

G. V. (Rex) Reklaitis

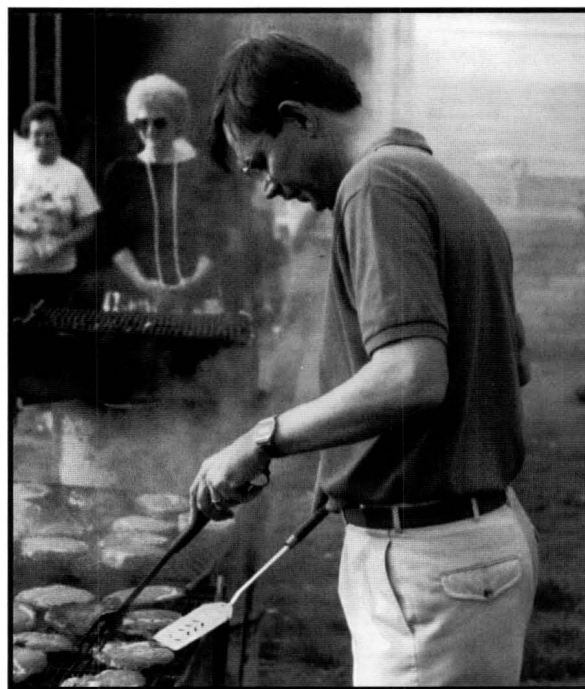
of
“Old
Purdue”

PHILLIP C. WANKAT, FRANK S. OREOVICZ
Purdue University • West Lafayette, IN 47907

Professor Rex Reklaitis' CV is impressive: Head at Purdue for twelve years, author or editor of six books and editor-in-chief of *Computers & Chemical Engineering*, with over 110 refereed publications and numerous seminar and conference presentations; involvement in the organization of 42 conferences and symposia; director of AIChE, past president and current trustee of CACHE; NSF postdoctoral fellow and Senior Fulbright Fellow; winner of the ASEE ChE Division lectureship award and ASEE ChE Division Corcoran award, Fellow of AIChE, winner of AIChE Computing in Chemical Engineering award; research advisor for 37 MS students and 28 PhD students, and involvement in grants for over five million dollars for research and over ten million dollars for the School of Chemical Engineering. Listening to this is enough to make any good Boilermaker sing *Hail, Hail to Old Purdue*.

But, what is Rex Reklaitis really like?

Out of the upheaval of World War II in Europe in 1942, the world gained one Reklaitis—Rex was born while his parents were traveling through German-occupied Poznan, Poland, on October 20—and lost another two years later when his father became a casualty of the war. From then on his uncles, and later his stepfather, filled that role as part of the extended family that helped mold Rex. They lived in Bavaria until moving to the United States when he was ten.

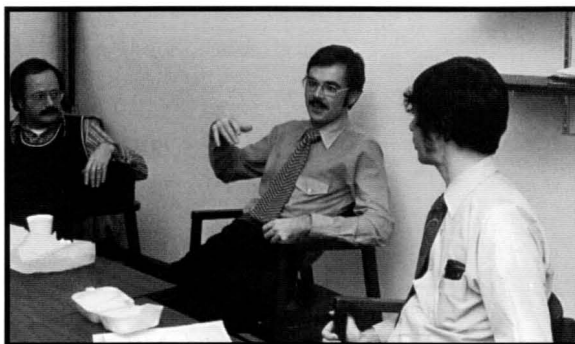


Professor-turned-chef grills 'em up at a departmental picnic.

Arriving in a new country at such a tender age, Rex was able to learn English much more quickly than is the experience of most adults—and without any trace of an accent. He was already bilingual in Lithuanian and German. Learning a third language also helped make him aware of the importance of grammar and structure in language, and before too long he was speaking as well as, if not better than, most native Americans. He and his mother became naturalized citizens in 1958. After graduating in 1961 from St. Rita high school in Chicago, he enrolled at the Illinois Institute of Technology [also alma mater of one author (FSO) and of the other author's father]. He graduated from IIT with a BS in chemical engineering in 1965. (Back then, graduating in four years was common.)

