

KU DEPARTMENT OF PHYSICS & ASTRONOMY

College of Liberal Arts
& Sciences

SUMMER 2013

A NEWSLETTER FOR FRIENDS & ALUMNI OF PHYSICS & ASTRONOMY



*Understanding
Nature
Starts Here*



ALUMNI
ASSOCIATION
The University of Kansas



A Change of Administration

After completing two terms and ten years as the Chair of the Department, Prof. Steve Sanders is returning to full-time duties within the nuclear physics group. His successor as of July 1 is Professor Hume Feldman, whose research has focused on Cosmology and large-scale structure of the Universe.



REUNION 2013 – CMP/NANO/SSP: CANCELLED

The CMP/Nano/Solid State Physics alumni reunion planned for Sept. 26/27, 2013 has been cancelled. We apologize for any inconvenience caused by the change in plans.

GRADUATION 2013

The Department had a bumper crop of graduate and undergraduate degrees this year. As announced at the Departmental banquet in May, during Fall-2012 and Spring-2013, the following students completed:

Graduate Degrees

MS Degree in Physics (Advisor):

Wade Rush (Jack Shi), **Jeff Brown** (Phil Baringer), **Alex Ford** (Misha Medvedev), **Brett Keenan** (Misha Medvedev), **Gopolang Mohlabeng** (John Ralston), **Matt Russell** (Greg Rudnick), and **Jin Xu** (Jack Shi)

PhD in Physics (Advisor):

Nataly Ozak Munoz (Tom Cravens), **Sriharsha Pothapragada** (Misha Medvedev), **Caitlin Rochford** (Judy Wu), **Victoria Zhukova** (Steve Sanders), **Shankar Agarwal** (Hume Feldman), **Guo Chen** (Graham Wilson), **Nathan Maddox** (John Ralston), **Drew Overholt** (Adrian Melott), **Matt Richard** (Tom Cravens), **Jennifer Sibille** (Alice Bean), **Jeff Wood** (Steve Sanders)

Students receiving HONORS designation for their theses:

Gopolang Mohlabeng, Shankar Agarwal, Drew Overholt, Caitlin Rochford, Guowei Xu

Undergraduate Degrees

BS Degree in Engineering Physics:

Abhishek Chakrabarti, **Michael J. Claman**, **Hanna E. Cosgrove**, **Matthew D. Crawford**, **Benjamin D. Hofmeier**, **Matthew G. Vestal**

BA Degree in Astronomy:

Daniel R. Webb

BS Degree in Astronomy:

Jeremy H. Ims, **Arlo Osler**, **Evan A. Rich**, **Erin E. Schultz**

BA Degree in Physics:

Daniel R. Webb, **Emily Young**



BS Degree in Physics:

Neal Doolin, Paul D. Harrison, Jeremy H. Ims, Arlo Osler, Evan A. Rich, Erin E. Schultz, Matthew K. Sullivan, Zhoudunming "Kong" Tu, Benjamin C. Vail

Students completing a minor were:

Michael Albert - Astronomy, Kyle Nealon - Physics, Joseph Sandt - Physics, Stoney J. Weaver - Astronomy.

DEPARTMENT ENDOWED FUNDS

The extensive list of departmental degree recipients for the past year and the achievements of our faculty and students, as detailed below, are reflections of the talent, hard work and exceptional motivation that have become the norm for the Department. Equally important is the financial support for students and faculty for both research and teaching generated by the endowed funds available to the Department through KUEA. State funds now cover 22% of the university budget, less than half of the rate from only 30 years ago.

The new, university-based undergraduate scholarship policy has been beneficial to the Department given the above-average qualifications of the students self-selected as majors within Physics, Astronomy, and Engineering Physics. We have added a new undergraduate scholarship, the **Talty Scholarship**, within the last year and are also working on a potential endowment for undergraduate scholarships which would represent the largest single donation ever made to an endowed fund for the Department (check this space in the next issue for more details.) For these reasons, as well as the ongoing ripple effects of the sequester and budgetary issues at the federal level, the primary focus of our fundraising efforts is shifting to **scholarship support for our graduate students, research support for students at all levels, and research infrastructure requirements for Departmental labs and facilities**. Your help in achieving these goals while expanding the list of Department alumni and their achievements cannot be overstated. We hope that in 2013/14 you will add your name to the extensive list of those who wish to make a difference in our future.

Links to Individual Endowed Funds may be accessed by clicking on the images at left - from top to bottom:

- Department Development Fund
- Lowry Graduate Fund
- Redeker Graduate Fellowship
- MLO Telescope Partnership
- Zeller Instrumentation Fund

The **Honor Roll of Donors** to departmental endowed funds between **January 1, 2012** and **December 31, 2012**

is presented below.

Thank You!

