Physics Department News

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF ARTS & SCIENCES

Volume 2, Issue 2 December 2003

INSIDE THIS ISSUE

- 2 A Note from the Editor
- 2 From the Chair
- 3 What's New at the University
- 3 Faculty Highlights
- 4 Staff Highlights
- 4 Accelerator Upgrade
- 5 PhysTEC
- 6 Distinguished Alumni Award
- 6 Alumni News
- 7 Recent Guest
- 7 Goldwater Scholar
- 7 New Grants
- 7 Student Awards
- 8 Recent Graduates
- 8 Department Roster
- 10 Photo Gallery
- 11 Feedback/Update Reply Form



A note from the Editor:

Beginning with this issue I am assuming the duties as the editor of the department newsletter, with a lot of assistance from Kerry Cochran in the physics office. In fact, without Kerry's help, it is unlikely that this newsletter would ever see the light of day. In order to keep you better informed of recent happenings in the physics department, it is our plan to publish two issues per year—one near the end of Spring semester (formerly Winter), and the other near the end of Fall semester. In this way, we can keep you abreast of our recent graduates as well as the various awards that are presented to students each semester.

We also plan to put each issue of the newsletter on the department website (www.wmich.edu/physics), you will be able to find more detailed information concerning our programs, our faculty, and the current research activities of the If you would prefer to faculty. receive the newsletter only by electronic means, or to access it directly at our website, that can be arranged as well. We plan to implement a system for electronic distribution in the near future, and you will be given the opportunity to choose the method by which you would like to receive the newsletter. We will, of course, continue to mail paper copies to each of you unless you instruct us to do otherwise.

If you have any feedback concerning the newsletter, e.g., in terms of format, other features you would like to see, or some information about yourself that you would like us to print, please contact me directly. You me contact bv email (john.tanis@wmich.edu), telephone (269-387-4940), or by fax (269-387-4939). Please note that the area code for this part of Michigan changed about a year ago (many of you will remember it as 616). Alternatively, can fill out the "Feedback/Update Reply Form" that will be included at the back of each issue of the newsletter. We would love to hear from you.

I hope you will enjoy this latest issue of the newsletter!

John A. Tanis, Editor john.tanis@wmich.edu

From the Chair:



One of the tasks I inherited from my predecessor was to see to the preparation of a brief history of the Physics Department at WMU, in connection Western's with Centennial celebration underway and which I'm sure you have all heard of. Those who know me know that it is not always easy for me to be brief in my writing. (I hope the editor has made his cuts to this column deftly.) Anyway, the College of Arts & Sciences, having many departments, centers, and institutes to fit into a small booklet, only wanted a couple of pages to cover 92 years of physics history at WMU (we became a separate department in 1911). That didn't stop me from taking some time to look over many old documents and photos, as I tried to learn what I could about our heritage, to distill it down to its most crucial and interesting elements.

I came away with a greater appreciation of what has gone before, and have been in a 'historical' mood ever since. Many things change over time, but many things remain constant. We had a variety of sources to work from as we tried to assemble this picture, but I was also struck by what we didn't have,

records which did not survive or were not easily accessible. Maybe some day these newsletters of ours will serve another purpose for someone in the future who may be interested to know what we were up to here in 2003.

Since the last newsletter, our strength in terms of numbers, faculty, staff and students, has remained steady, despite what some have called a financial "crisis". Michigan's economy remains in the doldrums, prompting the legislature to cut funding to higher education for the first time in a generation. Coming as it does at a time of increasing enrollments and wildly increasing costs for health care and other necessities, this has led to significant belt-tightening. Despite a hiring freeze, we were able to replace two key members of our department who have moved on.

Allen Landers, who was a post-doc here and then a member of our term faculty, got a tenure-track faculty job at Auburn University and left us over the summer. Since the upper administration recognizes how essential our service courses are to the rest of the university, we were given permission to fill that vacancy. We hired Phil Kaldon, who has long been associated with WMU physics and science studies, and was regularly employed as a part-time instructor for us. Welcome to the full-time ranks, Phil.

