

Physics Newsletter



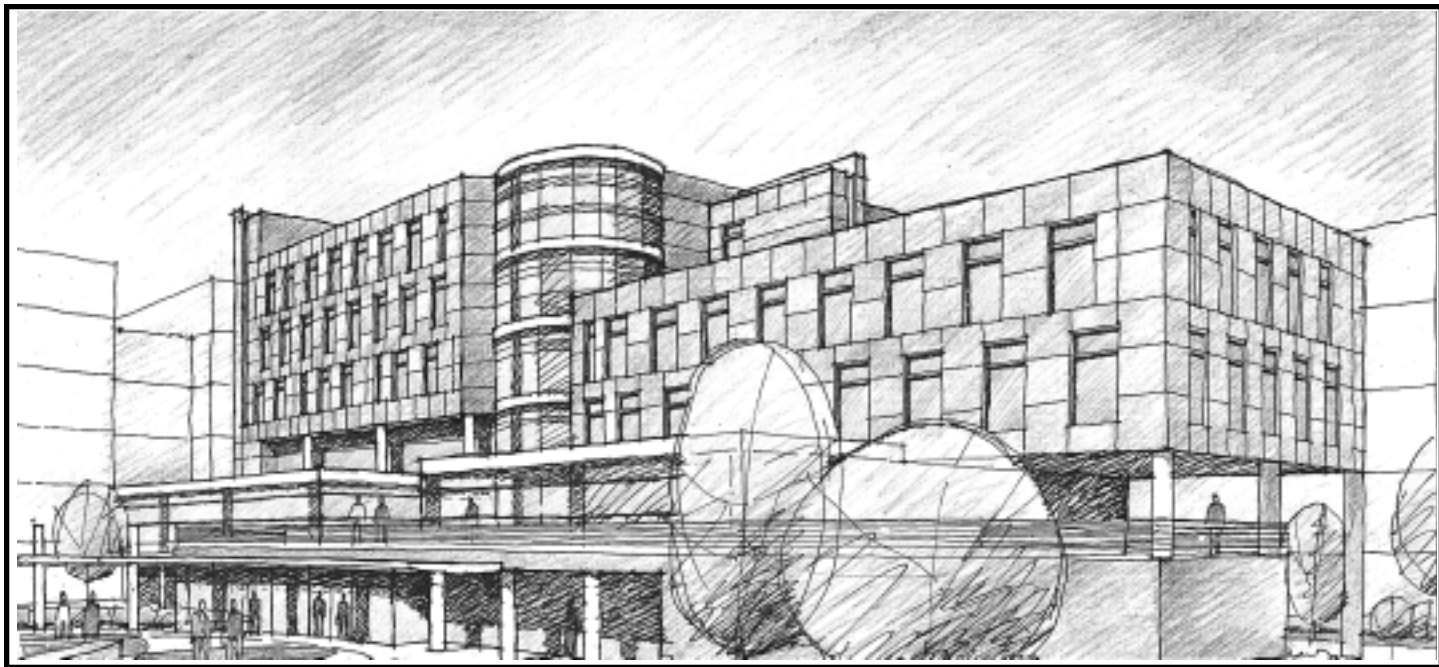
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CREIGHTON
UNIVERSITY

Vol. VI

Spring 2001



New Science Building to Link Rigge, Criss

In 1968 the Department of Physics moved into the just finished Rigge Science Building, leaving its homey quarters on the fourth and fifth floors of the Administration Building. Since that time in 1968 the number of our faculty and staff has more than doubled and the enrollment in our core-curriculum courses for non-science majors has grown tremendously. For example, in the 1960's the astronomy course had an enrollment of 15 to 20 students each year; it now enrolls about 400 per year. What were spacious quarters in 1968 is now tight on space for offices and laboratories.

A similar growth has been going on in the other departments in Rigge.

To remedy this crowding the university has undertaken a massive project to substantially expand, upgrade and update the science facilities. An additional

science building of about 60,000 sq. ft. will be constructed and will connect the Rigge Science Building with the Criss III Building. At one point in the anticipated five-year project, the Department of Physics will be moved temporarily into the new building while the two physics floors in Rigge are remodeled and renovated. At the end of the five year project our two floors in Rigge will house four introductory level laboratories, up from two at present, as well as providing separate space for each research specialty and new specialized undergraduate laboratories for our computational and health sciences tracks in physics. The connecting "hallway" between the new and old building will include a 30-ft wide student "break-out" space. Serving as a crossroads between offices, classrooms and labs, the space will promote increased interaction, discussion and com-

munity among students and faculty.

The new building will eventually house all of the physics faculty and department offices, as well as two state-of-the-art classrooms for physics—one a tiered lecture room seating about 70 students and the other a level-floor classroom with flexible seating for about 30 students. The two classrooms will connect to a common equipment storage and preparation room for lecture demonstrations in physics.

Groundbreaking is set for this spring, with a completion date some five years in the future. We have been extensively involved in the planning of the facility and are anxiously looking forward to moving in, even though it will be some five years before all is finished. If you are near campus please stop in and see what we have planned, and see how these plans are being translated into reality.

Rev. Clarence M. Wagener, S.J., Dies at 78

On April 28, 2000, the following message was sent by **Dr. Robert Kennedy**, Physics Department Chair, to all of our graduates who had given us their email addresses.

"We have sad news to report. This morning we received the unfortunate news that Fr. Wagener died in his sleep last night. Those of us who saw him in the department this past week were unaware of any health problems. In fact he was quite happy that he had finally gotten the current newsletter mailed and was already talking of items that he might include in the next issue.

"It should be noted that it is because of Fr. Wagener's work on putting together a list of our graduates with email addresses that you are able to receive this news so quickly.

"As sad as we are over this loss we continue to remember the many pleasures Fr. Wagener brought to our lives. As he remembered each of us in his daily prayers, it is our turn to remember him in our prayers."

