



$$E=mc^2$$

## Modern Physics Lab Dedicated to F.J. Kerrigan

On March 14, 2007, **Felix John Kerrigan** died at the age of 81. At the time that he completed his bachelors degree at Creighton University in 1948, majoring in mathematics with minors in physics and philosophy, he could not have imagined that there would someday be a physics laboratory at Creighton University bearing his name. But indeed there is one, thanks to his son Patrick who made a donation for renovation of the Modern Physics Lab in the remodeled Rigge Science Building.

Fortunately the dedication of the Kerrigan Modern Physics Laboratory took place before Felix died, in a private ceremony on Thanksgiving Day in 2005. After a morning Mass in St. John’s Church, Felix “Finn” and his wife Juanita “Nita,” accompanied by a group of Kerrigan family members, strolled from St. John’s Church to the lower level of the Rigge Science Building where the Lab is located. A member of the Physics faculty, **Fr. Thomas S. McShane, S.J.**, blessed the Laboratory filled with members of the Kerrigan Family. (See photo at the top of page 2.)

Felix Kerrigan served in the US Navy from July 1943 to July 1946. He spent his career after graduating from Creighton University as a civilian mathematician for the Air Force. In the 1960’s he did some contract computer work at Creighton University and the Special Laboratory of Nuclear Medicine and



Photo by Don Doll, S.J.

*Finn with his wife Nita are seen here surrounded by grandchildren outside the Kerrigan Modern Physics Laboratory.*

Biology of the Omaha VA Hospital. He authored and co-authored papers on work in which he contributed the statistical analysis and computer programming required to analyze the research data.

**Felix “Finn” Kerrigan** is remembered by those who knew him as a friendly and engaging man, one who touched many lives – and continues to do so.

### *Meet Patrick...*

One of ten children of Felix and Juanita Kerrigan, Patrick Kerrigan shared his father’s love of math and physics. In 1973 he completed a bachelors degree with a double major in mathematics and physics at the University of Nebraska–Omaha.

Starting in 1977 as a software developer and the first hired employee for Information Technology, Inc., Pat ultimately rose to Chief Operating Officer before his retirement in 1999.

In addition to remaining active as a consultant, Pat Kerrigan’s philanthropic ventures are advancing teaching and research through generous donations to UNO, The University of Nebraska Foundation, and Creighton University. The Physics Department is grateful for his support.

–THZ



Photo by Don Doll, S.J.

*Finn Kerrigan is seen here with his son, Pat, standing by the room sign outside the Kerrigan Modern Physics Laboratory.*

Composite Photo by Don Doll, S.J., and Tom Zepf



Members of the Kerrigan Family are seen in the Modern Physics Laboratory following the 2005 dedication ceremony (see page 1). All are gathered around Finn and his wife Nita (both seated at a lab table). Fr. Tom McShane, S.J., a member of the Physics Department faculty, is standing behind Finn. The candle at far right was used by Father McShane in the room blessing.

## — More physics labs dedicated in 2008! —

Thanks to the generosity of a donor who wished to remain anonymous, on March 30, 2008, in a ceremony beginning with Sunday morning Mass at St. John's Church, four physics labs were dedicated. Not all those honored were Creighton alums, but they shared a connection to each other and with the Creighton alum for whom the Modern Physics Lab was dedicated earlier (see above).

The five friends — **Vince McAndrew, Bob Reilly, Kevin O'Connor, Dave Shanahan and Finn Kerrigan** — all grew up in Omaha. "All found common cause in being Irish and Catholic," according to Lisa Calvert, Creigh-

ton's Vice President for University Relations and master of ceremony for the event. "They shared a deep belief in the value of the Jesuit education that Creighton provides. And none of them could conceive of a Heaven without good golf courses."

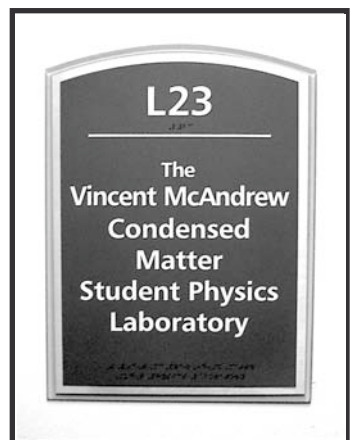
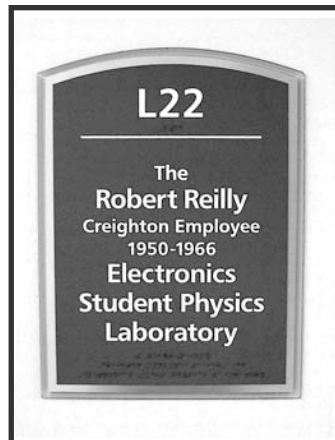
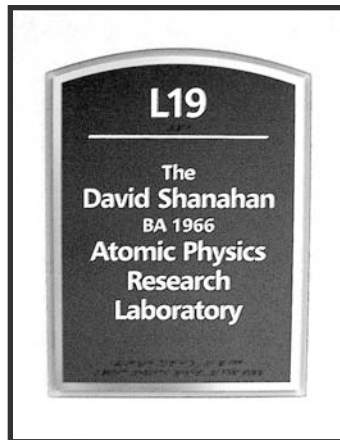
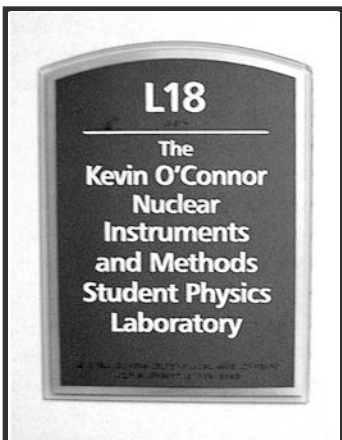
Emeritus Dean of the College of Arts and Sciences, Dr. Robert Kennedy, introduced four speakers representing the honorees. David Shanahan, the only honoree still alive, was one of the speakers.