As the Fall semester began, our computer and electronics guru Mark Ely decided he wanted to leave us to join his family business. Mark had been supervising our electronics shop since coming over from Engineering back in 1994. There was a sense of mild panic as everyone realized how much we now rely on our computers for our day-to-day activities, how instrumental Mark had been in keeping them all running, and how little we could expect from the information central office of technology given the recent cutbacks. Once again administration allowed us to hire a

replacement, and we were fortunate that Benjamin Gaudio was interested. Ben had just been laid off from OIT, and has a lot of experience with Western and the types of computers and networks we use in our department. Welcome to Physics, Benjamin.

On a sadder note, we lost one of our most distinguished emeritii faculty this year. Haym Kruglak passed away on June 14 at the age of 94. Born in the Ukraine, Haym came to us from Wisconsin in 1954. In his long career here, he worked hard on improving the teaching of physics and astronomy, especially in the area of real live demonstrations of physical principles. This work didn't stop when he retired in 1977, as his publication record attests. We'll miss you, Haym.

The Centennial celebration officially started this Fall, and there has been no shortage of the appropriate pomp and circumstance. We in physics have been able to get in on the fun in several ways. Tom Dickinson ('63, who was mentioned in our last newsletter) came to campus to accept one of the Distinguished Alumni awards in October (see article later in this newsletter). Tom took a double major in Math and Physics, and was a member of the first class to graduate from the Honors College. Now at Washington State University, his successful career has been a source of pride for WMU physics. It was great to get his perspective on how things were back in the early years of the "space age". We were also fortunate that this year's ΦBK visiting scholar was a physicist. Thanks to the efforts of our local chapter and the financial support of this national honor society, we were able to enjoy a visit by noted author James Trefil, whose recent work has been in the important area of science literacy (see "Recent Guest" section for further information).

Also this semester, we were thrilled by a surprise visit from Fred LaViollette, who graduated from Western with a physics degree in 1938! He came for homecoming with his wife and son, and I was honored to be able to show him around our facilities. It was a highlight of my time as chair so far, and I hope he enjoyed it as much as I did.

I hope you enjoy reading this newsletter. As always, I want to thank the editor and staff who have put it together. If you have access to the internet, you can find the history of Arts & Sciences I referred to at http://www.wmich.edu/cas/history.ht ml. The link to physics on that page has a somewhat longer account, but without the pictures. I now have a document in my possession that runs ten pages with about a half dozen pictures, which I can make available if there is interest.

Paul V. Pancella, Chair paul.pancella@wmich.edu

What's New at the University

Dr. Judith I. Bailey became the seventh president of the University in June. Before coming to WMU, Dr. Bailey served as the president of Northern Michigan University since 1997. She succeeded Elson Floyd, who left WMU in January to become president of the University of Missouri system. Dr. Dan Litynski, who had served as interim president since Floyd left the university, returned to his position as provost and vice president for academic affairs upon the arrival of Bailey.

Dr. Len Ginsberg was appointed interim Dean of the College of Arts and Sciences in January, following the appointment of Dr. Elise Jorgens to the position of interim provost, at the time that Litynski became interim president. Jorgens left WMU in July to take the position of provost and senior vice president for academic affairs at the College of Charleston.

The new **Parkview Campus**, the home of the university's College of Engineering and Applied Sciences, was completed during the summer

and opened its doors to students for the start of the fall semester. The academic building is the largest at WMU and houses nine departments with a student enrollment of around 3000. The campus is located on the property at the southeast corner of the intersection of Drake Road and Parkview Ave. An extensive schedule of Metro busses (city of Kalamazoo) has been implemented to transport students between this new campus and the main campus.

Faculty Highlights

Nora Berrah received the David S. Shirley Award for "Outstanding Scientific Achievements at the Advanced Light Source", Lawrence Berkeley National Laboratory. The ALS is a so-called third generation light source in which electrons are accelerated to relativistic speeds in a synchrotron to produce high intensity beams of photons for both basic and applied research. The ALS currently has about 1200 users. The award. which was the first for work in Atomic, Molecular, and Optical (AMO) physics at the ALS was presented jointly to the WMU team led by Dr. Berrah for pioneering work with negative ions, to the team led by Prof. Ron Phaneuf from the University of Nevada-Reno for work positive ions. and their collaborator, Dr. John Bozek, the beamline scientist from the ALS. The award was presented in October 2002.