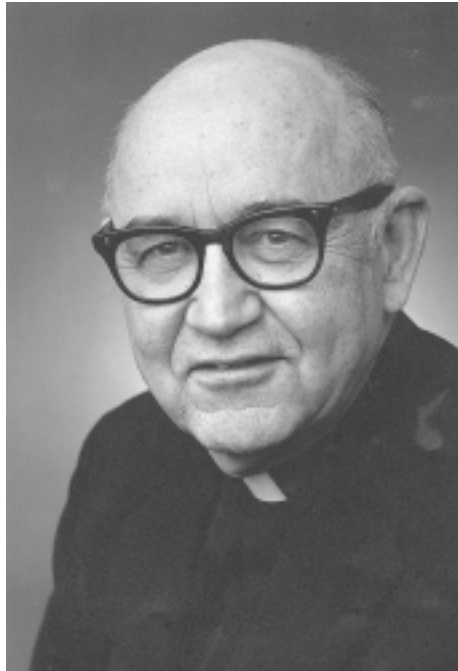
A follow-up letter from Dr. Kennedy along with a photo of Fr. Wagener was mailed to each of our graduates on May 30, 2000, using the mailing list that Fr. Wagener had compiled for the Physics Newsletter.

Official Press Release

FR. CLARENCE WAGENER, S.J., LONG-TIME CREIGHTON PHYSICS PROFESSOR, DIES

OMAHA, Neb. — Fr. Clarence M. Wagener, S.J., died early this morning in his sleep at the Jesuit residence at Creighton University. The 78-year-old priest had been an astronomy and physics professor at Creighton for more than 40 years.

Fr. Wagener was born in Waconia, Minn., on July 7, 1921. He attended Campion High School and Marquette University, and was awarded four degrees from St. Louis University, including a



Fr. Wagener
master's in physics and math.

He entered the Jesuits in 1940 and was ordained a priest in 1953. Fr. Wagener taught at St. Louis

Homily at the Mass of Christian Burial for Fr. Wagener

This is my memory of my words on that sad occasion. — Fr. John Ginsterblum, S.J.

In my parish work, I have the duty to conduct funeral services, and I always strive to learn something about the deceased so that I can give a human face to that person. I do not need to ask about Clancy Wagener; I've known him since the fall of 1935 when he and I enrolled as freshmen at Campion Jesuit High School.

Clancy was one of the unforgettable members of our class, principally because he earned grades of 98% throughout his four years and was the academic leader. At our commencement services he won all the prizes for achievements, leaving my mother awestruck and wondering why I didn't have such a record. Clancy was not a one-sided person even then: working his way in the kitchen, participating in the school band,

University High School, Regis High School in Denver, and Marquette University in the 1940's and 1950's. Fr. Wagener arrived at Creighton University in 1959 and became a fixture in the physics department for the next four decades. Funeral arrangements are pending.

Obituary

WAGENER-Rev. Clarence M., SJ, age 78 yrs. Survived by sisters Dolores Gaffaney, Silver Bay, MN, Irene Staiger, Port Huron, MN, Elizabeth Jorgensen, Wakeshaw, WI, Marie Wynsteker, Minneapolis, MN, Florence Wagener, New York, NY; brothers, Arthur, St. Bonifacius, MN, Hank, Garrison, MN, Maurice, Wayzata, MN.

SERVICES Mon. 10 a.m., St. John Church at Creighton University. Internment, Holy Sepulchre Cemetery. VISITATION at St. John Church Sun. 4-7 p.m. with WAKE SERVICE at 7 p.m. Memorials to Creighton University.

editing the Annual, and appearing everywhere in the school publications. He was then, as he was throughout his life, a friendly man.

Clancy and I entered the Society of Jesus on the same day, we took our vows together, were ordained together, and worked together for many years at Creighton University. I consider that I am an expert on this unusual man.

Clancy came to Creighton U. after years of graduate studies at Saint Louis U. and Stanford U. He was never able to complete his doctorate because of years of ill health, and he had to live with the knowledge of that failure, the only failure in the seamless garment of a faith-filled, brilliant life.

At the time of Clancy's arrival at Creighton University, the Physics Department was almost a nonentity: understaffed, short on

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'An Appreciation and Profile' Dr. Zepf Remembers Fr. Wagener

By Tom Zepf

Fr. Wagener was the Physics Department Chair who recruited me in 1962. I first met him when I came by bus to Omaha for an interview. "You look hungry," he said (I was much thinner then) as he sat me down in the bus station diner. For a "starving" graduate student from Saint Louis University, the plate of roast beef with mashed potatoes piled high was quite a treat, and the first of my countless experiences of Fr. Wagener's thoughtfulness and caring nature.

My tour of the Physics Department during that visit went on for many fascinating hours, well into the evening. It wasn't that the facilities were so extensive. Everything except the Observatory and some equipment shared with Chemistry was in two fourth-floor labs in the Administration Building, or stored in the attic. No, the tour ran long due to the minutely detailed information Fr. Wagener



Heads of Physics Department spanning 40 years: (from left) Bob Kennedy, Fr. Wagener, and Zepf.

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**Characteristically, he
had a love of puzzles,
and an impressive
attention to detail**

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provided for each of the many antique pieces of apparatus that he showed me — apparatus whose identity and purpose were often obscure, but which he had man-

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aged to track down, sometimes in equally antique and obscure catalogues. I was experiencing two more of his defining characteristics: a love of challenging puzzles and a painstaking—some would even say inordinate—attention to detail. In any case, I was impressed.

During my visit Fr. Wagener also gave me a tour of the Alumni Library. As he walked me slowly between row after row of physics books and journals, frequently stopping to point out recent acquisitions and sharing in great detail his assessment of the strengths and weaknesses of the collection, I realized I was in the presence of a very thorough and methodical person. A scholar certainly—but beyond that, I could see he was taking his role as Chair of the Physics Department very seriously, perhaps the first to do so in many years.

He was beginning to lay a foundation for the future of the Department, brick by brick, literally book by book, starting from the ground up. I was deeply impressed.

His brick laying went beyond books. By the time of my joining the Physics Department in the fall semester of 1962, Fr. Wagener and the Chair of the Chemistry Department, **Dr. Christopher Kenny**, had been successful in jointly obtaining an Instructional Equipment Grant from the Atomic Energy Commission. Among other items, it funded the Pu-Be neutron source and neutron howitzer, still used in our nuclear physics laboratory today.

