

SUMMER 2015

CHRISTOFE ROYON: FOUNDATION DISTINGUISHED PROFESSOR



Department of Physics & Astronomy

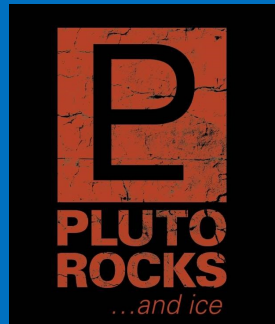


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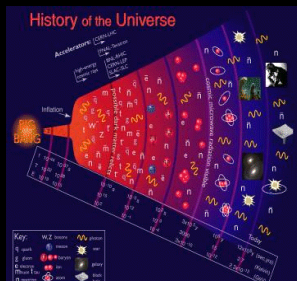
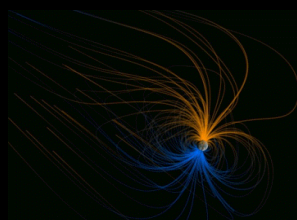
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Christophe Royon, research director at CEA-Saclay in France and a world leader in forward and diffractive physics, will join KU as a Foundation Distinguished Professor in the Department of Physics and Astronomy in January 2016. He is one of six Foundation Professors announced this year, one of 12 positions overall. Royon's research helps advance many disciplines by providing a better understanding of subatomic particles and the structure of matter throughout the universe. Harnessing the capabilities of colliders — atom-smashing devices — such as CERN's Large Hadron Collider (LHC) near Geneva, or the Tevatron at Fermilab near Chicago, Royon excels in developing techniques that assist in detection of high-speed particles traveling in myriad directions after colliding. Identifying the characteristics of these particles — such as their path, momentum, and energy — and applying that knowledge aids in the creation of a variety of instruments, and it furthers the world's understanding of events throughout the universe. The full press release can be found at [this link](#). Dr. Royon joins Dr. Judy Wu as a Distinguished Professor within Physics and Astronomy.



The biggest story in space physics this year, and possibly all of astronomy this summer, was the flyby of Pluto by the New Horizons spacecraft in July. The flyby was the culmination of a journey that covered 3 billion miles in nine and a half years, passing within 8000 miles of the surface of this distant member of the solar system. Kansas, KU, and especially the Department's connection to the story were significant thanks to Clyde Tombaugh, who discovered the dwarf planet in February 1930, prior to attending KU as an undergraduate, receiving a Bachelor of Arts degree in 1936 and a Master's in astronomy in 1939. Tombaugh's thesis focused on the 27-inch telescope which served as the central instrument of the KU observatory which later bore his name until it was shut down in 2003. Surprisingly, despite his extraordinary career in Astronomy after leaving KU and a long tenure as a faculty member at New Mexico State University, where he worked tirelessly to build the astronomy program into a major institution within the field, Clyde Tombaugh never obtained a PhD. In recognition of his contribution to the study of Pluto and the solar system, the New Horizons spacecraft carried a small container of Tombaugh's ashes; Clyde Tombaugh passed away in 1997 at the age of 90. For more on Clyde Tombaugh and Pluto, check [this link](#).

FUND LINKS**DEVELOPMENT****LOWRY GRADUATE****REDEKER****GRADUATE****ZELLER****INSTRUMENTATION****TOMBAUGH
UG RESEARCH****MOMENTUM****ENDOWMENT HONOR ROLL 2014****> \$1000**

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Dr. Stephen J. Sanders	Jeannette P. Shawl & Stephen J. Shawl	
Robert D. Talty, PhD & Dorothy W. Talty	Dr. Barbara Anthony-Twarog & Dr. Bruce Twarog	

> \$500

Tareq Alrefae, PhD	Dr. Robert C. Bearse & Margaret M. Bearse
Dr. Donald A. Close	Dr. Timothy A. Duman, & Michelle Leonard Duman
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Richard A. Moore, PhD, PE & Frances Bibens Moore	Dr. Donald J. Perkey & M. Nadine Perkey	
Dt. Warren K. Legler	Patrick L. Sterner	Michael D. Willis
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Dr. Gholam Ali Rezvani	Kristin Commer Simunac	Dr. Ronald L. Snell

