, 2012
“The role of solar flares in the variability of the extreme ultraviolet solar spectral irradiance”
Thesis Advisor: Francis G. Eparvier
McBride, Patrick J., Atmospheric and Oceanic Sciences
December 21, 2012
“Cloud shortwave spectral transmittance: Applications in remote sensing and aerosol-cloud interactions”
Thesis Advisor: Peter Pilewskie

Meinke, Bonnie, Astrophysical and Planetary Sciences
May 11, 2012
“Observations and models of accretion in Saturn’s F-Ring”
Thesis Advisor: Larry Esposito

Su, Lin, Atmospheric and Oceanic Sciences
May 11, 2012
“Dust aerosols investigated using an integrated microphysical climate radiation model”
Thesis Advisor: Owen B. Toon

Tao, Jianbao, Astrophysical and Planetary Sciences
May 11, 2012
“THEMIS observations of electron phase-space holes, the lunar wake, and turbulence”
Thesis Advisor: Robert Ergun

Graduate Students

Ian Aber
Ashar Ali
William Ames
Edward M. Barratt
Suzanne Benze
Lauren Weber Blum
Matthew Carton
Michael Chaffin
Robert Citron
Mariel Desroche
Kevin J. Dinkel
Adrienne Dove
Justin Anthony Edrington
Weston Evans Edwards
Tina (Tianyi) Fan
Jason Farmer
Andrew Foster
Christopher M. Fowler
Jeffrey France
Katherine A. Goodrich
Victoria Hartwick
Porter Haskins
Rachel Hock
Rachel Humphrey
William Ralph Irelan
Steven James Kapturowski
Andrew C. Kren
Samantha Liner
Jesse Lord
Anna Luebke
Patrick McBride
Prasanna Madhusudhanan
Christopher Maloney
Emma Marcucci
John Martin
James Paul Mason
Bonnie Meinke
Colin A. Miller
Karan Molaverdikhani
Joshua J. Murphy
Leela E. O’Brien
Ethan D. Peck
Gang Kai Poh
Anthony P. Rasca
Morgan E. Rehnberg
Yolanda Roberts
Quintin Schiller
Donald Schmit
Anthony Shu
Marek Slipski
John Edward Stawarz
David Stokowski
Andrew P. Sturner
Lin Su
Jamey Robert Szalay
Jianbao Tao
Richard Urata
Donald A. Warbritton
Brandon Werdel
Donovan Wheeler
Yunqian Zhu

Dylan Whitman
Eric Wolf
Jianfeng Xie
Pengfei Yu

Undergraduate Students

Ramsey M. Abdulhamid
Nicholas Aberle
Joel Albin
Graham Annett
Trevor Aparicio
Kirsten Baker
Tierney Bamrick
Steven M. Baxley
Nicholas R. Beaty
Gabriel Bershenyi
Nikki Dyan Bloch
Marc Bode
Michael F. Bonnici
David Matthew Borncamp
Nicholas J.W. Boschert
Karalee Brugman
Emma C. Bunnell
Damien E. Burks
Joseph Christopher Burns
Spenser James Burrows
Samuel T. Califf
Michael T. Carl
Lane Caudill
Matthew L. Cirbo
Max Clark-Rabinowitz
Mark R. Coffman
Rachel Anne Collins
Dinesh Das Costlow
Michael B. Cox
Akazia D. Cruz
Raymond Dao
Samuel N. Denny
Elizabeth A. DeVito
Nicholas DiOrio
Zachary J. Dischner

Adrienne Dove
Melanie Dubin
David Dyer
Justin Edrington
Logan T. Finch
Katie M. Fitzgerald
Christopher Fleming
Kathleen M. Fletcher
Tyler R. Fox
Andrew H. Fruge
Andrew J. Gemer
Erin George
Jenna E. Goldberg
Erin Griggs
Katie M. Hartman
Andrew S. Haynes
Joshua Hecht
Rebecca L. Henderson
Aaron Henry
Mark Hoag
Joao G. M. Hooks
Balazs A. Horanyi
Emily Howard
Calvin T. Howes
Christopher P. Hughes
Rachel Humphrey
Michael D. Hutchinson
Peter D. Jasch
Michael G. Johnson
Erik Kahn
Alexandra M. Kaufhold
Quinn M. Kostelecky
Elise Ellen Kowalski
Margaux M. Krahe
John A. Kreisher