In the fall of 1962, during my first semester of teaching at Creighton, Fr. Wagener received a once-in-a-lifetime opportunity he could hardly refuse: an NSF Faculty Development Grant to pursue doctoral studies at Saint Louis University—starting in the spring semester of 1963! Once before he had studied for a doctorate in physics—at Stanford University—but ill health forced him to quit. He wondered if he should try again. Even as I was encouraging him to do so, my mind was spinning with the thought of covering his teaching load and finding time to complete my own doctoral dissertation by May. Had he known how

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He Made Physics Library One of the Best

(Continued from Page 3)

much writing I had left to do, I am sure he would not have accepted the grant. He was too thoughtful and caring for that. So I didn't tell him — and it all worked out well, thanks largely to the understanding of my students that spring.

Fr. Wagener completed the required course work for the

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**“They’ll still call me
Father ... whether or
not there’s a Ph.D.
after my name”**

.....

doctorate at Saint Louis U., and passed the comprehensive exams, but he ran into difficulties with his dissertation research. There were setbacks brought about by going from a theoretical to an experimental project (in nuclear scattering) and by the absence of his new advisor during most of a critical data-taking phase. Nevertheless, Fr. Wagener completed the data collection and was well into the analysis when his interest in continuing waned. It may be an oversimplification to say that he got bogged down in the details. I do know he was somewhat dissatisfied with the quality of his data. Nonetheless, the department chair assured him that he could get the degree if he would complete the analysis and write up his results. He decided it wasn't worth doing. “They’ll still call me Father” he told me once, referring to his students, “whether or not there’s a Ph.D. after my name.” Being a physicist was not paramount in Father Wagener’s life. He was first and foremost a Jesuit priest!

Throughout the three-and-a-half years that he pursued full-time studies at Saint Louis University, Fr. Wagener maintained his

dedication and service to the Creighton Physics Department. During break periods he returned to Omaha to serve voluntarily as our physics librarian. He did the new book orders and continued his relentless search for missing back-issues of professional journals and out-of-print classics using an AIP survey of physics libraries as a guide. It was a great love that he pursued without interruption from his very first days at Creighton until the day he died. He seemed always to have a reason to stop in at the Library during walks between his physics office in Rigge and his living quarters in the Administration Building. As a result of this untiring dedication, we arguably have one of the finest undergraduate physics libraries in the country — certainly the best he could possibly squeeze out of a limited budget.

In the fall of 1966, Fr. Wagener returned full-time to the Creighton Physics Department where he remained active until his death. At one time or another he taught nearly every physics course that we offer, from introductory astronomy and general physics to the most advanced courses at the upper division and graduate levels. But his impact on the Department went well beyond classroom teaching. There were many other tasks that Fr. Wagener fulfilled vigorously and without fanfare, right up until the time of his death: Departmental Librarian (including ordering physics textbooks as well as library books), Departmental Archivist/Historian (including responding to a multitude of surveys from outside agencies), keeper of records for all sections of General Physics, and certainly not least of all, Editor of *The Physics Newsletter*. Early on he set about to track down all of our physics alums and to compile an up-to-date mailing list (a task he completed shortly before his death). Certainly one of the great sources of joy and satisfaction for him was the contact that he developed and maintained with his

extended family, our physics alums. As noted at a faculty meeting shortly after his death, Fr. Wagener was a hard worker, conscientious and thorough, taking pride in what he did, unassuming. But perhaps his greatest contribution was the tone that he set for the Physics Department. He was a kindly, holy person, concerned

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**A kindly, holy person,
concerned about others,
a model of Jesuit
presence on campus**

.....

about others, here for the students, a model of the “Jesuit presence” on campus.

Fr. Wagener’s contributions went well beyond the Physics Department. He was a frequent visitor to those he knew who were hospitalized or confined to their homes. He said an early morning Mass each week for nuns at a local convent. (His failure to arrive to say Mass led to the discovery that he had died during the night in his room.) And throughout his many years at Creighton, nothing but occasional trips out of town, such as to visit his family, could keep him from hearing confessions on Saturday afternoon at St. John’s Church. As one of his fellow Jesuits, **Fr. John Ginsterblum**, noted at the Funeral Mass for Fr. Wagener: “He had a special gift of bringing peace of mind to the most troubled souls.”

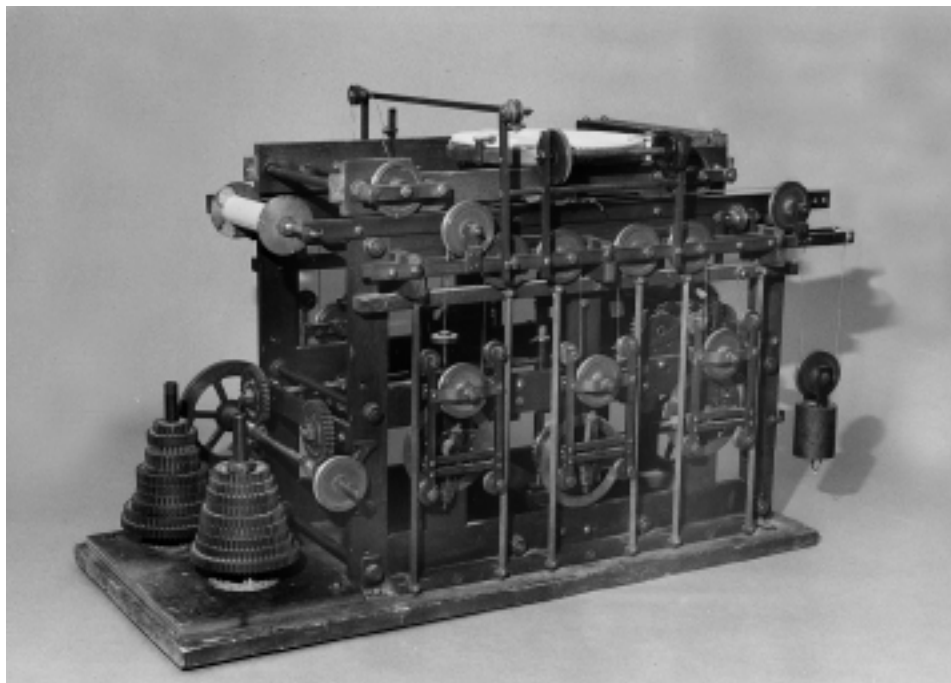
Over the years, Fr. Wagener and I shared many lively discussions ranging from science to philosophy to theology to politics. Not surprisingly, he was opposed to abortion. Yes, he was staunchly “pro-life.” But he did allow for some exceptions: he definitely was **not** pro-life when it came to pi-

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Creighton Grad Dedicates Articles to Fr. Wagener

The display case in the first floor lobby of the Rigge Science Building houses the world famous harmonic curve generator built by Fr. William F. Rigge, S.J., along with a copy of his textbook on harmonic curves. Fr. Rigge designed and built the machine, which he called the "Creighton Machine," during the period from 1915 to 1924. His book, *Harmonic Curves*, was published in 1926. He illustrated the book with curves generated by his machine. While many of our physics grads will remember seeing the device on display in Rigge, some older alums will no doubt recall the thrill of actually running it to generate curves.

