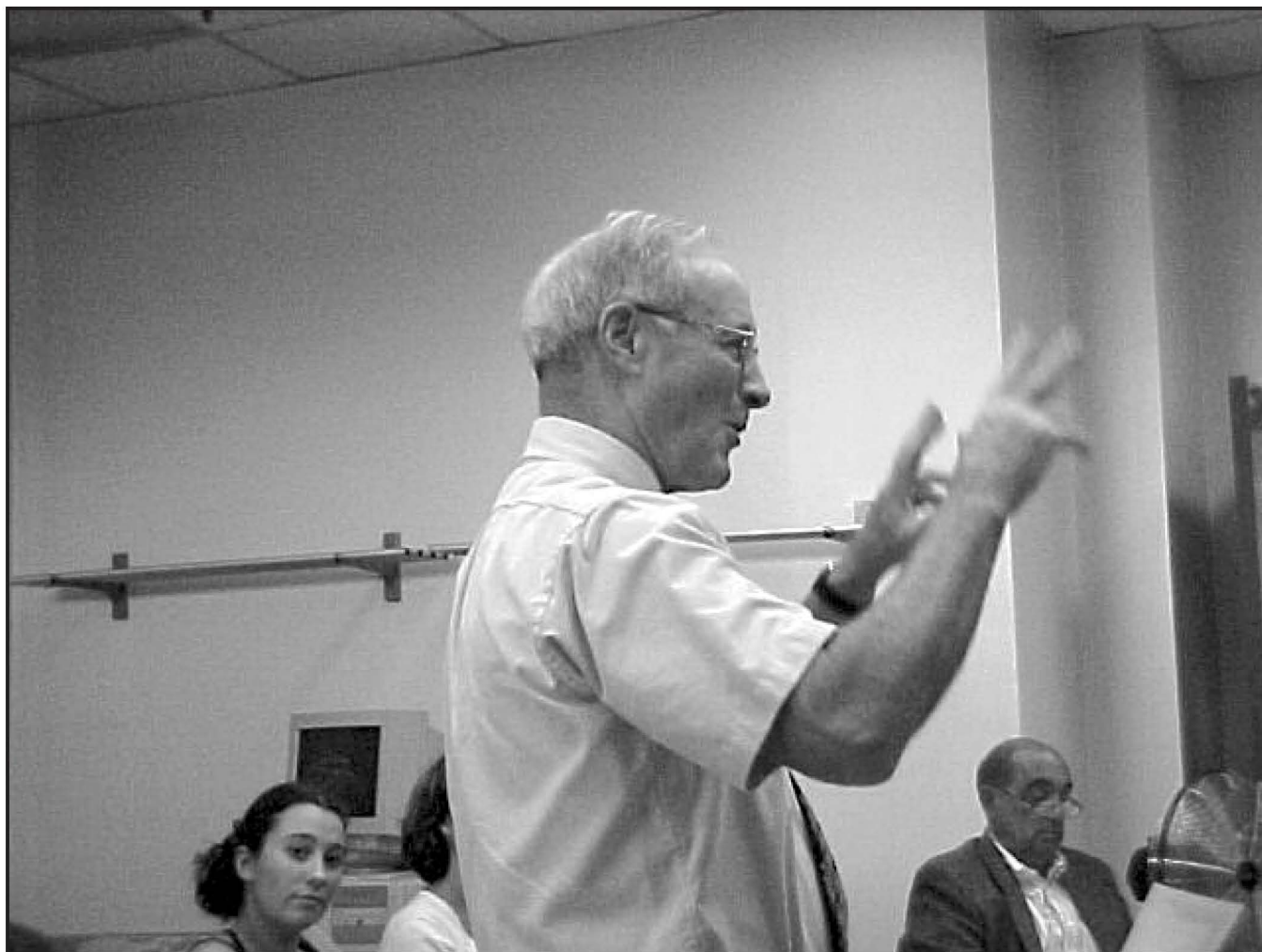


Joseph Reynolds *of Manhattan College*



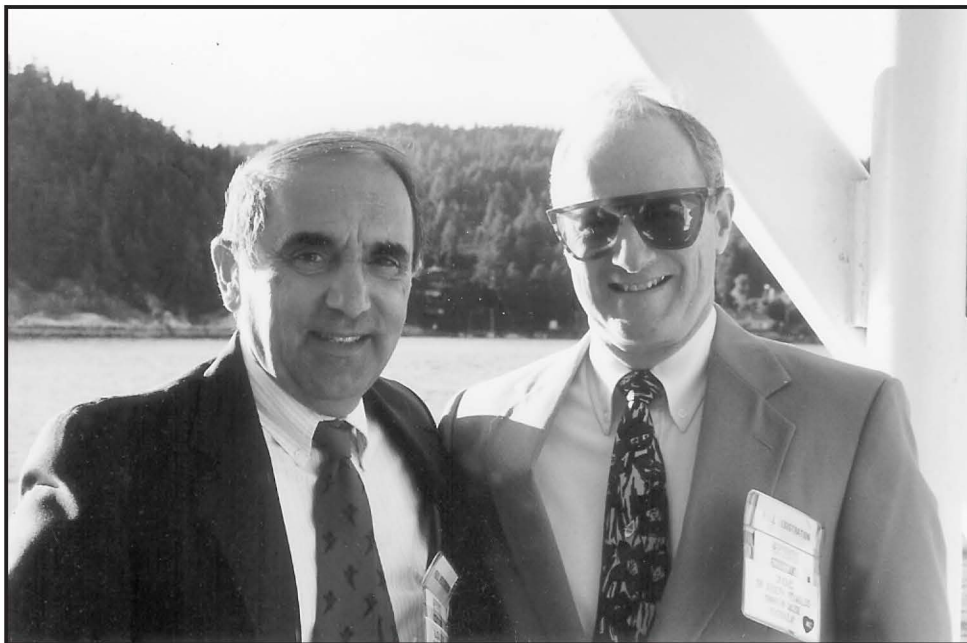
HELEN C. HOLLEIN
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Joseph Reynolds earned a bachelor's degree in chemistry from Catholic University of America in 1957 and a Ph.D. degree in chemical engineering from Rensselaer

Polytechnic Institute in 1964. He taught high school chemistry and physics full time at LaSalle Academy in New York City from 1957 to 1959, then taught college chemistry part time for Catholic University (Troy extension) while pursuing his doctoral degree at RPI. Joe excelled as a student and was

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Chemical Engineering Education



Joe, at right, posing with Lou Theodore, his long-time friend, collaborator, and fellow faculty member.

inducted into the Phi Beta Kappa, Tau Beta Pi, Sigma Xi, and Phi Lambda Upsilon honor societies. His many accolades include listings in American Men and Women in Science, Who's Who in Technology Today, Who's Who Among America's Teachers, International Who's Who in Engineering, Who's Who in the East, and Who's Who in Engineering.

Since 1964, Joe has been a member of the chemical engineering faculty at Manhattan College, where he holds the rank of professor of chemical engineering. It caused some excitement among Joe's colleagues when Br. Thomas Scanlan was appointed president of Manhattan College, because Br. Thomas had been one of Joe's students in a freshman chemistry course that he taught in Troy. (Fortunately, we understand that Br. Thomas earned an "A" in the course.)

Joe served as chairperson of the Department of Chemical Engineering for seven years (1976 to 1983), and also was called upon to serve as acting chair for brief stints totaling another two and a half years while his successors were on sabbatical leave. As part of his academic duties, Joe has served for many years as moderator