After the opening ceremony in the Hixson-Lied Lecture Hall, the attendees divided into family groups and proceeded to the lab that was to be named after their

loved one on the lower level of the Rigge Science Building. Each group was guided to the correct lab by a faculty member and a student from the Physics Department. The guides explained the role of the lab and fielded questions about its use. Meanwhile Fr. Tom Shanahan, S.J. greeted the families in each of the labs, blessed the room, and unveiled the room dedication plaque. The signs mounted outside the four rooms are shown below.

After the room dedications were completed, the families gathered together in the Hixson-Lied Atrium to enjoy refreshments.

—THZ

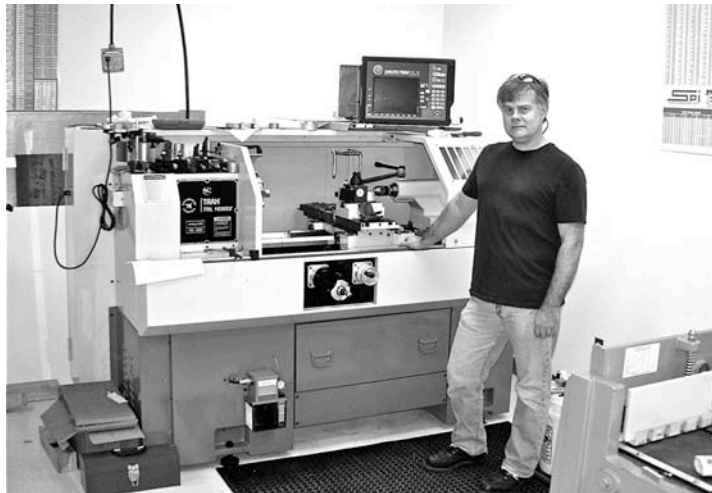




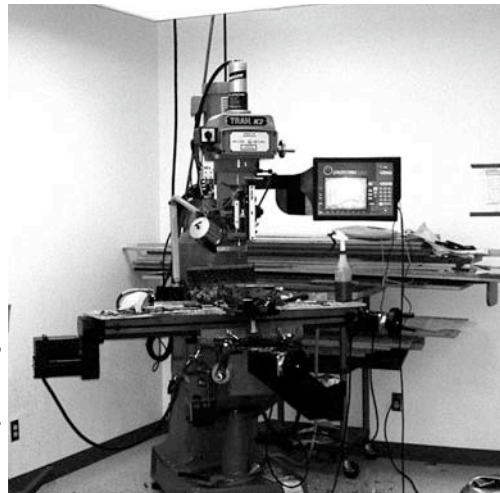
# Physics shop expanded – joins the computer age!

As part of remodeling being done in the Rigge Science Building, the Physics Department Machine Shop recently underwent significant enhancements. In the Summer of 2008, donations enabled expansion of the shop into adjacent space formerly occupied by the building's heat-exchange equipment, giving the shop 416 square feet of new space. Renovation of the old space included changes needed to ensure conformity with Federal environmental health and safety guidelines. Those included removal of floor tiles containing asbestos, increasing the flow rate of room air exchange, enhancing the overhead lighting, etc. Also, the wall that separated

Photo by Tom Zepf



Photos by Tom Zepf



Views inside the Physics Machine Shop.

Above: The remodeled space looking northeast.

Far left: Brad Walters standing by the CNC lathe.

Near left: View of the CNC milling machine.

the main shop and the materials room was removed. The new space houses a Southwest Industries SLX 1630 CNC lathe, funded by the expansion project, and a K2 CNC milling machine purchased previously. Our Piranha P-50 ironworker and our 49" hydraulic sheet metal shear have also found a place in the expanded area. Total shop space now exceeds 2000 square feet.