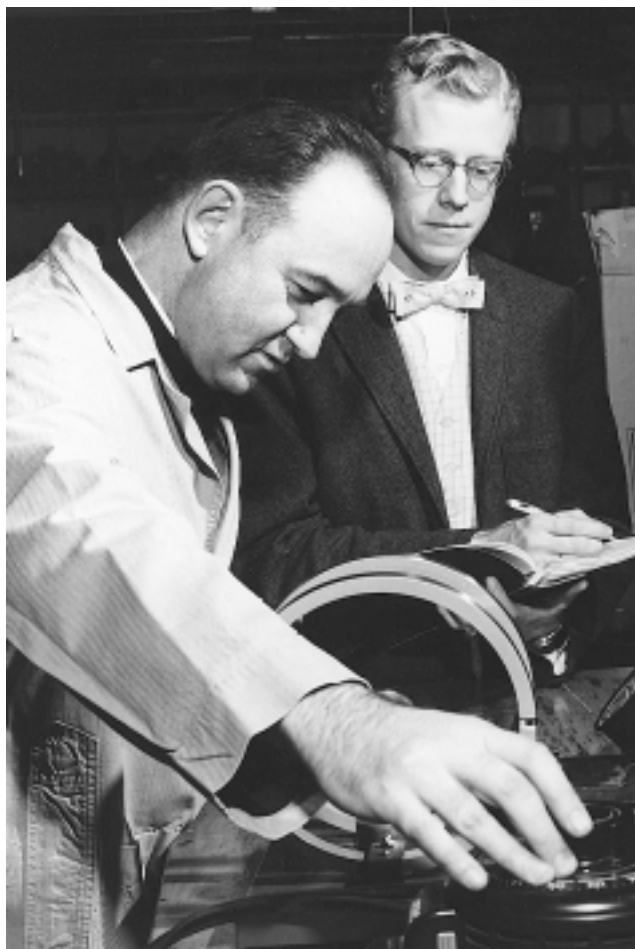
Now a description and photograph of the Creighton Machine (reproduced here) can be seen in the second of two articles recently published by former Creighton physics major, **Robert J. Whitaker, Ph.D.** (BS '58), Professor of Physics at Southwest Missouri State Uni-



Fr. Rigge's "machine" (above) has sat for many years in a glass case in the Rigge Science Building hallway, where thousands of students have seen it.

versity. Titled, "Harmonographs I Pendulum design" and "Harmonographs II Circular design," these extraordinarily well-

documented articles with many references to Fr. Rigge appeared in the February 2001 issue of the *American Journal of Physics*. Dr. Whitaker had this to say about the articles: "When people ask how long I worked on them, I tell them about 40 years. While this is exaggerating, they did have a beginning in Fr. Rigge's machine and book." Bob learned of Fr. Rigge's work first as a student, and later as an Instructor at Creighton from 1959-1960. He goes on to say: "I hope my articles place Fr. Rigge's work in historical perspective. ...When I was copying the manuscript to send to the Journal, I made an extra copy to send to Fr. Wagener. I am glad he got to see it; he had helped in many ways towards its completion." The first of the two articles contains a dedication to Fr. Wagener which reads as follows: "**Rev. C. M. Wagener, S.J.** of the Creighton University Department of Physics provided support and encouragement for this project for many years. This short statement is inadequate to express my appreciation. Fr. Wagener passed away 28 April 2000. This paper is dedicated to his memory."



Fr. Wagener (left) is shown with Bob Whitaker in this 1960 photograph.

Students Remember Fr. Wagener ...

The messages below are representative of the fond memories and expressions of deep respect for Fr. Wagener that have come from Creighton physics students spanning a period of 40 years.

Helped Get Pictures

Thank you for telling me about Fr. Wagener. I had gotten an email from him last week. He had helped me get pictures of Fr. Rigge's (harmonic curve) machine for an article for the *American Journal of Physics*. I shall miss his many kindnesses over the years.

—Robert J. Whitaker, Ph.D., (BS '58), Professor of Physics, Southwest Missouri State University.

Counting His 'Chicks'

My family and I live in Wayzata MN. Over Holidays and in the fall, Fr. Wagener usually called me when he was in town visiting his family. And I often was able to see him when I was in Omaha—as my husband's family still lives there and we usually visit at least at holidays. ...I hope the Physics Department will take on Fr. Wagener's mission to find all the physics graduates. He was very proud of his success—was counting his missing "chicks" when I saw him last February. I will miss coming down to Creighton and seeing all the new "stuff" when I am in town at New Year's.

—Anna Mary (Lyons) Delaney (BS '62), Trust Officer, IDS Trust, Minneapolis.

Profound Influence

I emailed Fr. Wagener just last week after receiving the physics newsletter. I was so impressed with the job he was doing keeping track of the Creighton Physics alumni.

...Fr. Wagener had a profound influence on me, always pushing me to do a little more. ...I decided to minor in physics while majoring

in mathematics. When I was signing up for a subsequent physics course at one of those registration sessions we had in the gym, he sat me down at his table during a low-demand time and told me that I needed to be thinking about doing a second major in physics. He thought I should do it and asked me to come by later to discuss a plan. I did opt for the double major, but I don't believe I would have if he hadn't challenged me with it. ...Of course the physics major was great preparation for my career as a mathematics professor. I have been daily thankful when I discuss applications that he steered me into it. Fr. Wagener was always so enthusiastic about physics and the Creighton physics program. He was a great salesman. At those times I met and corresponded with him throughout the years, I never saw that enthusiasm diminish. He was so proud of the graduates and what they had accomplished. I thought of him as extended family, someone you could always count on to be interested in your progress, personal as well as professional. He'll be missed.