Tom Gorczyca received a Faculty Research Achievement Award and Robert Poel received a Faculty Professional and Community Achievement Award from the College of Arts and Sciences in recognition of their outstanding efforts in the areas of research and service, respectively. Each year, A&S selects at most three faculty within the college who have excelled in the areas of teaching, research, and service. These awards, which were initiated about two years ago, are presented annually in January at the

time of the Dean's State of the College address.

Our congratulations to **Lisa Paulius** and **Clem Burns** who are the proud parents of a new baby boy! Daniel Min Jae Paulius-Burns arrived in Detroit, where Lisa and Clem picked him up, on November 5th from Korea. Daniel was born on June 13, so as of this writing he is about 6 months old. Now Lisa and Clem can look forward to the many sleepless nights, which many of the rest of us remember very well! We wish the proud new parents and their son all the very best.



Daniel Min Jae Paulius-Burns

As already noted earlier in "From the Chair", **Phil Kaldon**, or Dr. Phil as he is known to his students, has joined the full-time ranks of the department faculty, albeit on a term appointment.



Dr. Phil

Previously, Phil taught for us nearly every semester on a part-time basis for the past several years. Phil loves physics and he conveys his enthusiasm for the subject to his students, who seem to genuinely appreciate his unique teaching style. Quite typically, Phil can be found speaking with a student nearly any time that he is not in class. Since

beginning to teach in the department, Phil has taught most of the introductory classes, including PHYS 107, 113, 115, 205, 207, and 309, as well as the honors section of PHYS 207. Welcome to the full-time faculty, Phil!

Staff Highlights

Rick Welch, our superb department instrument maker, received one of the Annual Staff Service Excellence Awards for 2003, which comes with a \$1000 cash prize. These awards are a joint program of the APA, AFSCME, MSEA, POA, PSSO, and Human Resources "to honor nonfaculty employees whose service can be considered outstanding and beyond the call of duty." There are two components to the award program. Each semester up to 12 employees are selected for a Semiannual Award, for which they receive \$100. From these semiannual winners up to 4 persons are selected to receive the Annual Award. In addition to the cash prize, the recipients receive framed certificates (presented by president Bailey), have their photos displayed in the Seibert Administration Building, and they are treated to a luncheon held in their honor.

Rick was nominated by physics department members. One nominator wrote, "Much of the credit for the success of the research program in the physics department must go to Rick." Another wrote, "Rick's level of commitment is extremely rare anywhere and we are exceedingly fortunate to have him. His aid to students, his help in improving the capabilities of the department and the University, his good humor and his great willingness to help go far above his duties."

Way to go Rick!!!

Benjamin Gaudio joined the department in October as our new computer guru. He replaces Mark Ely who held this position since 1994. Mark left WMU to join his

family's business. While his official title is Electronics Shop Supervisor, a capacity in which Benjamin is also responsible for many of the electronics needs of the department, it is likely that he will spend most of his time tending to the departments computers and LAN (local area network). The number of PCs in the department now totals about 50, and Benjamin is responsible for helping faculty, staff, and students to set up their computers and also to help solve various hardware and software problems.



Benjamin Gaudio...at work!?

Benjamin was caught in the first wave of university budget cuts this past summer, and he was laid off from his position in the WMU Office of Informational Technology, where he worked since September 2000. This bad fortune turned into our good fortune, however, as we were able to hire him only a few months later. Benjamin is a native of Kalamazoo, and he graduated from WMU in 1997 with a B.B.A. in Management. Following his graduation, he worked at Norman Camera in Kalamazoo, first as a web developer and later as their information systems manager. Despite still being at the early stages of his career, Benjamin brings a wide range of experience to his new position in the department.

Welcome Benjamin!!!

Accelerator Upgrade

In June of this year, a National Science Foundation Major Research Instrumentation grant in the amount of \$166,000 (including a 30% contribution from WMU) was received for the purpose of

upgrading the WMU accelerator located in the basement of Rood Hall. The grant, for which John Tanis, Emanuel Kamber, and Alan Wuosmaa serve as the PIs, provides funds for a new Pelletron charging system, a turbomolecular pump to be installed in the terminal of the accelerator, and a new state-of-the art computer data acquisition system. Steve Ferguson, our long time accelerator physicist, will be in charge of the installation of these items, with much help from Allan Kern, the accelerator engineer, and Rick Welch, the instrument maker.