of the student chapter of the American Institute of Chemical Engineers (AIChE), and has been president of the college's Sigma Xi Chapter. He has also served on a large number of college committees, but says his favorite is the Board of Trustees' Facilities Planning Committee because this membership ensures his invitation to the President's Christmas Dinner (best wine selection and food service, by far).

Since completing his doctoral research at RPI on "The Effect of High Pressure on the Infrared Spectra of Solids," Joe has collaborated for more than 30 years with Dr. Louis Theodore at Manhattan College on various environmental research projects. Many of Joe's books and research publications include

undergraduate students as coauthors. His current research interests are in the air pollution control and hazardous waste incineration areas. He has coauthored numerous text/reference books, including *Introduction to Hazardous Waste Incineration*, 2nd Edition (2000), *Accident and Emergency Management* (1989), and *Handbook of Chemical and Environmental Engineering Calculations* (2002), all from Wiley-Interscience, New York. He has developed computer software, which is available commercially and currently used in the EPA's training program, to simulate hazardous waste incinerator (HWI) performance. His publications include problem and solution workbooks that he uses in the courses that he teaches at the college, as well as EPA training manuals for the HWI software. Joe has also served as a consultant for several private companies and is presently a consultant/expert witness for the Department of Justice and the U.S. Environmental Protection Agency. He has been active for most of his career in the Air and Waste Management Association (AWMA), formerly the Air Pollution Control Association (APCA), where he presents papers and chairs sessions at annual meetings as well as coordinating associated continuing-education programs.