The remodeling and expansion work was done under the watchful eye of **Mr. Brad D. Walters**, Science Research Technician recruited by Dr. Zepf in 1991. The new lathe and milling machines, both with CNC (Computer Numeric Control), bring our shop into the computer age and present our students with the possibility of yet another fascinating learning experience. -THZ

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## Visit our website

Get the latest news and more information about our Physics Dept. and Creighton University by visiting the Creighton home page at: [www.creighton.edu](http://www.creighton.edu) and navigating from there. Or go directly to the physics home page at: <http://physicsweb.creighton.edu>.

Places to visit on the physics website include: **News, Programs, Course Information, Faculty, Students, Research, Resources, and Student Financial Support.**

Here you will also find the latest results and photos of several annual Physics Department events: **Physnik (picnic), Physics Field Day for High School Students, Physics Retreat, and Eve of Reflection** – all traditions, some going back to 1963!

Click on **Newsletters** in the drop down menu under **News** for access, in pdf format, to all issues of the *Physics Newsletter* published to date.

Questions, corrections, or comments about our physics website should be directed to the webmaster, **Dr. Mike Nichols.**

# Congratulations to Katie and Sandra ....reaching for the stars!

Junior physics major **Katherine Garrett** was one of four Creighton students to receive the highly competitive Barry Goldwater Scholarship award! No more than four may apply from one university. In 2008 Creighton was one of only nine universities to see all four of its nominees chosen (see Summer 2008



**Katherine Garrett**

Issue of *Creighton University Magazine*, pp. 22-25). The possibility of doing research was one of Katie's reasons for coming to Creighton. On a campus visit some physics majors showed her the lab in which they worked. "That's when I learned undergraduates could be involved in research," she said, "which sounded perfect for me." Katie's research interest is dark matter, sparked by Creighton astrophysicist **Dr. Gintaras Duda** after she approached him about possible research tracks (see p. 20, Spring 2008 Issue of *Creighton University Magazine*). Katie has given a presentation at an APS Meeting, "something that typically only faculty and graduate students do," noted **Dr. Michael Cherney**, Creighton's Goldwater faculty representative.

Senior physics major **Sandra Behncke** has been named the NASA International Year of Astronomy Student Ambassador for Nebraska! During 2009, the International Year of Astronomy, ambassadors actively participate in, and help coordinate, their own outreach programs within the local community and beyond.



**Sandra Behncke**

Since January 2008, Sandra has been doing broad absorption line quasar research with Creighton astrophysicist, **Dr. Jack Gabel**. She hopes to determine "if mass outflow is characteristic of all quasars, settling the battle between the orientation and evolution theories."

Sandra has also been awarded a NASA Nebraska Space Grant Fellowship to participate in a Summer 2009 Internship at the NASA Jet Propulsion Lab. And she won the American Astronomical Society "Chambliss Student Achievement Award" which is given to recognize exemplary research by undergraduate and graduate students who present at one of the AAS poster sessions. -THZ

## Physics Graduate Students in 2008 ... 40th Anniversary year of our Masters Degree Program



Photos by Tom Zepf

From left: Udara Abeysekara, Roberto Fabian, Ben Rizzo, Jessica Changstrom, Hans Wrage, Jeff Tonniges, Stephanie Schuk, Joseph Butterworth, Steve Hansen, Maria Hansen, **Dr. Sam Cipolla** (Program Director for 28 years), and Mark Durante.

**Program started in 1968 — Photo taken on April 20, 2008**



## Dr. Kennedy Honored by Promotion

**D**r. Robert E. Kennedy was promoted from Associate Professor to Professor Emeritus of Physics and Dean Emeritus of the College of Arts and Sciences at the Founders Day Convocation on Feb. 12, 2008. The Rev. John P. Schlegel, S.J., University President, conferred the promotion in appreciation of Dr. Kennedy's service, including Physics Chair (1973-1981 and 1993-2006), extensive College and University committee work, two

terms as Faculty President, and two years as Interim Dean of the College of Arts and Sciences (2006-2008).

Dr. Kennedy is on sabbatical (2008-2009) writing a textbook about the life and works of Albert Einstein, based in part on a course he created and taught for many years at Creighton. He will be retiring on July 1, 2009. Look for an article on *his* life and works in a future issue of the *Physics Newsletter*.  
-THZ



Photos by Tom Zepf

## Meet the newest additions to our faculty family

**D**r. Patricia Soto grew up in Bogota, Colombia where she received her BS and MS degrees in Physics from Los Andes University. She then went to the University of Groningen in Groningen, The Netherlands, where she earned her Doctorate in Mathematics and Natural Sciences. In 2004 she moved to the University of California in Santa Barbara to pursue post-doctoral training, partially funded by an international fellowship from the American Association of University Women.

Patricia joined the Department of Physics at Creighton University in August 2007. Her scientific expertise falls in the broadly defined field of computational molecular biophysics. Patricia says her scholarly purpose is to seek excellence in teaching through research. She aims at a "transformative learning experience in the student, framed in an active and collaborative environment." She says her cross-cultural training inspires her "to uniquely foster a sense of ethics and stewardship in my students."