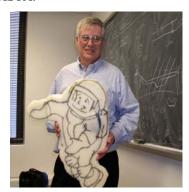
The real heart of the upgrade is the Pelletron charging system that will replace the old fabric charging belt. As it turns out, it is no longer possible to purchase replacement belts for our machine. Presently, we are using (for more than four years now!) a belt that had been previously used at Kansas State, where they have an accelerator identical to ours. The Pelletron charging system, which resembles a fat bicycle chain consisting of metal conducting pellets separated by insulating nylon links, was developed about 25 years ago by the National Electrostatics Corporation in Middleton, Wisconsin. This charging system has proved to be much more reliable, stable, and cleaner than the old style belts and most of the Van de Graaff laboratories similar to ours now use the Pelletron.

With this upgrade, we expect that our accelerator will continue to be used for teaching and research purposes for many years to come. It is notable that the accelerator is used every semester to re-enact Rutherford's famous backscattering experiment for students taking the department's modern physics class, as well as each spring for high school seniors from the Kalamazoo Area Mathematics and Science Center each spring. The accelerator is also used extensively for atomic and nuclear physics research, much of which has been supported by the U.S. Department of Energy. This research has provided

the basis for numerous M.A. and Ph.D. projects.

PhysTEC

WMU is now in the third year of its six-year project with the National Foundation Science and American Physical Society prepare new and future teachers of science to carry out inquiry-type discovery-based instruction and laboratories. In the second year of the project the Department of Physics continued developing the PHYS 206 and PHYS laboratories and organized small groups in the PHYS 205 and 207 lecture sections where students can discuss problems and engage in "sense-making" activities. Additionally, we have provided opportunities for future physics teachers to get together to discuss their profession and to participate in state conferences of the AAPT and MSTA.



Teacher-In-Residence, Eugene Wood, with one of his many innovative lecture demonstrations. The Styrofoam figure contains a number of small lights, including one at the center of mass. When thrown in a darkened room, the parabolic path of the center of mass is clearly visible.

Our work during the second year was greatly assisted by our Teacher-in-Residence (TIR), Dale Freeland, who has now returned to Portage Central High School. Dale will continue to be active in the program's mentoring and induction activities. His successor in the department in year three is Eugene Wood, a 39 year

veteran of, and recent retiree from, Parchment High School. Eugene is observing the introductory classes here and is learning about physics instruction at WMU. He has already contributed a number of new lecture demonstrations and frequently assists with small group work in class.

In addition, he is working with future teachers in the optics course PHYS 352, has visited other PhysTEC sites, and is revising the WMU TIR handbook.

Representatives from the granting agency visited WMU last year and summarized by their findings by stating: "We believe that the PhysTEC program at WMU is one of the best, and that it serves as an exemplar". The formal Year Two external evaluation of Western's PhysTEC program reached the following conclusions: "Every activity that WMU has engaged in has been directly aligned with their Strategic Plan. They have met every objective that they established for themselves with the exception of collaborating with regional community colleges."

We have monitored the quality of the course improvements by conducting two parallel courses, one taught regularly and one taught according to reform protocols. A closely studied statistic that monitors conceptual improvement in reformed physics courses is the "normalized gain" on an evaluation instrument designed for the course. The evaluation instrument for PHYS 205 (first semester of calculus-based physics) is the Force Concept Inventory, and the evaluation instrument for PHYS 207 (second semester of calculusbased physics) is the Conceptual Examination in Electricity and Magnetism. The instrument is administered twice, early in the semester and again in late in the semester. This statistic measures the improvement provided by semester's worth of instruction and is defined as the improvement achieved divided by the improvement For Spring (formerly possible.

Winter) '03, the improvement for both PHYS 205 and 207 for the PhysTEC course format was 3-4 times greater than for the traditionally taught course.

Distinguished Alumni Award

Prof. J. Thomas Dickinson, a 1963 B.S. graduate in physics, received the WMU Distinguished Alumni Award. The award was established by the WMU Alumni Association in 1963 "to recognize alumni who have achieved a high level of success in their chosen fields of endeavor, thus bringing distinction to themselves and their alma mater." Each year, a maximum of three alumni can receive this award.



