

News @ CHEM/BIOCHEM

Newsletter #6

University of Wisconsin-Milwaukee

Winter 2004-05

George W. Keulks

Symposium on Nanotechnology in Honor of Dr. George Keulks

On October 15, 2004, the Department of Chemistry & Biochemistry, along with the Graduate School and the Laboratory for Surface Studies hosted a symposium on nanotechnology in honor of the late George Keulks.

As many of you already know, UWM has had an outstanding Center for Surface Studies since the 1970's with scientists from Chemistry, Physics and Engineering. This was due in large part to the continued efforts of George Keulks, the Dean of the Graduate School, a chemist and a well-known, well-respected surface scientist in catalysis. George was devoted to this institution, to his colleagues, and to his students in promoting a vision of what scholarship should be. He was a true proponent of research and scholarship at UWM. Unfortunately, he passed away several years ago and he is sorely missed. This symposium on nanotechnology was set up in his honor.

We were fortunate to have several experts on nanotechnology to speak at the conference. After a brief introduction to the symposium by Chancellor Santiago, and a tribute to Dr. Keulks as a mentor by Dr. Dave Krenske, a former student, Professor J. Fraser Stoddart, Fred Kavli Chair in NanoSystems Sciences and Director of the California NanoSystems Institute at UCLA in Los Angeles, CA presented a talk entitled "Nano Meccano". He discussed the role of physical environment on molecular electromechanical switching in the context of nanoelectronics and described how he has managed to convert chemical energy into mechanical energy using a palindromic, bistable rotaxane. He also discussed how supramolecular machines trapped in glass and mounted on a film surface can be driven chemically.



Some of the symposium's featured speakers included (l-r) Dr. Ivan Petrov, Dr. Dave Krenske and Dr. J. Fraser Stoddart.



Dr. George W. Keulks, scientist, mentor, scholar and administrator, served as Dean of the Graduate School and Research from 1975 to 1997. This was a period of unprecedented growth in scholarship, research and extramural support at UWM, driven in large part, by George.



Newly appointed Chancellor Carlos Santiago opens the symposium with his remarks on the future of research at UWM.

Professor Ivan Petrov, Director of Center for Microanalysis of Materials at the Frederick Seitz Materials Research Laboratory at the University of Illinois-Urbana Champaign in Urbana, IL discussed the control of nanostructure evolution in metastable transition metal nitride layers using high-flux, low-energy ion irradiation during growth. He described how he uses high-flux, low-en-

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Annual Meeting of UW-System Chemistry Department Faculties

On October 1 & 2, 2004, the Department of Chemistry & Biochemistry hosted the annual meeting of UW-System Chemistry Department Faculties. Chemistry faculty members from all UW campuses were invited to Milwaukee to participate in this annual event. A different campus hosts the event each year, and this year the Milwaukee campus was chosen.



The meeting began with a poster session by meeting attendees and UWM Grad students, followed by a dinner at the Zelazo Center featuring keynote speaker Lt. Gov. Barbara Lawson. Her talk centered around education goals of the governor's office and what has been done so far.

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Notes from the Chair

Enrollments are up up up, almost to the point that we approach discomfort! It could very well be that UWM will consider caps. We may also reconsider our considerable remedial instruction effort. I'm not exactly (or even approximately) in charge of the future of this, but I can report happenings to all of you as they and if they occur.

Our first hosting of the UW Chemistry Faculty Meeting went very well, probably because I was out of the loop! Professors Surerus, Tysoe, Holme, Geissing and Hossain made sure that everything was well-planned and thoughtful. Our front office (Tammy Pettera, Wendy Grober, Elise Nicks and Laura Hall) did a marvelous job with details and gophering for all our guests. Poster sessions were lively and well-attended. Our banquet speaker was the Lt. Governor of Wisconsin, Barbara Lawton. I must write a few lines about her. She is blessed with social conscience and lots of skill and energy. She was born in Milwaukee and grew up on a farm in Racine County. She has lived most of her adult life in Green Bay, with a few years in Mexico and South America and Madison. She speaks Spanish and is a strong supporter of multiculturalism. Her bio reads student, grad student, academic, wife, mother, grandmother, social activist, educator, board member and, finally, Lt. Governor. It was her first elected office and she was drafted by popular demand of those who know her. Her campaign cost next to nothing. As I read this over, it sounds like I was quite impressed by her. I was. And so was everyone else.