Jean-Francois Lalonde
Dane T. Larsen
Anissa Lassek
Alexander Lieber
Huy Le
Samuel LeBlanc
Jenae Lestishen
Jeramy D. Lewis
Keita Linden
Austin N. Longo
Michael V. LoNigro
Joshua D. Lothringer
Steven James MacCoun
Katelynn McCalmont
Sean X. McGill
Nancy L. McKendry
William T. McNeill
Walter Mahfuz
Jonathan Steven Mandel
Lance Markovchick
Sean Metzger
Clifford Min
Jocelyn B. Mulkey
Casey L. Myers
Kareem Nammari
James Neeley
Danielle L. Nuding
Sean Ray Ortiz
Morgan Dene Osborne
Adil Oubou
Kiran Pachhai
Joseph T. Papa
Kaitlyn A. Parsons
Badrinarayan Parthasarthy
Bryce A. Peters
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

**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

**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

**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 magne-
totail 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 unmagnetized 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

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 magnetohydrodynamic/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 wins 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. Electrodynamic 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
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<20pc) 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.
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.
toon@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 Observing 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)

American Association for the Advancement of Science (AAAS)
Baker, Daniel (Fellow)

American Astronomical Society
Bagenal, Frances (Chair, Heinemann Prize committee)
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)
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)
Ericksson, Stefan (Meeting Session Chair, AGU Fall meeting)
Esposito, Larry (Session Organizer, AGU Fall meeting, Planetary Rings)
Horanyi, Mihaly (Session organizer on “Lunar Plasma Science” 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)
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 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: 2012 Boulder Solar Day)

CLUSTER Science Working Team
Baker, Daniel (Member)

Committee on Space Research (COSPAR)
Baker, Daniel (Member, Commission D)
Esposito, Larry (Main Scientific Organizer, COSPAR 37 (Planetary Atmospheres)
Randall, Cora (Co-Convenor; Scientific Assembly session, Mysore, India, 2012)

Dust, Atmosphere, and Plasma: The Moon and Small Bodies
Horanyi, Mihaly (Organizer of 2012 meeting)

Editor or Editorial Board Member
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)
Horanyi, Mihaly (Editor, special issue “Dust, ATMOSPHERE, and Plasma: The Moon and Small Bodies”, to be published in 2013)
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
Collette, Andrew (Assisted with International Observe the Moon Night activities conducted by CCLDAS personnel at the 29th Street mall)
Collette, Andrew (Assisted 4 high school students to construct the Mini Plasma Discharge Machine (MPDM))
Eriksson, Stefan (Presentation to Fireside Elementary School kindergartners on the Sun and magnetic fields)
Merkel, Aimee (Volunteer at Niwot Elementary School)
Richard, Erik (Presented guest lecture on “Space Science and Space Instruments” Westview STEM School, Longmont, CO, Nov 2012)

European Fleet for Airborne Research (EUFAR)
Pilewskie, Peter (Member)

Faculty Awards
Baker, Daniel (Van Allen Lectureship, American Geophysical Union)
Baker, Daniel (2012 Popular Writing Award and Prize, American Astronomical Society)
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

High Energy Particle Precipitation in the Atmosphere (HEPPA)
Harvey, Lynn (Co-organizer of the 2012 HEPPA meeting, Oct. 2012)
Randall, Cora (Chair, Science and local organizing committee for 4th annual HEPPA and SPARC/SOLARIS meeting)

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 Astronomical Union (IAU)
Gosling, J.T. (Member, Scientific Organizing Committee for 2012 Symposium on 3-D views of the Cycling Sun in stellar context)

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)
Himes, Caroline
Jakosky, Bruce
McGrath, Mike
Possel, Bill
Woods, Tom

Computer Systems Advisory Committee (CSAC)
Elkington, Scot (Chair)
Kopp, Greg (Chair Emeritus)
Eriksson, Stefan (Space Phys.)
Xiachua Fang (Atmospheric)
Groeninger, Matt (IT)
Jones, Andrew (Solar)
Lewis, Ryan (Engineering)
Osborne, Darren (MO&DS)
Pankratz, Chris (Data Proc.)
Joe Ramas (Engineering/Cal)
Dona Smith (IT)
Doug Smith (IT)
Jerry Spivey (IT)
David Summers (Engineering)
Glen Stewart (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
Caroline Himes, Executive Rep.
Bruce Jakosky, Business Rep.