While growing up in Chicago, Rex became interested in classical music, especially opera, and learned to play

Rex with Ron Barile (left) and Lowell Koppel (right) at a faculty lunch in December of 1976. ►



Rex and Janine, hosts at a party in their home in 1994, sharing a smile with Ramki Ramkrishna and Linda Wang. ▼



Rex presents an award to Kristi Anseth (now a professor at the University of Colorado, Boulder) at the annual Razz banquet in 1991. ►



the mandolin and the clarinet—the love of music has remained with him through the years. He ran track and played tennis in high school, and his uncles introduced him to carpentry and sailing. Sailing and skiing (which he first did in high school on old-fashioned wooden skis) have remained his two major hobbies.

He met Janine when they were 15, but only she realized that it was a fateful meeting. He “awoke” when they later became reacquainted through student organizations at the end of their sophomore years in college. When Rex decided to go to graduate school at Stanford in 1965, Janine followed him and enrolled at the University of California-Berkeley. They were married on August 20, 1966.

Rex and Janine settled down in San Francisco and faced the daily routine of Rex taking the Southern Pacific to Palo Alto while Janine drove across the Bay Bridge to Berkeley. Commuting lost its charm after a while, so in 1968 Janine transferred to Stanford, and they moved to Palo Alto. Rex worked with Professor Doug Wilde at Stanford and also had significant interactions with Professors Andy Acrivos and David Mason. He took four years to earn his master’s degree and no time at all to earn his PhD, since both degrees were awarded in 1969.

(He claims that a secretary forgot to tell him to turn in a form to claim his master’s!)

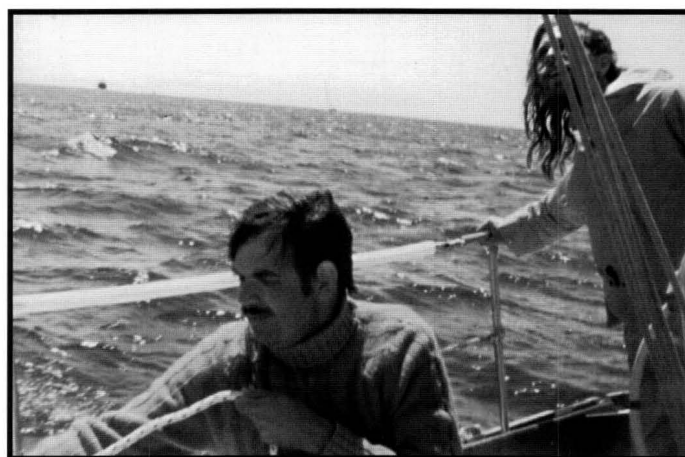
From 1969 to 1970, Rex was an NSF Postdoctoral Fellow at the Institut für Operations Research und Elektronisch Datenverarbeitung in Zurich, Switzerland. He worked with the Institute directors, Professors Künzi and Krelle on nonlinear optimization. Janine continued working on her PhD while they were in Switzerland.

In the summer of 1970, Rex started as an Assistant Professor at Purdue, a position he had accepted before starting his postdoctoral year in Switzerland. He and Janine settled in West Lafayette and Rex started the interesting and challenging life of an assistant professor while Janine finished her PhD (which she received from Stanford in 1972). She subsequently accepted a position as assistant professor of linguistics at the University of Illinois at Chicago, and once again the Reklaitis family became commuters as



Rex's first love—competing in the Chicago-to-Mackinac race, with his uncle aboard in 1979 (top photo, left) and again in 1980 in much rougher waters (bottom photo, left)...

...and his second love—skiing, here with Janine on the slopes in Breckenridge, Colorado, in 1999.



they moved to Crown Point, Indiana, which is essentially halfway between Chicago and Lafayette.