Patricia is the proud wife of **Harold** and mother of **Simon**, 3 years old, and **Samara**, 9 months.



Dr. Patricia Soto is seen here with her husband, Harold, and their two children, Samara and Simon.

**Dr. Soto** prepared the following brief description of her research for our readers.

"Alzheimer's disease, Mad Cow disease, CJ disease, Parkinson's disease, Huntington's disease: all these apparently unrelated amyloid diseases result when proteins do not attain the shape they should have.

"What are proteins? Proteins

are the biological nanomachines that perform specific functions to ensure the well being of every living cell. How do proteins attain the right shape? Much is known about this process but the mystery still remains.

"My research uses physics theories and high-performance computer methods to advance our understanding of the process of protein folding (or how proteins attain the right shape). The link between misfolded proteins (or proteins with the wrong shape) and amyloid diseases is addressed together with potential avenues for the rational design of therapeutics. Interestingly enough, similar physical principles may lay foundations for design of bio-inspired nanoassemblies."

Clearly the students who work with Dr. Soto are exposed to current and exciting challenges in the fields of biomolecular sciences and biotechnology. They have the opportunity to be part of a worldwide computational biophysics community.  
-THZ

# Bazil Newton Lazure dies at 96

**B**azil N. Lazure, Associate Professor Emeritus of Natural Science, died at his Omaha home on January 1, 2009 at the age of 96. Bazil had a passion for science, teaching, hunting, fishing, and concern for protecting the environment. He grew up with Creighton University! It was here that he completed a B.S. in 1934 and an M.S. in 1939, both in chemistry. (The first Creighton student to complete a major in physics was Thomas I. Gilroy, deceased, who graduated

was the *only* physics teacher at Creighton University. Eventually, however, our physics faculty grew in number and Bazil turned to teaching Natural Science. He designed a two-semester, 8 credit hour, lecture/laboratory course: “Physical and Life Sciences.” Intended primarily for Elementary Education majors, it satisfied the science requirement for teacher certification, treating the basic principles of physics, chemistry, earth sciences, biology, ecology and environmental science.

continued to help our physics department in a variety of ways.

In 2001, Bazil received the Fr. Clarence M. Wagener, S.J. Award for Outstanding Service to the Department of Physics. Normally this award goes to a graduating senior, but it was decided that the first-ever award should go to Bazil Lazure, a *former* Creighton student, for his lifetime of service to Creighton University and our Physics Department.

Two years later, In 2003, a new student award was created,



Photos by Tom Zepf



Above: Bazil “Baz” Lazure and his wife Geraldine “Gerry” are seen here at a Creighton Retirees picnic in the summer of 2002. Right: A younger Lazure is demonstrating radioactivity at a Math-Physics Field Day for High School Students in May, 1963.

in 1948.)

In 1941 Bazil was off to war, immediately after marrying Geraldine who would be his wife for 67 years. After experiencing Okinawa as a lieutenant colonel in the U.S. Army Signal Corps, he returned to Creighton to teach physics for a year in 1946-47, eventually returning in 1953 to remain until his retirement as an associate professor emeritus of natural science in 1977.

Although his degrees were in chemistry, Bazil taught physics due to the shortage of physics teachers at the time. For awhile he

Although he preferred teaching physics, Bazil was the obvious person on our faculty to develop and teach the course. He was able to draw upon his wide-ranging knowledge and interests in all of the sciences. Just as important, or more so, **he had a kindly, sympathetic approach that put his students at ease**, many of whom were afraid of taking a science course. He was available to work individually with his struggling students, even at odd hours.

Bazil did volunteer work for many local scientific, social and religious groups. After retiring, he

the **Bazil N. Lazure Award**.

On March 4, 2009, Bazil’s wife **Geraldine (Parvin) Lazure** died at the age of 93. Baz and Gerry spent the early days of their marriage, during his military training at Fort Knox, exploring Kentucky countryside on a motorcycle. Over the years since then, and on into retirement, they continued to do much the same: volunteer work for church and community, camping, fishing, cooking, horseback riding, motorcycling, and in many other ways enjoying life to the fullest with their five children and 15 grandchildren. —THZ



# Bob Stoffel Retires

*after 40 years! of service to the Physics Department*



*Some of the Physics Department associates of Bob Stoffel are seen here with him at a surprise retirement party in the Fr. Wagener Conference Room.*

*From left:  
Dr. Jack Gabel  
Dr. Tom Zepf  
Dr. Mike Chorney  
Dr. Patricia Soto  
Mr. Brad Walters  
Mr. Bob Stoffel  
Dr. Dave Sidebottom  
Dr. Janet Seger  
Dr. Sam Cipolla  
Mrs. Michelle Pope.*

**R**obert F. Stoffel, Physics Laboratory Supervisor since 1987, began as a full-time Shop Technician in March 1968. He was recruited by Dr. Tom Zepf to set up and operate a physics machine shop in the newly completed Rigge Science Building. Dr. Zepf had been introduced to Bob by **Art Bucknell (BSPhy '67)** in the summer of 1967.