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Thomas J. Chester	Larry J. Devlin	Kara King Friedman & Brian M. Friedman
George M. Henry	Ronald J. Indin	Dr. Kurt R. Moore
Dr. David R. Renneke		Roland E. Rentz & Dorothy Nitcher Rentz
Ina Piket Robertson, PhD & Steven M. Robertson		Allen G. Taylor & Selma A. Taylor
Mark J. Walters		Dr. Jeff A. Winger

DEGREE CANDIDATES: F2014/S2015**UNDERGRADUATES
ASTRONOMY**

BACHELOR OF ARTS
Landon Elliott

BACHELOR OF SCIENCE
Samantha Brunker
Daniel Kennedy
David Thomas

ENGINEERING PHYSICS		MOMENTUM
BACHELOR OF SCIENCE		
Abdullah Al Abbad Will Burg Yifeng Liu	Ian Tait	Justin Anguiano Brendan Golledge Jacob Schneider
PHYSICS		
BACHELOR OF ARTS Yuchong Zhao		
BACHELOR OF SCIENCE		
Matt Anderson Samantha Brunker Jia Fang Thomas Gatterman Alex Nolte	Bryan Updike	Chris Appier Claudiu Caraiani Alexander Galli David Hazlewood Nathan Peabody
GRADUATE DEGREES		
MASTER OF ARTS		DOCTOR OF PHILOSOPHY
Safa Alhussainalali Matt Bellus Brittany Henke David Sicilian		Allen Eastlund Alan Elliot Pat Kenny Nardeep Kumar Samridha Kunwar Danny Noonan
E.E. Slossen Award <i>For outstanding graduate teaching assistants</i>		
James Bowen	Qiannan Cui	Justin Mann
Argersinger Dissertation Award Danny Noonan		
Summer Research Fellowship Shekhar Adikari Lukas Dauterman		
Dissertation Fellowship Gopolang Mohlabeng		
UNDERGRADUATE AWARDS		
Outstanding Senior—Engineering Physics Will Burg		
Outstanding Senior—School of Engineering Daniel Kennedy		
Stranathan Award David Gier		
Storer Award Samantha Brunker		
FACULTY TEACHING AWARDS		
UNDERGRADUATE		
Barbara Anthony-Twarog		David Besson
GRADUATE		
Chris Fischer		Michael Murray



Department of Physics & Astronomy



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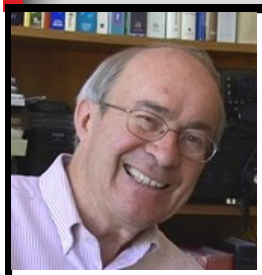
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From the Chair

While the number of articles in this issue of the newsletter is small due to our annual summary of donors and graduates, they do exhibit a general theme of the links between the past and the future. Probably the two biggest stories of the year tied to Physics and Astronomy at KU are featured on pg.1. The demotion of Pluto as a planet 9 years ago generated a wave of anger and disappointment among Kansans in and out of KU, seemingly denigrating the extraordinary achievement of a beloved figure in KU and Departmental history from over 75 years ago, Clyde Tombaugh. The spectacular success of the New Horizons mission has restored a great deal of the luster associated with Pluto and should supply an extensive scientific payback to the planetary science community for years to come. Clyde Tombaugh served as an inspiration for multiple generations of Kansans, and the Physics and Astronomy vision for the future has been greatly enhanced by the addition of Dr. Christophe Royon as a University Foundation Distinguished Professor. Only 12 of these positions were created as part of the University strategic plan and the competition among all the departments in the University was stiff. The requirement of an individual with a record equivalent to that of a member of the National Academy of Sciences made KU Physics and Astronomy a long shot for attracting suitable applicants, but the hard work of the faculty, particularly Assistant Professor Daniel Tapia Takaki, paid off. Dr. Royon will join the faculty in January 2016, along with another new addition, Assistant Professor Ian Lewis, a recent PhD in Theoretical Physics returning to his undergraduate alma mater (BS Physics 2005).