Professor J. Thomas Dickinson

Dr. Dickinson did his graduate work at the University of Michigan, where he received the Ph.D. in 1968. He immediately joined the faculty at Washington State University in Pullman, where he has taught and conducted research ever since. Tom has earned distinction for both his research and teaching. In 1993, he was awarded the WSU President's Excellence Award for Research, and 1991 delivered he Distinguished Faculty Address. He received the College of Sciences Outstanding Researcher Award and named a Westinghouse 2001. 1994. Professor in In Dickinson won the Thomas Lutz Teaching Award, and he was recently named as WSU's first Paul

Anderson Distinguished Professor of Physics. He is a Fellow of the American Physical Society, and he was selected as one of the first 20 Fellows of the American Vacuum Society.

While the official ceremony honoring this year's recipients of the Distinguished Alumni Award was held in conjunction with the centennial homecoming celebration, Tom was unable to attend at that time. Instead, he visited WMU a couple of weeks later, during which time he presented a department colloquium entitled, "The Interaction of Ultraviolet and Ultrafast Lasers with Materials". The next day, he was honored in a ceremony at the Lee Honors College, of which he was an inaugural member, and he also presented a public lecture entitled "The Enormous Little World of Nanotechnology". Both of these talks were very well attended and thoroughly enjoyed by all present. Congratulations on your many successes Tom!

Alumni News

Nicola Orsini (B.S. '72) writes that he is presently chairperson of the Physics and Physical Science Department at Marshall University, a position that he has held since 1991. Earlier, he received a Ph.D. from the University of Michigan.

David Jon Peters (B.S. '75) has been a physics teacher at East Kentwood High School Kentwood, Michigan for the past 15 years. He writes that 90% of the material that his students are exposed to was written by him. Prior to arriving at Kentwood, he taught in Allendale for 12 years, and he also worked for one year in the test lab at Herman Miller Company. received an M.A. in Education (Instructional Technology) from GVSU in 1992.

We received a nice letter from **James Slusser** (B.S. '77 and M.A. '80) who writes:

I remember the excellent classes taught by Drs. Shamu, Derby, Hardie, Carley, Soga, Nichols, Dotson, and Oppliger. Dr. Bernstein became my master's advisor and introduced me to the Van de Graaff accelerator and atomic physics.

Armed with a master's degree I headed to Chicago where I became laboratory director of Loyola University. I had TA'd the three core engineering physics labs at Western and had many talks on the philosophy of learning with Bill Merrow, so the job went well. There was a machine shop where I learned the basics of instrument design, or the first rule of experimentation: keep the experiment solidly bolted down.

After four years I moved on to Atlas Electric Devices where I designed an ultraviolet (UV) outdoor radiometer. In the process of design work I read journals and books at Northwestern's library on the factors influencing atmospheric UV transmission (ozone, aerosols, clouds molecular scattering) which led me back to further studies at the University of Alaska in Fairbanks. There I studied radiative transfer and trace gas spectroscopy of nitrogen dioxide, a crucial catalyst in the balance of ozone production and destruction. Following a two year post-doc at Cambridge England under Dr. Rod Jones studying the influence of volcanic aerosols on Antarctic ozone abundances, I took a with the USDA UV-B Monitoring Program at Colorado State University. In 1999 I became the Director of the program and have seen its budget expand from \$1.0M to \$2.25M. Those curious might check out the program's website (http://uvb.nrel.colostate.edu).

I am learning more about not only aerosols and clouds, but plant and root physiology as well. My current outside interests include four-season gardening using self-made cold frames, the history of 18th century science, and the accurate determination of g with a 17-foot

pendulum that swings from the rafters of my wife's horse barn/laboratory.

Recent Guest

James Trefil, noted author and physicist, visited WMU on November 12 and 13 as part of the national ΦBK Visiting Scholars Program. His visit was hosted by the WMU chapter of ΦBK and the physics department, with additional support from the national ΦBK Society and the office of the Provost.