Professor Jim Cook organized a symposium in honor of the Late Professor of Chemistry and Dean of Graduate School George Keulks. As many of you know, George did tremendous things for UWM. Jim chaired a faculty Symposium Committee which planned the program. Our office staff (Tammy, Wendy, Elise, and Laura) really really put their backs into it too. Following another lively poster session, we were welcomed by our new Chancellor Carlos Santiago. We then heard George described as a Mentor by Dr. David Krenzke, one of George's first Ph.D students and a longtime friend. Most of the rest of the Symposium focused on nanoscience. Professor J. Fraser Stoddart from UCLA presented "Nano Mecanno" (I love that title!) and Professor Ivan Petrov from U-Illinois Urbana-Champaign presented "Control of Nanostructure Evolution During Growth". Our very own Professor Marija Gajdarziska-Josifovska in Physics then ably stood in for Professor Alain Kaloyeros from SUNY Albany, who watched his flights get cancelled! Marija spoke about nanoscience and surface studies and life at UWM with and without George Keulks. It was fun watching Professor Cook try to introduce her without having to say her last name! The session closed with personal memories of George at UWM shared by our Acting Graduate Dean Dale Jaffe. Then off we went to the Reception and later dinner for great fun and lively conversations! We were happy to see George's family.

Our new Colleague Professor Jörg Woehl is now with us. We welcome him again. VISA problems were only able to briefly delay him, his wife, Aude, kinder-twins and infant. Now his real test: Physical Plant! I'm sure with Tammy's assistance it will be fine!

We are still waiting for a Dean of Graduate School and a Provost. Maybe next issue!

It's close enough to Christmas for glimpses of holiday thought. My favorite things: like Scrooge, Christmas past; Jacob Marley beyond earthly redemption pleading nevertheless for Scrooge's redemption; the joy that It is a Wonderful Life; Ralphie's Christmas quest for a Red Ryder BB gun; and Silent Night. Best wishes and best holiday wishes to you all.

Sincerely,

 Walter England, Chairman



News@Chem/BioChem (formerly the UWM Chemist) is written and edited by Laura Hall. The Faculty Advisor is Dr. M. Mahmud Hossain. To share alumni news or to provide feedback to the editor, please email ljhall@uwm.edu. We'd love to hear from you!



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Student Affiliates of the American Chemical Society (SAACS) is a student branch of the American Chemical Society. They provide information and guidance to students. Students who join SAACS enjoy discounted subscription rates on chemistry publications. During the academic year, the group tours local industries which hire chemists, perform chemistry shows at local schools, and provide internship information for undergraduates.

Alumni News

It would be great to share what some of your fellow alumni have been up to since graduation. Unfortunately, we can't, since no news has been sent in to the office since the last newsletter.

Please use the reverse side of your donation card to let us know what you've been up to. Or, better yet, go to our web site and fill-out our on-line Alumni Contact form at:

www.uwm.edu/Dept/Chemistry/alumni/

While you're on our alumni page, you can update your mailing address, let us know if you've spotted any of our "missing" alumni, or just say "Hello".

If you live in the area or if you're heading back to town for business or to visit family - please feel free to stop by for a visit!



A BIG Thank You!

A BIG "Thanks!" to all of you who have contributed over the past year to the Department of Chemistry and Biochemistry. Funds from our Foundation accounts are used for department events, including our annual "Awards Day" poster competition - with scholarship prizes for the top posters. It also supports our "Alumni Travel Award" program that assists graduate students with travel expenses to nationally recognized meetings to present posters.

In 2004, the George W. Keulks Memorial Fund helped us put together a first-rate Symposium in George's honor!

Enclosed with this newsletter is a business reply envelope and a gold-colored donation card, please consider beginning 2005 with a gift to the department.

DONATIONS UP TO \$250

Dr. Thomas Holme, Mrs. Susan Krezoski, Dr. Gregory Lannoye*, Mr. Richard Regent and Mrs. Barbara Regent, Mr. Richard Roberts.

DONATIONS OVER \$250

Dr. Luke Fisher, Ms. Theresa Fisher, Mr. Michael Martin.

*Funds matched by employer.

Department of Chemistry & Biochemistry Degrees Conferred:

2003:

Masters: Darin Lee Evans,
Jose Gomez



2004:

Masters: Jessica Ammerman
Doctorates: Chunchun Zhang (Cook),
Jianyu Zhu (Petering)

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The meeting continued the following day with the annual "Chairs' Breakfast", where the host of next year's meeting was announced (For the first time, the UW Colleges will co-host the event). Following breakfast, Dr. Melanie Cooper, Alumni Professor of Chemistry at Clemson University gave a talk entitled "Probabilities & Predictions: Modeling the Development of Problem Solving Competence".



Featured speakers Dr. Donald Wink and Dr. Melanie Cooper (l-r).

She discussed her work in developing predictive models for student problem solving by using artificial neural nets to classify student strategies on web-based problems.



Topic Groups (Discipline Grouping Discussions) gave different groups with similar interests to gather together to discuss issues particularly important to them. Topics included grant collaboration, laboratory issues, technology issues and assessment issues.