It should be noted that these two faculty additions, while filling critical departmental needs, leave the Department with the same number of faculty as in January 2015 due to the departure of two junior faculty in May 2015. Such departures are not new; the short faculty tenures of Drs. Peter Wehinger and Sue Wyckoff in the early 70's provide just two of many examples. A recent [Journal World column](#) revisiting the involvement of KU Physics faculty in the Manhattan project supplied another public example from the past. The column by Sara Shepherd details the obstacles KU created for physicist Dr. H.H. Barschall during his attempt to join the Manhattan Project. Though eventually successful, Dr. Barschall was so disenchanted with his treatment by KU that he spurned the offer of a faculty position after the war, stating "my experiences at Kansas in the months before my departure had left an unpleasant memory. The lack of experimental facilities and the lack of a research tradition were other disincentives." The less than positive attitude toward KU was undoubtedly passed on to students of Dr. Barschall, Worth Seagondollar and Ernest Klema - both went on to distinguished careers away from KU. What we do today, as faculty and alumni, has an impact for decades to come on both students and faculty alike. The extensive list of undergraduate and graduate degrees and awards on pg.3, almost double what it was 10 years ago, is a direct result of support represented by the list of donors on pg. 2. On behalf of the latest additions to the P&A alumni family, thank you. The latest makeover of the Dept. website is complete, though it is likely that typos and errors still exist among the hundreds of pages and links. Have a look and let us know what you think: <http://physics.ku.edu/>



Peter Wehinger (1938-2015)

Dr. Peter Wehinger of the University of Arizona passed away on April 27, 2015. Dr. Wehinger's association with KU began with the retirement of KU's lone astronomer, Dr. Wyman Storer, in 1970. Dr. Wehinger was hired to fill the position and maintain the Astronomy program. Dr. Susan Wyckoff, his wife, having recently

completed her Ph.D. at Indiana University, was given an adjunct appointment. Because of the less than encouraging situation for astronomy at KU, they left the Department/University within 2 years.

Known for his work on comets and quasars, Peter held appointments in astronomy at the University of Michigan, Tel-Aviv University, the Royal Greenwich Observatory, the Max Planck Institute for Astronomy in Heidelberg, and Arizona State University, before joining the U of Arizona staff from 1995 to 2012, where he helped advance major telescope projects and worked to support astronomy graduate students. Dr. Sue Wyckoff went on to a career as a Distinguished Research Professor of Physics at Arizona State University with expertise in understanding the chemical evolution of our planetary system in a Galactic context by tracing the chemical cycling of gas and dust from interstellar clouds to the coldest (and least processed) regions of the sun's planetary disk.



Warren Legler (1930-2015)

Dr. Warren Legler passed away on May 12, 2015. Warren was born April 28, 1930 in Hiawatha, KS the son of Harry Edwin and Elnora (Kruse) Legler. Dr. Legler received a BS in Physics from KU in 1952. He married Phyllis Marie Hane May 27, 1952 in Baldwin City, KS. He worked at the Naval Ordnance Test Station (since dubbed the Naval Weapons Center) for ten years.

Having taken a year out to attend MIT and receive a MS degree in 1960 (thanks to the Navy's sponsorship), in 1962 the Leglers moved back to Lawrence. Warren received a Ph.D. from the Electrical Engineering program in the KU School of Engineering in 1969. After teaching at KU and at the KU Medical Center, Warren entered the private sector, spending the bulk of his career as a Product Development Engineer at Allied Signal in Olathe until his retirement in 1995. He has been an active member of the KU community, having served recently on the Advisory Board of the College of Liberal Arts and Sciences and as an original member of the P&A Department Alumni Advisory Board. In his mid-seventies, Warren audited all of the junior-senior courses in astronomy offered at KU, invariably besting some of the top students in the department who were 55 years younger. He was an active member of the local astronomy club and a regular contributor to the Department Endowment Funds.