Bob worked as the Physics Shop Technician for 19 years, until he was appointed Physics Laboratory Supervisor by Dr. Zepf in 1987, replacing **Joe Conlon**

who had replaced **Dave Jaksha (BS '74, MS '77)**. Bob's son Chris filled the vacated Physics Shop position until he left to become a farrier in 1991.

No doubt many of our former students have fond memories of working with Bob, perhaps as a student in the physics shop, or at nighttime "stargazing" sessions, or as a laboratory teaching assistant.

Although Bob didn't want a retirement party, a surprise one was pulled off successfully (?) on April 30, 2008. Faculty, staff, students, and Bob's wife, Sharon,

were there for food, refreshments, and the presentation of a beautiful plaque of appreciation by our Physics Department Chairperson, **Dr. Janet Seger**. Other gifts will best go unnamed.

At an Annual Faculty and Staff Convocation, on Sept. 18, 2008, Bob was honored for his 40 years of distinguished service with a formal presentation by the University President, John P. Schlegel, S.J.

Bob is now free to experience the good life with Sharon, relaxing and enjoying visits with many children and grandchildren. *-THZ*

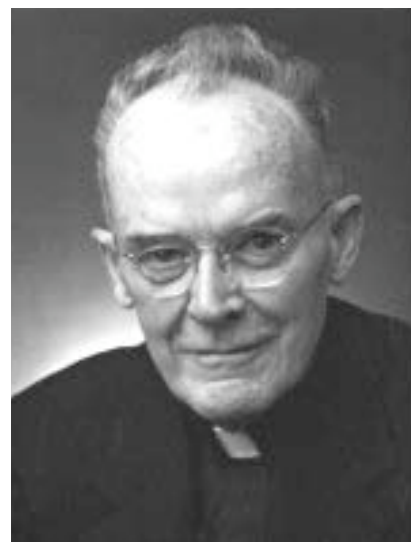
## Rev. John M. Scott, S.J.

*Prolific writer and popular high school teacher dies at 94*

**F**r. John Scott died on Dec. 27, 2007 in Wauwatosa, WI at the age of 94. From 1948 to 1978 he was a popular physics teacher at Campion Jesuit High School in Prairie du Chien, WI. In 1959 he was named Wisconsin's Physics Teacher of the Year.

In summers of the 1950's and early 1960's, Fr. Scott taught an algebra-based General Physics course at Creighton. Then, in 1964, 1965 and 1966, he was the principal lecturer at Creighton for

NSF-funded Summer Institutes in Physical Science for Elementary School Personnel.\* Each year 30 upper-elementary teachers were selected from around the county to attend the five-week Institute. Their travel, tuition, and a stipend were funded with NSF grants obtained by **Dr. Don Cannon** in Education with **Dr. Tom Zepf** in Physics. The Institutes were well received and in 1967 Fr. Scott was chosen one of 40 national "Impact Teachers." *(Continued on Page 12)*



# Family of physics alums grows by twenty-five

**T**wenty-five of our physics students graduated with a bachelors or masters degree in the May, August or December graduations of 2007 and 2008. This is eight more than in the previous two-year period. Most are continuing their studies leading to graduate degrees at various universities with financial support in the form of scholarships, fellowships or assistantships. Others entered professional schools or are employed in a variety of occupations.

In the year **2007**, seven of our physics students completed a **Bachelors Degree:**

**Brian Atkinson** is doing software development for healthcare information technology with the Cerner

Corporation, **Joseph Butterworth** is in the M.S. Physics program at Creighton University, **Nishant Chauhan** is in a Doctor of Dental Medicine program (DMD) at the A.T.S.U. Arizona School of Dentistry and Oral Health, **Benjamin Kopecky** is a medical student in the Creighton University School of Medicine, **Bradley Parker** is doing something good somewhere but was out of touch during the time this was being written. **Brandon Rodenburg** is in a Ph.D. Optical Physics program at the University of Rochester, and **Russell Wolfe** is on a Ph.D. track in Biomedical Engineering at Tulane University.

## BS Degree - Class of 2007

### From left:

Nishant Chauhan, B.S.