Dr. Trefil has done research and published in many areas of science, including elementary particle physics, fluid mechanics, medical physics and the earth sciences. Much of his recent work centers around scientific literacy. He is currently the Clarence J. Robinson Professor of Physics at George Mason University in Virginia. Earlier, he was on the faculty at the University of Virginia at the time that Nora Berrah was a graduate student there.

During his visit to WMU, Dr. Trefil interacted with faculty and students in a variety of settings. He also gave presentations: a physics department colloquium entitled, "Scientific Literacy: What It Is, Why We Don't Have It, and What We Can Do About It.", and a public lecture entitled, "Who Killed the Dinosaurs: A Scientific Detective Story." The latter event, an evening lecture that was held in a large auditorium in the Business College, drew an audience of around 300 persons of all ages.

A native of Chicago, Trefil studied as a Marshall Scholar at Oxford University, where he was awarded the B.A. and M.A. degrees in physics and the philosophy of science. Later, he studied as a National Science Foundation Fellow at Stanford University, where he received the Ph.D. in theoretical physics in 1966. He held postdoctoral, visiting, and junior faculty positions at several major accelerator laboratories such as SLAC, MIT, and Fermilab, before

joining the faculty at Virginia. In 1987 he was appointed to the faculty at George Mason University.

Prof. Trefil has written extensively about science for general audiences, including more than 25 books. He is the Contributing Editor for Science for *USA Today Weekend*, and contributes regularly to *Smithsonian* and *Astronomy* magazines. He has served as a commentator and member of the Science Advisory Board for National Public Radio and for numerous PBS productions.

During his visit to WMU, Dr. Trefil made one special request of the department—that he be taken on an excursion to the "nearly world famous" Bell's Brewery in downtown Kalamazoo. Tom Gorczyca, Kirk Korista, and yours truly were more than eager to accompany James for this very special event!

Goldwater Scholar

Senior **David P. Hoogerheide** ('04) of Portage, MI was selected as only the second University recipient of a prestigious Barry M. Goldwater Scholarship, the premiere undergraduate award of its type in the fields of mathematics, the natural sciences, and engineering. The award was established by Congress in 1986 to pay tribute to Senator Goldwater and to encourage students to pursue careers in those fields. In 1996, Marc A. Humphrey, also a physics major, was selected as WMU's first Goldwater scholar.

David was chosen for the Goldwater award on the basis of academic merit from among 1093 applicants nationwide. The application process includes a nomination from the student's university, an essay and short answers to several questions, and letters of recommendation. A total of 300 students received these awards for 2003-04. The awards cover the cost of tuition, fees, books, and room and board up to \$7,500 per year.

David is majoring in both physics and chemistry, and he has maintained a perfect 4.0 grade point average at WMU. He is a member of the Lee Honors College, and last spring he was named as the Department of Chemistry's Presidential Scholarthe University's highest honor for senior undergraduates. In Spring '04 David will represent the physics department as its Presidential Scholar.

Presently, David is conducting research in solid state physics with Dr. Clem Burns. This work with metal-ammonia solutions will form the basis of David's honors college thesis. Following graduation, he plans to pursue a doctoral degree in physics.

We salute David for receiving the Goldwater Scholarship, and for his numerous other accomplishments. We wish him the very best in all of his future endeavors!

New Grants

Nora Berrah, U.S. Department of Energy, Basic Energy Sciences, Division of Materials Science, for project entitled "Studies of Complex Systems: From Atoms to Clusters". Awarded \$400,000 for the two-year period starting June 2003.

John Tanis, Emanuel Kamber, and Alan Wuosmaa, National Science Foundation, Major Research Instrumentation grant, for project entitled "Acquisition of Upgrade Equipment for the WMU tandem Van de Graaff Laboratory". Awarded \$115,086 for the period from Sept. 1, 2003-Aug. 31, 2004.