The eleven years in Crown Point were most productive for Rex. He drove the hour to Purdue three days a week on Interstate I-65, without a doubt one of the flattest and most boring highways east of the Mississippi. He survived the drive by listening to classical music and opera selections on the car stereo as he planned the day's events in the morning and processed them as he returned home in the evening. The other two days he spent working at home on his books and other research. With few interruptions at home he became very prolific, especially since he watches very little television and only occasionally sees a movie. Little did he know then that administrative duties would eventually reduce his research output.

Living near Lake Michigan also provided more time for sailing and put Rex and Janine close to the Chicago Lyric Opera. The family still purchases season tickets for the opera. Shakespeare forms another of his abiding interests.

Rex and Janine's oldest son, George, was born in 1974 and their youngest, Victor, in 1979. At Crown Point, Janine's grandmother and Rex's uncle lived with them and helped raise the two boys, giving the boys the experience and advantages of an extended family. The family moved back to West Lafayette in 1983.

At Purdue, Rex progressed steadily up the ladder, being promoted to associate professor in 1976 and full professor in 1980 while he was on sabbatical as a Senior Fulbright Lecturer at Vilnius State University and the Lithuanian Academy of Science in Vilnius, Lithuania (which was then an unwilling part of the USSR). Realizing Rex's special qualities, in 1985, Dean Henry Yang persuaded him to become the Assistant Dean of Engineering at Purdue.

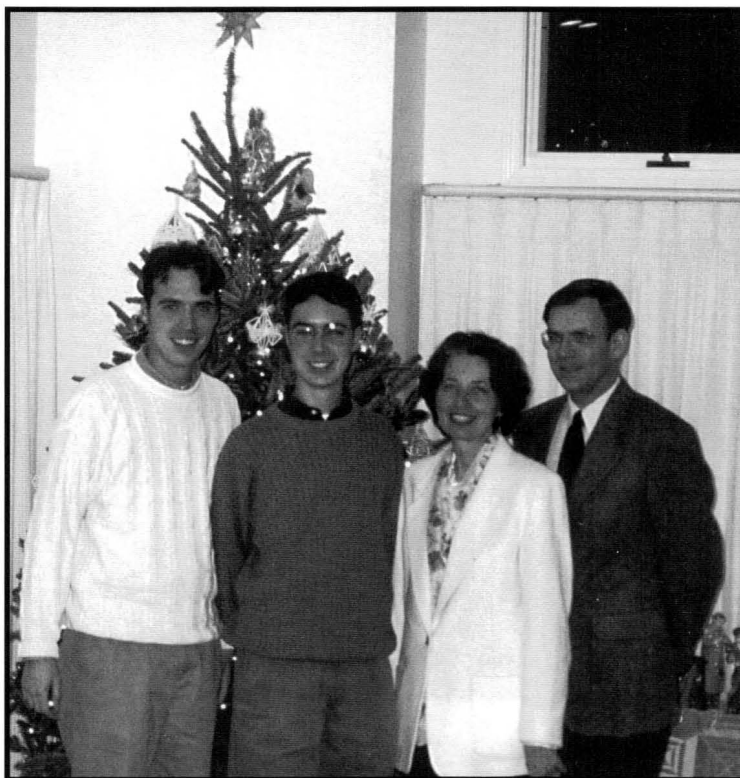
In addition to his other duties, Rex was appointed as Interim Head of the School of Chemical Engineering in August of 1987 when Professor Ron Andres stepped down as Head. The School then prepared to start a new Purdue tradition—a long internal/external search for a new Head.

After a few weeks, though, it became evident to the chemical engineering professors on the committee that Rex was the ideal candidate. They were able to persuade the dean to forego the external search since it was clearly unnecessary. Thus, late in 1987, Rex officially became Head of the School of Chemical Engineering, an office he has since fulfilled with distinction.