5/12/07

Joseph Butterworth, B.S.Mth\*

5/12/07

Brandon V. Rodenburg, B.S.Phy\*

5/12/07

Russell Wolfe, B.S.\*

5/12/07

Benjamin J. Kopecky, B.S.\*

5/12/07

### Not shown:

Brian Atkinson, B.S.\*

5/12/07

Bradley E. Parker, B.S.Phy

8/10/07

\*Member of Sigma Pi Sigma, the National Physics Honor Society



Photo by Tom Zepf

## MS Degree - Class of 2007

### From left:

Nagitha Ekanayake, M.S.\*

5/12/07

Fr. Andrew E. Ekpenyongy, S.J., M.S.\*

12/15/07

George C. Reifenberger, M.S.\*

8/17/07

Ryan M. W. Collins, M.S.\*

8/17/07

Mohammed K. Zakaria, M.S.\*

8/17/07

\*Member of Sigma Pi Sigma, the National Physics Honor Society



Composite Photo by Tom Zepf





## BS Degree - Class of 2008

### From left:

Jennie M. Burns, B.S.Phy\*

5/10/08

Meg Marquardt, B.S.\*

5/10/08

Daniel L. Hames, B.S.Phy\*

5/10/08

Carolyn L. Posey, B.S.Phy\*

12/20/08

### Not shown:

Nicholas J. Busch, B.S.\*

5/10/08

Alex Wigger, B.S.

12/20/08

\*Member of Sigma Pi Sigma, the National Physics Honor Society



## MS Degree - Class of 2008

### From left:

Eric S. Watson, M.S.\*

5/10/08

Benjamin Rizzo, M.S.\*

12/20/08

Jessica Changstrom, M.S.\*

8/15/08

Hakan S. Armagan, M.S.\*

8/15/08

Lyle Sass, M.S.\*

8/15/08

Kimberly Kirchner, M.S.\*

12/20/08

Mark Durante, M.S.\*

12/20/08

\*Member of Sigma Pi Sigma, the National Physics Honor Society

In **2007** five completed our **Masters Degree**: **Ryan Collins** is working on a Ph.D. in Physics at Montana State University in Bozeman, **Nagitha Ekanayake** is working on a Ph.D. in Physics at the University of Delaware, **Fr. Andrew Ekpenyong** was accepted for a Ph.D. program in Biomedical Physics at East Carolina University and more recently for a Ph.D. program at Cambridge University, **George Reifenberger** is working on a Ph.D. in Physics at Florida Atlantic University, and **Mohammed Zakaria** is working on a Ph.D. in Physics at the University of Florida.

In **2008** six completed our **Bachelors Degree**: **Jennie Burns** is on the Ph.D. track in Biomedical Engineering at Tulane University, **Nicholas Busch** is applying to medical school and the US Army Health Professions Program, **Daniel Hames** is a medical student at the Creighton University School of

Medicine, **Meg Marquardt** is going to Johns Hopkins University for their graduate program in science writing, **Carolyn Posey** is entering the Neuroscience Ph.D. program at Arizona State University, and **Alex Wigger** is doing something good somewhere but was out of touch at the time of this writing.

In **2008** seven completed our **Masters Degree**: **Hakan Armagan** is teaching physics at Burke High School in Omaha, **Jessica Changstrom** is in a Ph.D. Physics program at Kansas State University, **Mark Durante** is teaching at Omaha Westside Middle School, **Kimberly Kirchner** is in Bozeman, Montana weighing graduate school and employment options, **Benjamin Rizzo** is a physics lecturer at Marquette University, **Lyle Sass** is working with Fr. McShane in the Cosmic Ray Observatory Project, and **Eric Watson** is with Clear Channel Communications in Nebraska.

—THZ

# — News from and about our Alums —

**Richard E. Keating**, (BS '63) died on October 5, 2006 in Silver Springs, MD. Word of his death came only recently with no further information. During October 1971, while in the Time Service Department of the U.S. Naval Observatory in Washington, D.C., he and Joseph C. Haefle of Washington University in Saint Louis conducted the first macroscopic test of Einstein's time-dilation prediction. They flew four cesium beam atomic clocks twice around the world, once east and once west, on regularly scheduled commercial airline flights. Their positive results are summarized in *Science* (July 14, 1972, pp. 166-170). As a student, Dick enjoyed working with Father Vaske in the Creighton Observatory, where he helped to renovate the solar and sidereal clocks that Father Rigge had installed many years earlier.



Keating on the right is seen here with Haefle and the cesium clocks on board a commercial aircraft preparing to begin their "twin paradox" experiment.

When the Physics Club was started in the Fall of 1962, he was elected its first president. Dick was one of four Creighton students in his senior class to be awarded the highly competitive Woodrow Wilson Scholarship for advanced study. Only 1000 of the scholarships were awarded annually. A native of Saint Paul, NE, he chose the University of Maryland for graduate study in astronomy.