Student Awards

David Carley Memorial Graduate Award:

Spring 2003

Talal Al Tahtamouni Fatih Hasoglu Lihua Wang

Jacob Dewitt Outstanding 205 Roshan Kochuparampil Department Roster **Teaching Award:** Aaron Rimpel Addis Brett **Faculty** 207 Spring 2003 Nora Berrah Jerry Boza Jamie Baran Joseph Hopkins Clement Burns Gokmem Olmez Justin Klein Michelle Tuel-Benckendorf Sung Chung 309 Bryan Leslie Lucian Undrieu Thomas Gorczyca Spring 2003 Dean Halderson **Leo Parpart Scholarship:** 100 Joseph Rohroff Gerald Hardie (Assistant Chair) Andrea Blyskal 101 **Fall 2002** Charles Henderson 104 Nicholas Ruland Ileana Dumitriu 106 James Talia Philip Kaldon Fatih Hasoglu 107 Andrew Myers **Emanuel Kamber** Huaizhen Zhang Joshua Langeland 113 Kirk Korista Lauren Sheill Spring 2003 Arthur McGurn 115 Timothy Houchin Samah Abdul-All Paul Pancella (Chair) 205 Anthony Marciniak Osama Abu-Haija Kyle Meadows Lisa Paulius Ileana Dumitriu Nathaniel Meyers Ximao Feng **Bob Poel** Brendon Thiede Sabbir Hossain Alvin Rosenthal 207 Aaron Rimpel Lucian Undreiu Kevin Schaefer David Schuster **Nathan Nichols Scholarships:** 309 Justin Klein Robert Shamu Spring 2003 John Tanis **Recent Graduates** Jennifer Dragicevich Alan Wuosmaa David Hoogerheide B.S. Aletta Zietsman-Thomas **Fall 2003** December 2002 **Emeriti** David Hoogerheide Richard DeBoer Eugene Bernstein Adam Lincoln Jacob DeWind Stanley Derby (Adjunct faculty) Christopher Vanmeter **Paul Rood Scholarship:** Dean Kaul Michitoshi Soga Spring 2003 April 2003 James Zietlow John Heredia Layne Churchill Adam Lincoln Futaba Okamoto Staff Christopher Southwick Kerry Cochran **Presidential Scholar:** Steve Ferguson Spring 2003 M.A. Beniamin Gaudio Futaba Okamoto April 2003 Allan Kern **Charles Wilcox Memorial Award:** Zsolt Rak Lori Krum Spring 2003 June 2003 **Bob Scherzer** Richard DeBoer Rick Welch Talal Ghannam **Post-doctoral Research Associates** August 2003 **Book Awards Fall 2002** Talal Al Tahtamouni René Bilodeau Mariana Barbu 102 Zoheb Sait **PhysTEC** Brendon Thiede Ph.D. Eugene Wood 104 Samuel Newton 106 Joshua Langeland August 2003 **Graduate Students** Jairus Baird 107 Marco Wiedenhoeft Abdul-All, Samah (Jordan) Robbie Harmer

December 2003 Physics Department News 8

Abu-Haija, Osama (Jordan)

Rachel Schleichert

Andrew Powers

113

115

Al Shehri, Mohammed Ali
(Saudi Arabia)
Al Tahtamouni, Talal (Jordan)
Baran, Jamie (Michigan)
Canton, Sophie (France)
Danila, Bogdan (Romania)
DeWind, Jacob (Michigan)
Dumitriu, Ileana (Romania)
Feng, Ximao (China)
Ghannam, Talal (Syria)

Hasoglu, Fatih (Turkey)
Hossain, Sabbir (Bangladesh)
Kodituwakku, Nalaka (Sir Lanka)
Olmez, Gokmen (Turkey)
Price, Rod (Michigan)
Said, Ayman (Jordan)
Toader, Ovidiu (Romania)
Tuel-Benckendorf, Michelle
(Oregon)
Undreiu, Lucian (Romania)

Vyas, Anjali (India)
Wang, Lihua (China)
Wang, Liming (China)
Wang, Xue (China)
Wardwell, Jeffery (Michigan)
Zhang, Huaizhen (China)



Photo Gallery



Feedback/Update reply form

Please use this form to update our mailing list, and/or to let us know what you have been doing, and what you would like to see in future newsletters. Fill out any portion of the form below and return to: **Newsletter Editor, Physics Department, 1120 Everett Tower, Kalamazoo, MI 49008-5252**

Name				
first	middle	las	last	
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city		state	zip	
Home phone	Email			
Employer	Job title	·		
Work address				
If alumni, degree and year:				
Tell us more about yourself,	, and/or what you would like to s	see in future newslett	ters:	

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