Rex has been very successful in hiring outstanding new faculty and helping them obtain NSF CAREER and other prestigious grants. He has developed an active Industrial Advisory Council consisting of about twenty companies and frequently personally hosts the board members. The council is currently working with the faculty on five projects: continual renovation of equipment in the undergraduate laboratory, purchase of new research equipment, hosting young faculty at their research facilities, developing realistic design problems, and developing a survey of graduates and employers for an ABET outcomes assessment. After years of effort, Rex has also obtained approval from the administration to add a new wing to the chemical engineering building that will increase its space by sixty percent. This will allow for a much-needed increase in the size of the faculty. All chemical engineering has to do now is raise the money for this purpose!

Throughout all this time, Rex's teaching and research continued unabated. A dedicated teacher and educator who has taught many of the courses in the curriculum, he revised the introductory course in mass and energy balances at Purdue and developed new courses on "Optimization" and "Computer-Aided Process Design." His efforts on two of these courses resulted in two textbooks, *Introduction to Material and Energy Balances* (Wiley, 1983) and *Engineering Optimization*, with A. Ravindran and K. Ragsdell (Wiley, 1983). Both books have sold around 9500 copies—very respectable numbers. The second edition of the optimization book is currently being prepared.

Undergraduate students have always found Rex's office door open to them. He takes great care in teaching the senior



The Reklaitis family, at home for Christmas 1998.

design course, but despite his heavy schedule, enjoys morning meetings with student groups. He patiently pushes students to produce "just a little bit better" results. Then, during the spring semester he interviews most of the graduating seniors. These "exit interviews" provide very useful feedback to the school, and some of the ideas generated by them have been adopted. Rex has also been a strong advocate for student groups in chemical engineering. It is not unusual for the Reklaitis' to entertain up to 40 students from various groups in their home before Christmas vacation. Rex does his share by doing clean-up duty.

Working with a team assembled by Professor Bob Squires, Rex developed educational modules using videotape and computer simulations to give students a feel for complex processes. The modules were generously supported by industrial contributions, and the completed modules are being distributed by CACHE. Several articles on these modules have been published, the most famous of which, "Purdue-Industry Computer Simulation Modules: The Amoco Resid Hydrotreater Process" (*Chem. Eng. Ed.*, **32**, 98, 1991) by R.G. Squires, G.V. Reklaitis, N.C. Yeh, J.B. Mosby, I.A. Karimi, and P.K. Andersen, won the ASEE ChE Division Corcoran award for best paper that year. As a culmination of his interest in the use of computers in engineering education, Rex now serves on the editorial board for the journal *Computer Applications in Engineering Education*.

Rex's research in computer applications in chemical engineering and batch processing is well known. He developed, implemented, and demonstrated computer-aided methodology for the design, scheduling, and operation of batch processes. This research involved development of a modularly structured, dynamic/discrete process simulator that defined the structure of batch-processing networks and generated preliminary equipment sizes. In particular, his research highlighted the importance of intermediate storage and developed new scheduling algorithms for multiproduct plants.

Rex has coauthored well over 110 research papers and

Continued on page 153.

equate and superior scholarship. Describe the rating system to all departmental faculty members who may wish to include educational scholarship in their credentials and display several examples of excellent portfolios as models.

■ *Provide training to portfolio raters.* Give detailed explanations of the evaluation criteria to faculty members who will be serving as raters and provide guided practice on sample portfolios.

■ *Collect at least two independent ratings of each portfolio submitted and have the evaluators reconcile their ratings to arrive at a consensus rating.* Incorporate the consensus rating into the overall tenure/promotion dossier evaluation process.

REFERENCES

1. Boyer, E., *Scholarship Reconsidered: Priorities of the Professoriate*, Carnegie Foundation for the Advancement of Teaching, Princeton, NJ (1990)
2. Glassick, C.E., M.T. Huber, and G.I. Maeroff, *Scholarship Assessed: Evaluation of the Professoriate*, Jossey-Bass, San Francisco (1997)
3. Felder, R.M., A. Rugarcia, and J.E. Stice, "The Future of Engineering Education. V. Assessing Teaching Effectiveness and Educational Scholarship," *Chem. Eng. Ed.*, in press. □

EDUCATOR: REKLAITIS

Continued from page 101.