**Executive Associate Director**
Himes, Caroline

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

**Extreme Ultraviolet Variability Experiment (EVE)**
Eparvier, Frank (Science Organizing Committee for 2012 Yosemite Meeting)

**Friends of Magnetospheres (FOM) Seminar Series**
Erikssen, Stefan (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/GSFC Sun-Climate Research Center Seminar Workshop**
Richard, Erik (Co-Organizer of 2012 Workshop)

**LASP Seminar Series**
Schmidt, Konrad (Co-organizer)

**LASP Tablet Users Group**
Beech, Jason
Brown, Pat
Evans, Brian
Gathright, David
Himes, Caroline
Jones, Andrew
Lewis, Ryan
Mack, James
Wilson, Rob
Yehle, Alan

**Planetary Journal Club**
Albers, Nicole (Organizer)
Proposal Development Committee (PDC)
Woods, Tom (Chair)
Sparn, Tom (Co-chair)
Avallone, Linnea
Baker, Dan
Caspi, Amir
DeNeen, Matt
Drake, Ginger
Ergun, Robert
George, Vanessa  (PDC support0
Himes, Caroline
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
Sparn, 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)

**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)
Eparvier, Franck (Member LWS TR&T Steering Committee)
Horanyi, Mihaly (Member, NASA Planetary Data System Small Bodies Node Advisory Board)
Horanyi, Mihaly (Member, NASA Planetary Sciences Subcommittee, 2012)
Jakosky, Bruce (Member, NASA Mars Exploration Program Analysis Group (MEPAG))
Kopp, Greg (Member, Science Definition Team for Decadal Survey Mission)
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)
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**
Avalone, Linnea (Reviewer of manuscripts for AGU)
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 Atmospheric Measurement Techniques and Atmospheric Chemistry and Physics)
Collette, Andrew (Reviewer of manuscript for IEEE Transactions on Plasma Science)
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 Solar Physics)
Ericksson, Stefan (Reviewer of manuscripts for J. Geophysical Res. And Geophys. Res. Lett.)
Esposito, Larry (Reviewer of proposals for NASA and NSF)
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)
Holtsclaw, Greg (Reviewer of proposal for NASA)
Horanyi, Mihaly (Reviewer of proposals for NSF, DOE, and NASA)
Kalnajs, Lars (Reviewer of manuscripts for Geophys. Res. Lett.)
Kalnajs, Lars (Reviewer of proposals for NERC)
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)
Malaspina, D.N. (Reviewer of manuscripts for Geophysical Res. Letters, Physics of Plasmas, and Journal of Geophysical Research)
McClintock, William (Reviewer of manuscripts for Icarus and Jour. Geophys. Res.)
McCollom, 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 Advances in Space Research)
Merkel, Aimee (Reviewer of Proposals for NASA and NSF)
Pilewskie, Peter (Panel Reviewer, NASA New Investigator Program)
Pilewskie, Peter (Reviewer of manuscripts for J. Atmospheric Chemistry and Physics and Surveys in Geophysics)
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)
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 Science and Nature)
Toon, Owen B. (Reviewer of proposals for NASA and NSF)
Wang, X. (Reviewer of manuscripts for PSS, Icarus and IEEC)
Wilson, Robert J. (Reviewer of manuscripts for Planetary and Space Science)

**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**
Collette, Andrew
Elkington, Scot
Eparvier, Frank  
Harder, Jerry  
Harvey, V. Lynn  
Kalnajs, Lars  
Kindel, Bruce  
Kopp, Greg  
Li, Xinlin  
Malaspina, David  
Merkel, Aimee  
Osterloo, Mikki  
Peterson, W.K.  
Robbins, Stuart  
Schmidt, K. Sebastian  
Snow, Martin  
Wang, X.