**David W. McLaughlin**, Ph.D. (BSPhy '66). We were pleased to hear, from a mutual acquaintance, that Dave is now a Professor of Mathematics and Neural Science at New York University. He is also the Provost (chief academic officer) of NYU, a position he has held



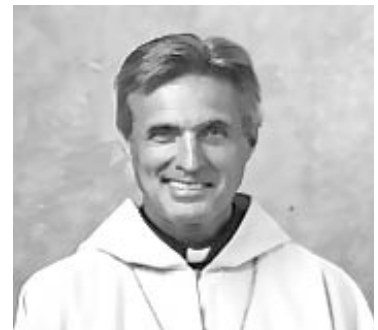
**David W. McLaughlin**

since 2002. Dave was elected to the prestigious National Academy of Sciences in 2002. His prolific interdisciplinary research is highlighted in an article "Profile of David W. McLaughlin" published in the May 16, 2006 *Proceedings of the National Academy of Sciences*. Dave is one of the first to receive our concentrated B.S. in Physics Degree (BSPhy) started in 1964. He completed an M.S. and a Ph.D. in physics at Indiana University. An active member of our Physics Club, he was elected president in his senior year. Dave met his wife, Ruth Aubuchon, at Creighton. They have four children.

**Terrence J. Sullivan**, Ph.D. (BSPhy '68) attended the 40th annual reunion of the Class of '68. Terry has been consulting on his own with nuclear plants in Florida for several years. Most of his work is with Florida Power & Light. FPL also owns two midwestern plants (Duane Arnold, Cedar Rapids, IA and Point Beach, near Green Bay, WI) which have extensive wind and solar generation capability. FPL also owns Seabrook in New Hampshire. Terry visits each of the plants as part of their inde-

pendent oversight committee. Terry says he's considered an industry "grey? beard" which is an apt description since "there's not much hair on top anymore." Read more about Terry in the Winter 1996-97 *Physics Newsletter*.

**Rt. Rev. (James) Michael Liebl**, OSB (BS '74) was installed as the third Abbott of Mount Michael Abbey on Sept. 29, 2007. Omaha Archbishop Elden Curtis presided at the Solemn Abbatial Blessing. The Abbey is the home of the Benedictine Monks who operate and teach at Mount Michael High School in Elkhorn, Nebraska. Father Mike is well known as an exceptionally effective and popular physics teacher at Mount Michael. He was a pioneer in using desktop computers in his teaching, interfacing them to apparatus in the physics lab for data collection and analysis. His teams have consistently scored at



**Abbott Michael Liebl, OSB**

or near the top in our annual Physics Field Day for High School Students. He has also been a long-time member and active leader in the Nebraska Section of the American Association of Physics Teachers. For many years he served as secretary/treasurer of the organization, and has also been its president. We wish Abbott Mike godspeed as he takes on his new administrative and, no doubt, fund-raising responsibilities—in addition to continuing at least some part-time physics teaching!



**Nan Marie Jokerst**, Ph.D. (BSPHy '82) moved several years ago from Georgia Tech to Duke University where she is the J.A. Jones Distinguished Professor of Electrical and Computer Engineering and the Executive Director of the Duke Shared Materials Instrumentation Facility. A recent visit to her Duke faculty website revealed a remarkable record of accomplishments. For example, Nan is a Fellow of the IEEE, and has served as an elected member of the IEEE LEOS Board of Governors. She is also a Fellow of the Optical Society of America, and has served as Chair of the OSA Engineering Council. Her



**Nan Marie Jokerst**

awards include an NSF Presidential Young Investigator Award, an IEEE Third Millennium Medal, the IEEE/HP Harriet B. Rigas Medal, and the Alumni in Academia Award from the University of Southern California Viterbi School of Engineering where she earned her doctorate. Nan has published over 200 refereed journal and conference publications, and has 6 patents. In her personal life, she is married to Martin Brooke, also a professor in the ECE Department at Duke, and they have two children, Nathaniel and Joanna. Nan says she is an enthusiastic naturalist, organic gardener, and vegetarian cook, and enjoys hiking, bird watching, astronomy, reading, and cooking with her family and friends on a regular basis. She has many superb memories of Creighton University and hopes that everyone in the Physics Dept. is great.

**David B. Jaksha** (MS '77, BS '74) works as an engineer for the National Solar Observatory project SOLIS (Synoptic Optical Long-term Investigations of the Sun) at Kitt Peak, AZ. Dave played a major role in getting the SOLIS Tower



**David B. Jaksha**

instruments up and running. His work has taken him to far reaches of the world, including Antarctica. He enjoys free time with his wife, Pat, who retired in May from teaching. They have a second home in Mexico where they enjoy sailing their 34-foot catamaran. Son, Zach, is an auto dealer and daughter, Mandy, a Ph.D. student in marine science at Arizona U.

**Mark E. Mildebrath** (MS '83, BSPHy '81) wrote to Dr. Cipolla, and sent a family photo. Mark is continuing to work at Essilor in Florida, where he is involved in the design and manufacture of eyeglass lenses and other vision optics. In the photo, below, Mark (almost hidden) and his wife, Dana, are in the back, behind their children, Nick, Anna, David, and Amy, and their dog Sequoia.