review articles and has received many invitations as an invited lecturer. He supports his research through a number of NSF grants and an industrial/university consortium, CIPAC (Computer Integrated Process Operations Center), at Purdue. He was one of the founders of CIPAC and served as its director until this year when Professor Gavin Sinclair took over. In 1984 he won the Computing in Chemical Engineering Award of the Computing and Systems Technology Division of AIChE. He was again recognized by AIChE for his accomplishments when he was named a fellow in 1994. In that same year he also won the best paper award from *Computers & Chemical Engineering* for the paper by Jayakumar and Reklaitis, "Chemical Plant Layout Via Graph Partitioning: Part 1. Single Level (*Comp. & Chem. En.*, **33**, 441, 1994). 1994 was a very good year for Rex since that year he also won the ASEE Chemical Engineering Division lecture-ship award. His award address on "Computer-Aided Design and Operation of Batch Processes" can be found in *CEE*, **29**, 76, (1995).

Of course, much of the real work of research is done by graduate students. Rex has been advisor or co-advisor for 28 PhD students and 37 MS students. He currently advises or coadvices eight PhD students and one MS student. Seven of his past students are now professors: A. Elkamel (Kuwait University), Carl Knopf (Louisiana State University), I. Karimi (National University of Singapore), B.S. Lee (Pukyong National University), E.S. Lee (Dongguk University, Korea), I.B. Lee (Pohang University, Korea), and G. Yi

(Kyeonghee University, Korea).

Rex has also proved himself to be a good citizen of the chemical engineering community. He has served as secretary, vice-president, and president of CACHE and continues to serve as a trustee of that organization. Equally active in AIChE, particularly in the Computing and Systems Technology (CAST) division (in which he has held all of the offices), he was an elected director of AIChE until December of 1999. He has also been an active member of the Council for Chemical Research and has served on its governing board. He has co-edited several volumes of conference proceedings dealing with process design, simulation, computer graphics, and optimization. He has been Editor-in-Chief of *Computers & Chemical Engineering* since 1994 and was Co-Editor-in-Chief for the eight years before that.

In his research and professional activities, Rex has always been a good team player. He has collaborated with a number of past and current faculty at Purdue on papers, including Paul Andersen, Gary Blau, Frank Doyle, Lowell Koppel, Martin Okos, Joe Pekny, Dan Schneider, Bob Squires, Venkat Venkatasubramanian, and Jack Woods. He has also collaborated on papers and edited proceedings with a number of well-known chemical engineering professors from other schools, including Larry Biegler, Brice Carnahan, James F. Davis, Tom Edgar, Ignacio Grossmann, Dave Himmelblau, Richard Mah, David Rippin, John Seader, Jeff Sirola, Aydin Sunol, and Doug Wilde.

While involved in this work at Purdue, Rex continues to live the good life in West Lafayette, helping raise his two sons and being, in Janine's words, "a wonderful father" who takes the role very seriously—when they were much younger, he would tell the boys wonderful stories of knights and pirates, and take them fishing or sailing, and for family-favorite ski trips in Colorado. George earned his bachelor's degree in history from Purdue, his master's from Wake Forest, and is now working on his PhD in history at Northeastern University in Boston. Victor is a junior in electrical engineering at Stanford University.

Sailing has remained an important part of Rex's life. For sixteen years he participated in the famed Chicago-to-Mackinac race and even won his class a few times in a 34-foot Islander—but most of the time he finished in the middle of the pack. His family, who did not race with him, would watch the boat leave Chicago and then drive to Mackinac Island to watch the boats arrive there. They did, however, enjoy sailing with him in his 19-foot Lightning.

In addition to being close enough to sail on Lake Michigan, the Lafayette area is near enough to visit family in Chicago for the holidays. Rex remains close to his mother and sister and has become close to Janine's large, rowdy extended family.

We are proud to have Rex Reklaitis at Purdue. He is an honest, generous, witty colleague with high standards. Fade out to the tune of *The Wabash Far, Far Away*. □