—Jeanne (Slaninger) Hutchison, Ph.D. (BS '64), Mathematics Professor, School of Natural Sciences & Mathematics, University of Alabama at Birmingham.

Balance for Life

Fr. Wagener was a strong influence in both my professional career in Physics and its balance with other aspects of life. I'm sure my colleagues remember as I do, the many discussions we had on both topics. One of these discussions occurred on a random meeting, 25 years after my graduation! I was visiting Creighton and happened to run into him in the hallway. He acted as if no time had passed and asked, by name, if I would follow him to his office to talk. The results of Fr. Wagener's formal and informal teaching continue to influence me to this day.

—Robert J. Curran, Ph.D. (BS '64), Director, Goddard Earth Sciences & Technology Center, University of Maryland (UMBC).

Fanned the Flames

I, like many others, have Fr. Wagener to thank for showing us the great satisfaction that a career in physics could bring. Prior to his Engineering Physics class, my only experience had come from reading in magazines all the new things that were happening in physics. I remember thinking it sounded like an interesting area to look into. I had decided to try for it as I entered Creighton. His class fanned those flames of initial interest. I especially remember his supportive comments and his enthusiasm. My wife and I were lucky to be at Saint Louis University when Fr. Wagener went back to complete his Ph.D. He was then one of the graduate students with the rest of us. We had an occasion to provide Father with a ride back to Omaha during one of the break periods. He helped with the driving. We enjoyed the company and discussion as we nursed our 1948 Studebaker (in 1965) the 500 miles from St. Louis to Omaha. I have never forgotten that trip. It gave both of us a chance to know Fr. Wagener the man. His passing is our great loss. We will remember always his enthusiasm and genuine niceness and will keep him in our prayers.

—Joseph F. Fennell, Ph.D. (BS '64), Distinguished Scientist, Space Science Application Laboratory, The Aerospace Corporation, CA.

Steered to Physics

Very sorry to learn of Father Wagener's death. He was certainly the major factor in steering me into physics. I assume that I was not alone. Teachers are very special people. Jesuits are very special people. I guess he must have been (special)².

—Morris B. Pongratz, Ph.D. (BS '64), Deputy Group Leader, Group NIS-1, Los Alamos National Laboratory, NM.

. . . in Letters to Physics Department



Fr. Wagener works on book orders in his office in 1993.

Enjoyed Visits

Fr. Wagener...truly was a fixture of the Physics Department at Creighton, and he will be sorely missed. I very much enjoyed my visits with him whenever I would return to the campus. May he rest in peace. He will be in my family's prayers.

—**Timothy C. Ingoldsby** (BS Phy '69), Director of Business Development, American Institute of Physics, NY.

He Nurtured Us

I was very sorry to hear of Fr. Wagener's death. He was a tremendous scholar and teacher while he also nurtured us as people. He lived the Jesuit ideal in that regard. I will never forget the great positive influence that he had on my life. He taught us how important it was to think and reason and search for truth in our own small way. He helped to create that great environment for which Creighton is so famous and that I've never found anywhere else. Please give my sympathies to his family.

—**Marilyn J. Stangl, Ph.D.** (BS Phy '71, MS '73), Director of Processing Services, Lucent Technologies, NJ.

Sustained Contact

I was sorry to receive the news about Fr. Wagener. I remember him fondly and appreciate his efforts to maintain and sustain contact with former students. I am sure everyone will miss him.

—**Antonia Bennie-George** (BS Phy '75, MS '77), Physics Teacher, Green River Community College, Auburn, WA.

Cemented Interest

My first physics course at Creighton was taught by Fr. Wagener and he cemented my interest in the subject. I also remember my course in Modern Physics taught by Fr. Wagener in the Physics Seminar Room. Never did I have such an intimate class again; there were two of us. And I remember the other student's absence from a class did not stop Fr. Wagener from coming in, setting up his pile of notes, and begin lecturing as if he was speaking to a throng. The pressure was on when, after scrawling numerous equations on the board, he would turn to the group (N=1) and ask if there were any questions.

—**Patrick W. Corrigan, Psy.D.** (BS '78), Associate Professor of Psychiatry & Executive Director,

University of Chicago Center for Psychiatric Rehabilitation.

Pillar of Department

Fr. Wagener was a pillar of the Creighton Physics Dept., and I am certain he will be missed by all. ...He truly used every effort to keep in touch with the physics alumni.

The newsletter was a super idea, and we are all grateful that he led the project so successfully. I shall never forget the time he went on the sabbatical tour of Europe, and we were all waiting for each set of slides to show up in the mail, so we could follow his adventure across the sea.

—**Kathryn E. Polt** (BS Phy '83, MS '85), Quality Manager, Datacom Custom Manufacturing, McAllen, TX.

Latest Newsletter

I was very sad to hear Fr. Wagener passed away. Just about two weeks ago, I got the latest Creighton Physics Newsletter, thanks to Fr. Wagener's personal efforts (to track me down). I have many wonderful memories of Fr. Wagener registered in my mind during my physics graduate studies at Creighton about 16 years ago. Certainly he will be missed by all of us.

—**Y-Ming (Allen) Xiong, Ph.D.** (MS '85), Server Performance Engineer, Dell Computer Corp., Austin, TX.

Dedicated Teacher

I talked to Fr. Wagener by phone recently when he was working on the newsletter. Hearing his voice after so many years reminded me of how much I enjoyed my time in the Creighton Physics Department, learning from Fr. Wagener and everyone else. Clarence Wagener was a very kind and dedicated teacher and it is heartening to know that he still enjoyed working with students for such a long time. All of you that I knew in Physics are remembered by me with

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Undergrads Doing World-Class Research

Researchers at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory in Upton, New York, are hoping to recreate conditions that have not existed since millionths of a second after the Big Bang.

Protons and neutrons, which make up the nucleus of an atom, have their own constituent parts: elementary particles called quarks, and gluons that hold the quarks together. The quarks and gluons we observe are bound inside of particles. Scientists at RHIC, however, hope to change this.