**Hakan S. Armagan** (MS '08) teaches at Omaha Burke High. He was named a "Flight of Teacher Liaison" for 2009 by The Space Foundation. The 29 recipients were recognized at the National Space Symposium in Colorado Springs "for promoting space and science education in their classrooms and communities."

Earlier, in November 2008, at an American Nuclear Society meeting in Reno, Hakan presented a paper on a course that he designed and teaches at Burke H.S. It begins by identifying the world energy problem, the pros and cons of various energy sources as solutions, then



**Hakan Armagan**

leads into an in-depth study of nuclear energy. It generated much interest in Reno, leading to a cover photo and interview of Hakan in the February 2009 *Nuclear News*. Hakan worked for three summers at the Oak Ridge National Lab and gave a paper on part of that work at an APS Meeting in April 2007.

### Seminar Presentations by Alums

**Andrew T. LaCroix** (BSPHy '05), is on a Ph.D. track in Civil Engineering at North Carolina State University. He came back to visit and share his experience as a civil engineering graduate student.

**Alicia Dwyer Cianciolo**, M.S. (BSPHy '99) is a NASA aerospace engineer. She described her work on Mars missions and met with students afterwards to share her advice on breaking into that field.

**Peter R. Colarco**, Ph.D. (MS '97) is employed at the NASA Goddard Space Flight Center. He described use of satellite data to reveal Earth's aerosol distribution.

## External & University Awards Classes of 2007 and 2008

Only award recipients who graduated in '07 and '08 are listed here, with the award year(s) in parentheses.

### Clare Boothe Luce Scholarship for Women in Science

*Jennie M. Burns* ('07-'08)

*Meg M. Marquardt* ('07-'08)

*Carolyn L. Posey* ('07-'09)

### Nebraska Academy of Sciences Scholarship

*Meg M. Marquardt* ('07)

### Ferlic Summer Research Scholarship

*Carolyn L. Posey* (06)

*Jennie M. Burns* ('07)

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## Rev. John M. Scott, S.J.

(Continued from Page 7)

When Campion closed in 1978, Fr. Scott moved to the Creighton Jesuit Community. He requested that the Campion physics equipment be given to the Creighton Physics Department. This was approved and the apparatus was transferred to Creighton.

Fr. Scott's move to Creighton was not to teach. He did parish work while still physically able, and continued his prolific writing which included textbooks and learning guides, numerous pamphlets, and hundreds of inspirational books and articles, many on the beauty of God's creation as revealed by science and scientists. A number of his articles have appeared in issues of the *Creighton University Window* and the *Creighton University Magazine*. Not surprisingly, and with his Superior's approval, Fr. Scott donated his body to medical science. -THZ

\*The Physics Department conducted other teacher-training Institutes during the mid-1960's as well: Process Approach for junior high, Harvard Project and PSSC for high school teachers. The faculty involved were **Fr. McShane**, **Fr. Wymelenberg**, **Mr. Lazure**, **Dr. John** and **Dr. Zepf**. Sizable overhead income from the NSF Institute grants, along with large NSF and AEC grants for equipment, some of which had to go into storage for lack of space, all helped to support the successful case that Dr. Zepf was able to make for more faculty and more space for physics in the new (1968) Rigge Science Building. The lesson learned is not lost on us today.

## Physics Department Awards Classes of 2007 and 2008

Only award recipients who graduated in '07 and '08 are listed here, with the award year(s) in parentheses.

### The Schrodinger Cat Scholarship

*Meg M. Marquardt* ('05-'06, '06-'07)

*Jennie M. Burns* ('07-'08)

### The Alumni Scholarship

*Brandon V. Rodenburg* ('06-'07)

*Nicholas J. Busch* ('07-'08)

### Senior Recognition Awards

Thomas H. Zepf Award for  
Excellence in Scholarship and Research

*Brandon V. Rodenburg* ('07)

*Daniel L. Hames* ('08)

*Carolyn L. Posey* ('09)

Outstanding Scholarship Award

*Brian C. Atkinson* ('07)

*Benjamin J. Kopecky* ('07)

*Nicholas J. Busch* ('08)

Outstanding Research Award

*Russell P. Wolfe* ('07)

*Meg M. Marquardt* ('08)

Fr. Clarence M. Wagener, S.J. Award for  
Outstanding Service to the Department of Physics

*Nishant Chauhan* ('07)

*Jennie M. Burns* ('08)

### Graduate Student Awards

Outstanding Scholarship Award

*Mohammed K. Zakaria* ('07)

*Benjamin M. Rizzo* ('08)

Outstanding Graduate Teaching Award (AAPT)

*Jessica R. Changstrom* ('07)

*Mark L. Durante* ('07,'08)

Outstanding Research Award

*Nagitha Ekanayake* ('07)

*Jessica R. Changstrom* ('08)

*Fr. Andrew E. Ekpenyong* ('08)

Bazil N. Lazure Award for  
Outstanding Service to the Department of Physics

*George C. Reifenberger* ('07)

*Mark L. Durante* ('08)

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