Following the break-out sessions, Dr. Donald Wink, Professor and Head of Chemistry at the University of Illinois - Chicago gave his talk, "The Students Shall Lead Us: Building Networks based on Student Transfer Patterns", a discussion of his work at the University of Illinois at Chicago with its large transfer student population. After the presentation, the meeting closed with a luncheon. Attendees were also invited to tour the Chemistry building, the ACS offices and the Glass Shop.

Keulks Symposium on Nanotechnology

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ergy ion irradiation during low-temperature growth to control the kinetic pathways of phase separation in metastable transition-metal nitride layers in order to produce novel nanostructures composed of self-organized nanolamellae in d-TaNx or nanocolumns in Ti1-xCexN.



Prof. Marija Gajdardziska-Josifovska of UWM's Department of Physics and Director of the Laboratory for Surface Studies, UW-Milwaukee, WI discussed the current status of nanotechnology

research at UWM with her talk, entitled "Nano@LSS.uwm.edu". She also talked about the research community at UWM before and since George was appointed Dean. Current Interim Dean of the Graduate School and Research, Dale Jaffee, closed the symposium with some personal remembrances of Dr. Keulks. Following the symposium, a Social Hour was held at the Helen Zelazo Center, just down the street from the Chemistry Building on Kenwood Boulevard. The reception gave non-chemistry friends of George a chance to mingle and share memories with George's family, including his wife, Joanne, their son and his wife and Joanne's fiance, John Huffman.

Our Sincere Thanks to the Symposium Committee

Chair: James Cook, University Distinguished Professor, Department of Chemistry & Biochemistry

Carolyn Aita, Wisconsin Distinguished Professor, Department of Electrical and Materials Engineering

Walter England, Associate Professor & Department Chair, Department of Chemistry & Biochemistry

Marija Gajdardziska-Josifovska, Professor, Department of Physics

Reinhold Hutz, Professor, Department of Biological Sciences

Dale Jaffe, Interim Graduate School Dean and Associate Provost

Wilfred Tysoe, Professor, Department of Chemistry & Biochemistry

Alumni Spotlight

A featured part of the Keulks Symposium was a wonderfully moving speech regarding "Dr. Keulks as a Mentor" by one of his former Ph.D. students, Dr. David Krenzke, of Advanced Refining Technologies in Chicago, Illinois (above, far left). David talked about his experiences working with Dr. Keulks and his research group.



George W. Keulks Symposium attendees (l-r) Dr. David Krenzke, Dr. Thomas Notermann, and Dr. Suheil Abdo (former Keulks students), John Huffman & Joanne Huffman (Keulks), and Symposium Committee chairman, Dr. James Cook.

Dr. Krenzke has over 25 years of experience in hydroprocessing catalyst technology and has held a variety of technical and technical management positions in Unocal and UOP before joining Advanced Refining Technologies. He is currently the Manager of Hydrotreating Technical Service for ART. He received his Ph.D. in physical chemistry from UWM in 1977. Other members from Keulks' group included Dr. Thomas Notermann (Ph.D. '76; above, second from left) and Dr. Suheil Abdo (Ph.D. '81; above, third from left).

George Keulks...



Scientist,
Mentor,
Scholar,
Administrator,
and Friend!

George Keulks served as Dean of the Graduate School and Research from 1975 to 1997. This was a period of unprecedented growth in scholarship, research and extramural support at UWM, driven in large part, by George.

George earned his AB degree at Washington University in St. Louis in 1960 and his Ph.D. at Northwestern in 1964. After one year of postdoctoral study at Johns Hopkins with Paul Emmett, he worked for Gulf Research and Development for a short time. He joined the Department of Chemistry at UWM in 1966 as an Assistant Professor. He was promoted to Associate Professor in 1971 and to Professor in 1975 and served as Department Chair from 1972-74. He managed to get a widely diverse faculty to work together toward common research and teaching goals. Scholarship at all levels was at the core of his leadership. He was instrumental in the battle for the Ph.D. program in Chemistry, traveling frequently to Madison to secure the interests of UWM. He waged this battle with his usual wit, wisdom and sense of humor.

One of George's major achievements was the establishment of the UWM Laboratory for Surface Studies (LSS), which continues to be an outstanding vehicle for attracting world-class scientists. Many of the top researchers we now have at UWM in the hard sciences came because of LSS and George's push to hire active researchers into the lab at all career levels. Under his leadership, the Graduate School grew dramatically in programs offered and in student enrollment, while he kept a watchful eye on the quality of scholarship on campus. At the time of his retirement, the campus offered 47 Masters and 17 Doctoral programs, many of which are recognized nationally and internationally for their excellence. These advances were recognized in 1994 when the Carnegie Foundation designated UW-Milwaukee as a Research University.

George was devoted to this institution, to his colleagues, and to his students in promoting a vision of what scholarship should be. We miss his leadership, wit, wisdom and that sense of humor very much. He was a genuinely nice person.