Gold nuclei are accelerated around the 2.4-mile ring in opposite directions near the speed of light. When the nuclei collide, the energy densities can potentially reach a high enough level to allow the quarks and gluons to move about freely for an instant. This new phase of matter is called Quark-Gluon Plasma. No other experiment is energetic enough to create this unseen phenomenon. In short, this is currently the hottest High Energy Physics project *in the world*. Furthermore, Creighton University *undergraduates* have the opportunity to work on this exciting experiment, thanks to grants from the U.S. Department of Energy. [Principal Investigator: **Dr. Michael G. Cherney**; Co-Investigators: **Dr. Janet E. Seger** and **Fr. Thomas S. McShane, S.J.**]

The Creighton University Group is part of the multinational collaboration that conducts the Solenoidal Tracker at RHIC (STAR) experiment. STAR is one of the detectors in which the collisions actually take place. Creighton is in charge of the computer controls and status monitors of the huge detector. Undergraduate students have the opportunity to install hardware and program some of the software necessary for the experiment. They can do this over breaks (i.e. Spring, Summer, or Fall), or they can even spend an entire semester at STAR.



The Relativistic Heavy Ion Collider site in Upton, N.Y., at Brookhaven National Laboratory. The 2.4-mile ring where gold nuclei are accelerated is at top.

Creighton students who have traveled to Brookhaven to work on the experiment include seniors **Zulma Barrios** and **James Fiedler**, junior **Jeremy Schue**, sophomore **Nick Rebeck**, and freshman **Kerrick Stack**. Those scheduled to work there this summer are Nick Rebeck, Jeremy Schue, Kerrick Stack, juniors **Alex Lopez** and **Rebecca Redding**, and freshman **Nick Hatcher**. Undergraduates at

the experiment are able to experience the inner workings of a research collaboration. They learn the importance of cooperating with individuals from other schools and institutes (e.g. Yale University, Carnegie Mellon University, Purdue University) as well as other countries (e.g. Poland, Russia, Germany).

Very few college undergraduates have the opportunity to work on truly world-class research. Creighton University, though, is making it happen.



Fr. Tom McShane, S.J., is dwarfed by the STAR time projection chamber of the RHIC experiment.

Homily by Fr. Ginsterblum...continued

(Continued from Page 2)

money, equipment, books, all the necessary means of the Department. Clancy began the rebuilding of the Physics Department. I recall his joy at persuading **Tom Zepf**, a new Ph.D., into the Department. I don't know the details of the work of development of Physics to the status of today's Department of trained Physicists combining to educate undergraduates and graduates, and to do significant research. I do know that all of it rests on the tireless shoulders of Clancy Wagener.

Fr. Wagener was a man of many facets. He enjoyed working

Alums Remember Fr. Wagener

(Continued from Page 7)

fondness because of your kindness and commitment to your students.

—**Rosemary Kellen Boyle** (BS '85, MS '86), Graduate Fellow in Molecular Biotechnology, University of Washington.

Respect for Students

We all, as foreign students, treated Fr. Wagener with utmost respect, mainly because of his kindness and other good qualities. He was a wonderful person to all of us. Sometimes, I used to share my personal matters and other problems with him after I got to know him very well. As far as I could remember he enjoyed a wonderful life, and the greatest of all is that he entered into eternal life without suffering. Very rarely does death claim people like that, unless death occurs under tragic circumstances. I am sending this message to share my grievances with you all...His contribution, dedication and devotion to the entire physics department is irrecoverable. ...MAY HE ATTAIN "NIBBANA"! (eternal life according to our religion.)

—**Andravas U. De Vas** (MS '94), Software Engineer, Critch Research Inc., Ann Arbor, MI.

Behind the Scenes

I am very sad to hear about (Fr. Wagener's death). I know he did a

lot of behind the scenes work in the department to help keep things organized. He will be missed.

on mathematical puzzles. He provided copies of the Sunday Crosswords to us all, dutifully solving them himself. He spent his working days: in the classroom, in the labs, and in his office where he aided students and faculty alike. The Physics Department was a second home for him, his colleagues and students an extended family. Clancy meant much at Creighton University.

Clancy was a man of faith, a priest and thus "a man for others," and always a Jesuit. I was amazed to learn that he was a Saturday Confessor in St. John's Church at Creighton for a total of forty

—**Paul J. Teeter** (MS '97), Software Quality Assurance Engineer, iPlanet – A Sun | Netscape Alliance, Palo Alto, CA.

Made Me Feel Good

When I thought that I had lost my keys to the building, Fr. Wagener waited outside to let me in, and he helped me look for my keys. Noticing the frustration on my face, he comforted me by saying, "Don't cry over spilled milk, you'll find them later. I lost mine before, too." He always made me feel good!

—**S. Hakan Armagan** (MS'01), Graduate Fellow in Physics, Creighton University

He Did Battle With Thistles and Pigeons

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geons or thistles! He decimated the pigeon population around St. John's Church at Creighton — first trying to do it with a slingshot and then, successfully, with an air rifle. During his doctoral studies in St. Louis, the same fate was met by the pigeons around St. Francis Xavier Church on the SLU campus. Thistles fared no better. Armed with a sharp digging tool fastened to the end of a walking stick

years—from his arrival as a teacher to the last week of his life.

He was, without argument, a great priest, a dedicated teacher, a friend to many, an indispensable man.

But he was also very human, some would say eccentric. His brother Arthur said it better: "Clancy was a man who was blessed with many idiosyncrasies." He never looked well-groomed; he was innocent of designer clothes (an understatement to say the least); he waged war on pigeons, hunting them with an air-rifle; he fought thistles on campus—never winning but never surrendering.

In summary, Clancy was a great man, a lasting friend, a fine teacher, a brilliant man; he loved God and his neighbor, his family members, Creighton University, his fellow Jesuits, the Church. We who knew him will miss him.

I concluded the homily with reflections from the readings of the Mass, which included the Pauline assurances of our share in the promises of eternal life, of immortality, of beatitude in the final community with the Triune God and with the people of Faith, Hope, and Charity; and with Chapter Six of the Gospel of John and the Eucharistic Promise of eternal life. I remembered Fr. Clarence Wagener, S.J. as the sure recipient of the promises of Christ. I take these promises for myself; with his family and host of friends, for our consolation in our time of loss of Clancy our friend.