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)  
Horanyi, Mihaly (Physics advising)

Arts and Sciences Support for Education Through Technology (ASSETT)  
Avallone, Linnea (Member, ASSETT Advisory Committee)

Astrophysics and Planetary Sciences (APS)  
Bagenal, Frances (Member, Faculty Search Committee)  
Bagenal, Frances (Co-chair of Colloquium Committee)  
Baker, Daniel (Member, Graduate Admissions Committee)  
Brain, David (Member, Graduate Admissions Committee)  
Brain, David (Co-organizer, APS Departmental Colloquium, Fall 2012)  
Brain, David (Organizer of graduate student recruitment sessions for LASP)  
Ergun, Robert (Member, Graduate Admissions Committee)  
Ergun, Robert (Member, Course Fees 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)
Avalone, Linnea (Chair, ATOC graduate admissions committee)
Coddington, Odelle (Post 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)
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)

Budget and Planning Committee
Himes, Caroline, (Member)

Chancellor’s Federal Relations Advisory Committee (FRAC)
Baker, Daniel (Member)

College of Arts and Science
Avalone, 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)

**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)**
Horanyi, Mihaly

**Member of a Dissertation/Thesis Committee**
Avallone, Linnea
Bagenal, Frances
Baker, Daniel
Brain, David
Coddington, Odelle
Elkington, Scot
Ergun, Robert
Fang, Xiaohua
Gosling, John
Harvey, V. Lynn
Horanyi, Mihaly
Hynek, Brian
Jakosky, Bruce
Kalnajs, Lars
Kempf, Sasha
King, Michael
Li, Xinlin
McCollom, Thomas M.
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
Brain, David
Caspi, Amir
Fang, Xiaohua
Horanyi, 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.
Horanyi, Mihaly
Hynek, Brian
Jakosky, Bruce
King, Michael
Kopp, Greg
Li, Xinlin
Pilewskie, Peter
Randall, Cora
Rast, Mark
Schneider, Nicholas
Sternovsky, Zoltan
Toon, Owen B.

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
Kopp, Greg
McClintock, William E.
Malaspina, David
Merkel, Aimee
Randall, Cora
Rast, Mark
Schmidt, Konrad
Schneider, Nicholas
Snow, Martin
Sternovsky, Zoltan

**Sungrazing Comets Working Group**
Snow, Martin (Member)

**Supervisor of Postdoctoral Researchers**
Avallone, Linnea
Bagenal, Frances
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)

**Whole Heliospheric Interval Science Team**
Snow, Martin (Member)

**Workshop on Radiation Belts**
Baker, Daniel (Organizing Committee)

**FACULTY HONORS/AWARDS**
Avallone, Linnea (NASA Group Achievement Award for the Midlatitude Airborne Cirrus Property Experiment (MACPEX))
Hynek, Brian (NASA Early Career Fellowship 5/2012-4/2015)
Jones, Andrew (NASA Solar Dynamics Observatory group achievement)
Pilewskie, Peter (Elected Secretary of the International Radiation Commission)
Randall, Cora (Elected Fellow, American Geophysical Union)
Randall, Cora (AGU Editor’s Highlight for Baumgarten, G., et al., (2012))
**Courses Taught by LASP Faculty**