> \$1000

Michael Allen	Alice L. Bean, PhD
Gisela M. Dreschhoff, PhD	LCDR Laurence A. Eichel and Kathleen L. Hardesty
Paul M. Ferguson	The Dana and Stephen Hansel Family Foundation, Inc
COL Brenda S. Johnson and LTC Lindley N. Johnson	Carleton J. Lindgren, PhD
Jack W. Lowry and Catherine G. Lowry	Colleen M. McKee and James G. McKee
Bruce H. McKeithan and Freda McKeithan	James A. Pintar, PhD
Stephen J. Sanders, PhD	Robert D. Talty, PhD & Dorothy W. Talty
Bruce A. Twarog, PhD and Barbara Anthony-Twarog, PhD	

\$500 - \$999

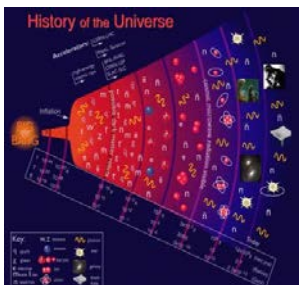
Robert C. Bearse, PhD and Margaret M. Bearse	Donald A. Close, PhD
Timothy A. Duman, PhD & Michelle Leonard Duman	Daniel C. Nunes, PhD
Christine A. Fidler & Joseph C. Shields, PhD	Raymond J. Shu
Edward J. McFarlane & Josephine A. Stiles, PhD	Steven E. Sommars
Michael C. Rasmussen & Janet Renko Rasmussen	



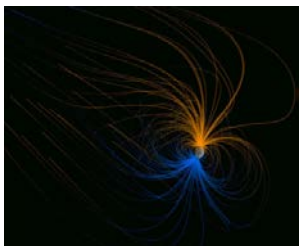
FUND LINKS

FAR ABOVE

The Campaign for Kansas

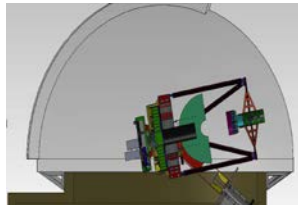


Development



Lowry Graduate





[MLO Telescope](#)



[Zeller Instrumentation](#)



\$250 - \$499

Tareq Alrefae, PhD
Donald J. Perkey, PhD and M. Nadine Perkey
Chi Kin Lam, PhD
Ina Piket Robertson, PhD and Steven M. Robertson
Warren K. Legler, PhD
M. Diane Querry

\$100 - \$249

Steven L. Ball, PhD
Thomas J. Chester
Dean W. Halderson, PhD and Cynthia Williams Halderson
Jack G. Hills, PhD
Phillip A. Hornung, PhD
Richard G. Leamon & Yvonne M. Lazear
James W. Liebert, PhD
James D. Patterson, PhD
Jane Dion Preston and Daryl W. Preston, PhD
Ronald L. Snell
Donald G. Shirk, PhD & Melanie V. Shirk, PhD
James G. Berryman, PhD
Lindsay Mayer Clark
Gerald E. Holmberg, PhD and Dr. Margaret Cooper Holmberg
Dr. Richard F. Hubbard
Lt Col Michael D. Brox
Charles Lee Francis Jr., PhD
George M. Henry
Ronald J. Indin
Delbert M. Jones, PhD
Linda Dae McKay & Douglas W. McKay
Dr. Gholam Ali Rezvani
Kristin Commer Simunac
Tizby C. Hunt Ward
Randall R. Zombola, PhD

< \$100

Kenneth C. Baile, PhD
Larry J. Devlin
Stephen F. Jancich Jr. & Cynthia Redden Jancich
Kurt R. Moore, PhD
David R. Renneke, PhD
Mark J. Walters
James S. Carson and Jean S. Carson
Gary E. Hanson and Kay Blauer Hanson
Ernest A. Johnston Jr.
Allison York Pierron and Daniel C. Pierron
Allen G. Taylor and Selma A. Taylor
David A. VanPelt
Jeff A. Winger, PhD

[Graduate Students Win Thesis Awards](#)



PhD recipient **Drew Overholt** (right) was selected to receive a \$250 Graduate Student Research Competition Presentation Award from the College of Graduate Studies while Master's recipient **Gopolang Mohlabeng** (left) received this year's Outstanding Research Project Award given to one student in the College for outstanding Master's research. It came with

a cash prize of \$500.

[And the Awards Keep Coming!](#) Four undergraduate majors within the Department were recipients of **Undergraduate Research Awards** for Spring 2013: **Jill Wenderott**, a Junior majoring in Physics, **Gregory Burg**, junior majoring in engineering physics, **Gregory Pach**, a junior majoring in Physics, and **Zhoudunming Tu**, a senior majoring in physics and mathematics. The full story, including their projects and mentors, can be found at [this link](#).

Physics and Astronomy undergraduate **David Gier**, a sophomore in physics and interdisciplinary computing, was selected to the 32nd University Scholars class at KU. As one of the 20 sophomores chosen for the program, David will be mentored by Rick Levy in the School of Law. The full story can be found at [this link](#).