("you've got to dig them out by the roots or they'll come right back"), he roamed the Creighton campus, and the I-480 right-of-way bordering the campus, carrying on a relentless battle against thistles! The last time I saw Fr. Wagener alive he was standing by the elevator in the Rigge Science Building, thistle weapon in hand, about to embark on yet another battle against that "obnoxious weed."

Bazil N. Lazure to be First Recipient

Award to Honor Fr. Wagener's Service

At a recent meeting of the Physics faculty, an award in memory of Fr. Wagener was established: "The Fr. Clarence M. Wagener, S.J. Award for Outstanding Service to the Department of Physics."

Normally the award will go annually to the graduating senior who best reflects the qualities of dedication and service exemplified by Fr. Wagener. However, it was decided that the first-ever Fr. Wagener Award should be given in retrospect—to a former Creighton student, **Bazil N. Lazure**, for his lifetime of dedication and service to the Department of Physics.

A retired lieutenant colonel in the Army, Mr. Lazure received his BS degree at Creighton University in 1934 and an MS degree in 1939. After teaching briefly at Creighton (1946-1947), he returned in 1953 and has continued since then to be an active member of the Physics Department. Indeed, for a time he was the **only** member of its faculty. In 1977 he was named Associate Professor Emeritus. Even now in retirement, at the age of 88 (89 in July), Baz voluntarily serves the department by maintaining our visual aids equipment. He also serves the community: volunteering at a local homeless shelter and



Fr. Wagener (left) and Bazil Lazure. Lazure is first recipient of the Fr. Wagener Award.

providing transportation for the sick and the elderly. An avid fisherman, Baz gained recognition in the news media for his ice fishing on Carter Lake. He continues to enjoy fishing, as well as photography and many other activities.

Presentation of the first Fr.

Wagener Outstanding Service Award was to have been made in early May on the Creighton campus. Join the Physics Department in expressing our gratitude and congratulations to Mr. Bazil Newton Lazure, his wife Geraldine, and their five children: Kenneth, Leroy, Gerry, Robert and Linda!

Family of Physics Alums Grows by Eleven

Since the last Newsletter, we are pleased to welcome eleven new graduates to the Creighton family of physics alums, through December, 2000.

Our nine new Bachelor's Degree graduates are: **Scott J. Brick**, from West Des Moines, Iowa, who is planning to attend medical school in Iowa; **Steven B. Gronstal**, from Omaha, Neb., who is employed in electronics and computer sales in Omaha; **Torane W. (TW) Hull**, from French Gulch, Calif., who is employed in the Biomechanics Lab at the Creighton University Center for Osteopathic

Research; **Amy N. Hummel**, from Lincoln, Neb., who is a Graduate Fellow in the Department of Physics at Ohio State University; **Timothy K. Huyck**, from Omaha, Neb., who is a medical student in the Creighton University School of Medicine; **Gregory J. Kubicek**, from Willmar, Minn., who is a medical student in the University of Minnesota School of Medicine; **Michele W. Lee**, from Honolulu, Hawaii, who is employed fulltime and attending school part-time; **Dylan T. Thein**, from Memphis, Tenn., who is a Graduate Fellow in the Department of Physics and

Astronomy at UCLA; and **Sadiq U. Zaman**, from Glendale Heights, Illinois, who is a medical student in the Creighton University School of Medicine.

Our two new Master's Degree graduates are **Steven K. Brady**, from Omaha, Neb., who is a Graduate Fellow in Physics in a Ph.D. program at Washington University (Saint Louis) and **Yu Yuan**, from Tianjin, China, who is a Graduate Fellow in Physics in a Ph.D. program at the University of Notre Dame.

Seminar Program Features Four Alumni

During the Spring 2001 semester, the physics seminar program included four alumni guest speakers. The intent was to let our physics majors learn first-hand of some possible career paths after they graduate.

Mike Lopez (BS Phy '98) led off the schedule with a presentation on his current graduate research in nuclear engineering at the University of Michigan, entitled "Starting at \$70,000 with Signing Bonus, or Where your Physics Degree and Graduate Education in Engineering can take You." Ensuring a great reception for his talk and for the entire schedule, Mike generously provided free pizza to his audience.

The next of the alumni presentations was given by **Mark Cipolla**

(BS Phy '90, MS '94), who is a medical physicist based at St. Joseph Hospital in Omaha and employed by the Jaeger Corporation. His presentation concerned one of his major clinical activities, entitled "A New Method of Treating Prostrate Cancer: Transperineal Ultrasound Guided Implants using ^{125}I or ^{106}Pd ."

Dr. David Bruening (BS Phy '66), a physicist who is involved in training nuclear engineers at the Omaha Public Power District, led an informal discussion centered around his own personal experiences entitled "A Physics Degree as Preparation for an Engineering Career."

The last presentation was by **Chris Verzani** (BS Phy '92, MS '95) who is in the final stages of obtain-

ing the Ph.D. in physics. He spoke on "A Graduate Student's Experience in Atomic Physics Research at Kansas State University."

Seven undergraduate physics majors and two physics graduate students also gave presentations on their research participation or other areas of keen interest. Two outside guest speakers completed the program: Dr. Danny Dale of the California Institute of Technology spoke on "Infrared Diagnostics of Galaxies" and Dr. Richard McCray of the University of Colorado gave a presentation on "Supernova 1987A." The Spring 2001 Seminar program was organized by **Dr. Sam Cipolla**, Professor of Physics and Director of Creighton's Graduate Program in Physics.

Dr. John's Son Sajeev Making Big Mark, Too

Dr. P.K. John wrote to express his sadness on learning of Fr. Wagener's death. Some of our alums from the early '60's will remember Dr. John, his wife **Mariam**, and their young son, **Sajeev**. Having been recruited by Fr. Wagener, he joined our physics faculty in the fall semester of 1963 after completing his doctorate at Ohio State University. He quickly became a very popular teacher. Unfortunately his visa expired after only 18 months. From Creighton he went on to become a Professor in the Department of Physics and Astronomy at the University of Western Ontario in Canada where he has had a very successful career in condensed matter physics.