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Colloquia and Informal Talks
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Andre, Mats, Swedish Institute of Space Physics, Low-energy ions: More common than we thought around Earth and Mars
Bagenal, Fran, CU/LASP, The Juno Mission to Jupiter: What's inside the giant planet?
Bagenal, Fran, CU/LASP, Voyager: 35 years of exploring the Solar System
Baker, Daniel, CU/LASP, Third Joint Cluster/ THEMIS Workshop
Borovsky, Joe, SSI, The effect of sudden wind shear on the Earth’s magnetosphere
Calle, Carlos, NASA, Technologies for dusty planetary environments
Chien, Steve, JPL, Timeline-based automation mission planning for spacecraft operations
Chin, Karen, CU, Fossil burrow evidence for early animal activity in terrestrial environments shortly after the Cretaceous-Paleocene extinction event
Collette, Andrew, CU/LASP, Time-resolved temperature measurements in Hypervelocity dust impact
Crary, Frank, CU/LASP, Charging of dust in the Enceladus plume: Limits on free electron depletion
Crary, Frank, SwRI, Measuring Plasmas
DeForest, Craig, SwRI, Imaging in the solar wind
Delamere, Peter, Delamere Space Sciences, The impact of human exploration on space science
Eriksson, Stefan, CU/LASP, Magnetic reconnection: Ionospheric consequences and in-situ observations compared with simulations
Gannon, Jenn, USGS, Using frequency domain techniques in real-time space weather applications
Goldstein, David, Univ. of Texas at Austin, Simulating atmospheric dynamics, aurora, and volcanic plumes on Io
Gosling, John, CU/LASP, The solar wind and heliosphere
Gray, Candace, New Mexico State University, The Bastille Day II Solar storm event and its impact on the Venesian nightglow.
Grinspoon, David, Denver Museum of Nature and Science, Titan
Harvey, Lynn, CU/LASP, From surface cold-air outbreaks to polar mesospheric clouds: Observing and modeling the Earth’s atmosphere
Hermalyn, Brendan, Brown University, Ejecta evolution and dynamics from Hypervelocity impacts; Time-resolved experimental studies and applications to planetary cratering
Hock, Rachel, CU/LASP, Modeling the effect of solar fares on the variability of the extreme ultraviolet solar spectral irradiance
Horanyi, Mihaly, CU/LASP, The Student Dust Counter onboard the New Horizons mission to Pluto...and beyond!
Jacobson, Seth, CU/LASP, Forming the Moon: New ideas
Kahn, Ralph, NASA/GSFC, Progress toward a global, EOS-era aerosol air mass type climatology
Kopp, Greg, CU/LASP, Solar probe plus and the solar wind: The first mission to our nearest Star
Malaspina, David, CU/LASP, Electric field measurement in space plasmas: There and back again
Malaspina, David, CU/LASP, Solar Probe and the Solar Wind; The first mission to our nearest star
Malaspina, David, CU/LASP, Solar Probe plus, FIELDS science and measurement challenges
Maslov, Lev, Ames Community College, Long-term variations of tidal force, tide-generated stresses and deformation, and their geodynamic implications
McGouldrick, Kevin, CU/LASP, Re-analysis of up to 15 years of Pioneer Venus UVS data
McGouldrick, Kevin, CU/LASP, Transits and observations of Venus
McNutt, Ralph, Johns Hopkins, What is the PU 238 supply issue and why should you care?
McPherron, Robert, UCLA/IGPP, Unsolved issues of magnetospheric activity
Mitchell, Tyler, CU/LASP, A hot gap around Jupiter’s orbit in the solar nebula
Mocker, Anna, CU/LASP, Methods for the investigation of hypervelocity impacts of micrometer and sub-micrometer sized particles
Morley, Caroline, UC Santa Cruz, Neglected clouds in cool brown dwarfs and exoplanets
Nakamura, Takuma, LANL, Kinetic aspects of the vortex-induced reconnection in collisionless plasmas: 2D PIC simulations
Nemergut, Diana, CU, Environmental and historical filters and bacterial community assembly
Pesnell, W. Dean, NASA/GSFC), The Solar Dynamics Observatory: 60 million images of the Sun and 1 Comet
Petrov, Oleg F., Joint Inst. For High Temperatures RAS, Moscow, Russia, Collective phenomena in strongly coupled dissipative systems of charged dust: From ground to microgravity experiments
Porco, Carolyn, Space Science Institute, Enceladus; A small moon with a big tale
Rast, Mark, CU/LASP, All mixed up: Turbulence at the heart of nature
Ray, Licia, Imperial College, London, Field aligned currents in Saturn’s middle magnetosphere
Reitsema, Harold, B612 Foundation, The Sentinel Mission: Mapping the locations and trajectories of Earth-crossing asteroids
Renfrow, Stephanie, CU/LASP, What’s New? An update on education and outreach at LASP
Sarris, Theodore, Demokritus University, Greece, Investigating the mode structure of ULF waves in space and on the ground
Schiller, Quintin, CU/LASP, Applying a Kalman filter to outer radiation belt electrons
Taylor, Larry, U. of Tennessee, Evolving views of regoliths on airless planetary bodies: The Moon as a paradigm
Walsh, Kevin, SwRI, The Grand Tack: Jupiter’s migration to 1.5 AU, and how it shaped the inner solar system
Wilder, Rick, CU/LASP, The non-linear response of the polar cap potential – New questions
Woods, Thomas, CU/LASP, *SORCE Top Ten Accomplishments*

Zaslavsky, Arnaud, LESIA, *Interplanetary dust measured by stereo/waves: Measurement methods and results on the 2007-2011 period*

Zhao, Hong, CU/LASP, *Inward shift of outer Radiation Belt electrons as a function of Dst Index and the influence of the solar wind on electron injections into the Slot Region*

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quium, Seattle, 27 November 2012.


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Baker, D                   Relativistic Electron-proton Telescope (REPT) Instrument on the
                           “Radiation Belt Storm Probes (RBSP) - Energetic Particle,
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