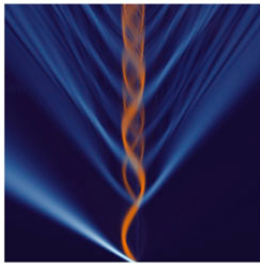


[Physics and Astronomy Undergraduate Wins at KUCTC Innovation Fair](#)

Daniel Kennedy, senior major in both Physics and Astronomy, was the only award recipient from the College of Liberal Arts and Sciences at the KUCTC Innovation Fair. Daniel won Second Place (and \$500) in the Undergraduate Division. Pictured with him is Julie Goonewardene.

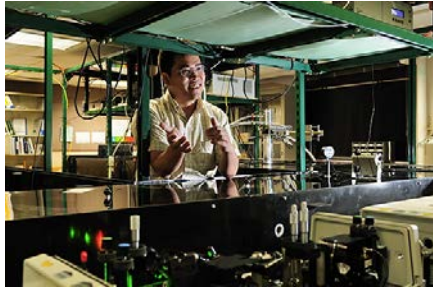


FACULTY NEWS



[Undergraduate Major Presents Research at the Capitol](#)

Zhoudunming Tu, senior from Guangzhou, China majoring in physics and mathematics, was part of a group of undergraduate students from Kansas Regent's institutions celebrating the first annual Undergraduate Research Day at the Capitol. His work on relativistic heavy ion collisions - ZDC and FSCs on Proton Lead Collision at LHC, CERN - was mentored by Prof. Michael Murray. The full story can be accessed at [this link](#).



[New technique can detect structure of promising semiconductor material MoS2](#)

Prof. Hui Zhao and his collaborators have developed a new technique to noninvasively detect the orientation of MoS2 crystals, as well as the uniformity of their thickness, how their layers are stacked and their single-crystal domain size. The detection technique, known as "second harmonic microscopy," is featured in a KU press release which can be [accessed here](#).

[Physics and Astronomy Professor Named Winner of the University Scholarly](#)



[Achievement Award](#) **Professor Mikhail Medvedev** was named one of four University of Kansas faculty members selected as winners of the **University Scholarly Achievement Award**, which recognizes mid-career scholars who have made significant scholarly or research contributions to their fields. The annual awards are presented in four fields: arts and humanities; clinical science; science, technology and mathematics; and social science and professional programs. The full story can be accessed at [this link](#).



[Chancellor Approves Promotion and Tenure for Department Faculty](#)

Congratulations to Assistant Professor **Greg Rudnick** (right) on his promotion to Associate Professor

with tenure and to Associate Professors **Danny Marfatia** (left) and **Michael Murray** (center) on their promotion to Full Professor. The full press release can be accessed at [this link](#).

[Faculty Recipients of Teaching Awards](#)



Professors **Jack Shi** (right) and **Steve Hawley** (left) were recipients of the Outstanding Graduate and Undergraduate Teaching Awards, respectively, within the Department. The awards were announced at the annual, end-of-Spring banquet on May 11.



[KU Names Winners of Leading Light Awards](#)

KU recognized some of its most productive researchers recently, conferring the Leading Light Award on 40 faculty and staff at the Lawrence campus. The 40 are principal investigators or co-principal investigators on externally funded grants of \$1 million or



Alumni News



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more awarded during the 2012 fiscal year. Included among the award winners are: Associate Professor **Danny Marfatia**, Professor Emeritus **Doug McKay**, Professor **John Ralston**, and Professor **Judy Wu**. The full story can be accessed at [this link](#).

[Department Faculty Member Honored for Undergraduate Mentoring](#)

Professor **Adrian Melott** received the **K. Barbara Schowen Undergraduate Research**



Mentor Award at the annual Undergraduate Research Symposium at the Kansas Union. The award was given for a distinguished record of undergraduate mentoring and the extraordinary success that his students have had following their undergraduate research experiences. The full press release can be accessed at [this link](#).

[KU Research Featured in AGU Press Release and Forecasting the End on the Weather Channel](#)

Research by **Prof. Adrian Melott** and collaborators in the Geophysical Research Letters explaining the 774-775 CE carbon-14 increase was a featured news item by the American Geophysical Union for the week of March 12. Additionally, several KU faculty, including Prof. Adrian Melott appeared on the episode [Gamma-ray burst](#), which is the second episode in the Weather Channel series *Forecasting the End*.



[In Memorium - Dr. Donald Leroy Foster](#) The Department was saddened to hear of the passing of Dr. Donald Leroy Foster, 77, retired Wichita State University Physics Professor, on May 5, 2013. Don was a Reed College graduate in 1957 and earned his PhD. in Physics from the University of Kansas in 1968. Don taught at WSU for 39 years, where he served as chair for a number of years. A complete obituary can be accessed at [this site](#).

To **UNSUBSCRIBE**: Please send an email to physics@ku.edu with the word **unsubscribe** in the subject line.

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