Little Sajeev, who attended the convent school run by the nuns of St. John's Parish, went on to get a doctorate in physics at Harvard University in 1984 and currently is a Professor at the University of Toronto, specializing in theoretical condensed matter physics and quantum optics. He also wrote of his sorrow on learning about the passing of Fr. Wagener. He has



Dr. Zepf (left) and Dr. P. K. John are shown in this 1963 photo. Dr. John's son Sajeev is shown below.



pleasant memories of his days in Omaha, and wondered if the convent school that he attended in those days was still there. Unfortunately it isn't, but clearly his memories of it live on!

On Dec. 17, 2000 **Dr. Sajeev John** was named co-winner of one of the science community's most prestigious awards, the 2001 King Faisal International Prize in Science! He shares this year's prize with Chen Ning Yang, 1957 winner of the Nobel Prize in physics. Sajeev John was the first to conceptualize the possibility of creating photonic band gap materials that would be capable of trapping or

localizing photons, much as a semiconductor localizes electrons. His research holds out the promise of photonic computers, with new capabilities and speed far surpassing their present-day electronic counterparts, using laser light to carry information instead of electric current.

His parents accompanied Sajeev as his guests when he went to Riyadh, Saudi Arabia, to accept the Prize, no doubt glowing with pride over their son's accomplishments. Members of the Creighton physics community share in that pride as well. Congratulations to a truly remarkable family!

Alumni Update: News from Our Alums

Gerald Schneider (BS '63) retired in August from his position as Director of the Computer and Imaging Laboratory in the Department of Biomedical Sciences at the Creighton Medical School. He began his career at Creighton as a part-time employee in 1959 and joined the Medical School full-time when he graduated in 1963. We still use some of the electronic equipment that Jerry assembled over 40 years ago while he was a student in the Physics Department.

Luke McCormick (BS '76) completed his tour as the Health Physicist and Radiation Protection Staff Officer for US Army Europe & Seventh Army and returned to the States last year. He and his wife Ursula enjoyed life in Europe and had some wonderful experiences over the last three years including stays in Italy, Hungary, Belgium, Luxembourg, the Netherlands and the Balkans and a one day visit to the Max Planck Institute, Particle Physics Research Center. Currently he is working for the US Army Corps of Engineers as a Health Physicist at the Hazardous, Toxic and Radioactive Waste Center of Expertise in Omaha.

Chungte (Bill) Chen, Ph.D. (MS '76) wrote at Christmas to say that he is still working at Raytheon systems in El Segundo, CA. Over the past decade he has been granted 30 patents in the optics technology area. "A lot of pleasant memories (about Creighton) still float in my mind. ..a very wonderful experience in my life." Bill and his wife Jenna have two daughters, Julia and Stacy. Julia has junior standing in Electrical Engineering at UCLA. Stacy is president of her school's Red Cross Club, taking piano lessons, and applying to colleges all over the country.

Mark Mildebrath (BS Phy '81, MS '83) emailed to say he was saddened by Fr. Wagoner's death. He continues to work for Essilor in R&D for anti-reflection coatings on ophthalmic lenses. He says he is

still traveling a lot and that the family is doing well.

Lt. Col. Lewis Hoffman, M.D. (BS '84) emailed recently to report that he went on from Creighton to become an Air Force Family Physician. After a tour in Japan Lew spent the past six years teaching in residency programs in Washington, D.C., and on the Gulf Coast in Florida. Currently he is serving as White House Physician, one of five military doctors who provide comprehensive medical care to the President, Vice President, and their families both at home and on the road. He feels very honored—"a truly great way to serve our country."

Larry Hicks (MS '84) emailed in February. He is Supervisor over a group of technicians for a company called Applied Materials in Austin, Texas but lives in San Antonio "where the cost of living is much lower." He goes on to say: "The company designs and manufactures semiconductor fabrication machines. Lots of new leading edge technology ... plasma physics, sputtering, etching, and accelerators (ion implantation). ...Great job for graduating Physicists. ...Check out the web site www.AppliedMaterials.com."

Kathryn Polt (BS Phy '83, MS '85) emailed a few weeks ago to give an update on her employment. Kay writes "... after 8 1/2 years with TRW, I am now at Datacom Custom Manufacturing. My title is Quality Manager. More responsibility, less stress, more money, fewer hours. What more can a girl ask for..." Datacom's factory is in Reynosa Mexico, just down the street from where she was previously working. She lives in McAllen, Texas. Her classmates will remember that it was Kay who painted the large sign in the Rigge stairwell announcing our Lower Level Physics Labs.

Dulip Welipitiya, Ph.D. (MS '89) wrote to say that he joined IBM in February 2000. His focus is on optical and magnetic materials.

Also, he and his wife have a new member added to their family, a baby girl.

Capt. Michael Dolezal, Ph.D. (MS '95) stopped by in July to say hello to **Dr. Cipolla**, his thesis research advisor at Creighton. Mike is in the Air Force, in charge of an electro-optical laboratory facility. He recently got his Ph.D. in Engineering Physics at the Air Force Institute of Technology.

Alicia Dwyer (BS Phy '99) wrote last May to say how sorry she was to hear of Fr. Wagoner's passing. She attends the George Washington University at the NASA Langley site located in Hampton, VA. "It is not the typical university setting," she says, "being at a research center, but we have had many great opportunities to meet the people and tour the many facilities they have here. ...It really is an exciting place." Alicia has been doing research on the atmosphere of Mars. "I do not get into the lab much. I spend most of my time writing computer programs. ...Programming has been a challenge and has made me think a lot. But it is all working out pretty well."

Jenni Sebby (BS Phy '99) emailed last August to say that her research was going well. "After (a paper on a new "non-destructive" imaging method) is out we'll be devoting all of our efforts towards an all optical Bose Condensate." Later she wrote: "I have spent the last three months studying away in preparation for my Ph.D. qualifying exam. The moment of truth came last weekend and after a week of waiting for results, I am pleased (and a bit surprised) to say that a passing score appeared on the top of my test! Rest assured that the celebrations will be underway shortly! I want to thank everyone for their thoughts, prayers, and for putting up with my whining."