TEACHING TAKES PRECEDENCE

Manhattan College offers both B.S. and M.S. degrees in chemical engineering, and Joe has always taught the undergraduate courses by choice. He has taught the Engineering Materials course and directed its associated laboratory for his entire career at the college, and currently teaches Process Calculations, Engineering Thermodynamics, Fluid Mechanics, and Computer Aided Simulation and Design in Chemical Engineering. During his tenure, he has taught nearly every course that the department offers (or previously offered) including Chemical Engineering Thermodynamics, Heat

*Proudly posing
with students
at a poster
competition.*

Transfer, Chemical Engineering Laboratory I-II, Physical Metallurgy, Physical Chemistry I-II, Computer Methods in Chemical Engineering, Computer Science and Programming, and Fortran Programming for Chemists.

In the classroom, Joe is very much an “in your face” kind of teacher. He teaches several of the required sophomore courses for chemical engineering majors, giving out grades from “A” to “F,” as deserved. The good students stay, the others repeat or change majors. The current seniors have created a bulletin board with pictures and the facts as they see it for the chemical engineering faculty. Their advice for students of Dr. Reynolds’ classes includes: “Participate as much as possible. This will lessen your chance of being randomly called on during class.”

Joe’s courses are well organized and fast paced. He sets high standards, gives fair-but-tough tests, and assigns homework due at every class. In the old days, he distributed the homework assignments for the entire semester on day one, but when the Internet was relatively new, he forced the students to use it by sending out assignments via e-mail only. The seniors advise, “check your e-mail every day, at least twice a day. There will always be something new in there.” This practice has the added advantage of getting the students to read messages about AIChE meetings and parties, which gets them involved in departmental activities from freshman year on.

Joe is one of the teachers who makes effective use of the computer projector and PowerPoint slides for each of his lecture courses: He expects students to listen and respond during his presentation instead of just madly copying information. His PowerPoint presentations are available for all of his students through the course Web sites on the Blackboard system. Many of Joe’s current and former students credit him as being a truly outstanding teacher, a fact that is supported by his numerous teaching awards and consistently excellent course and teacher evaluations.



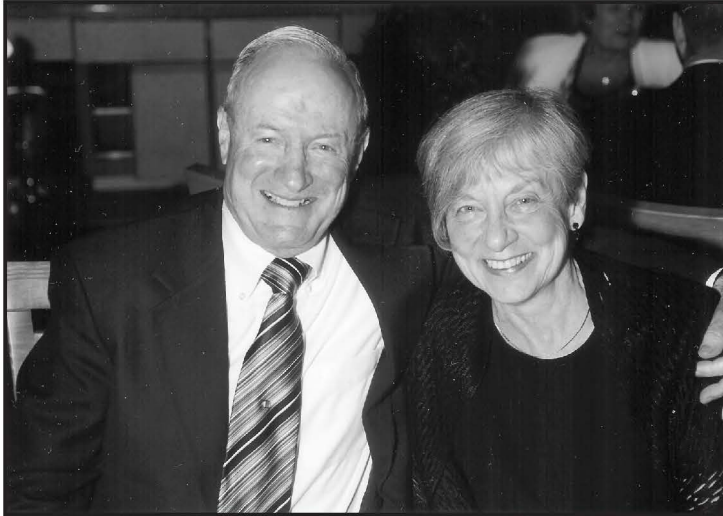
Joe’s focus on excellent teaching must have set a good example, because several of his former students also pursued careers in academia. Among them are Dr. Ruben Carbonell (B.E. 1969), now KoSa Professor of Chemical Engineering at North Carolina State University; Dr. Sonia Kreidenweis (B.E. 1983), now professor of atmospheric science at Colorado State University; Dr. John Blaho (B.E. 1983), now associate professor of microbiology at Mount Sinai School of Medicine; and Dr. Marco Castaldi (B.S.ChE 1992), now assistant professor of earth and environmental engineering at Columbia University.

His former students turned academicians credit Joe in various ways for encouraging their graduate education and influencing their decision to pursue research and teaching at the college level as a profession. Br. Thomas participated as an undergraduate in Joe’s research at RPI, and credits this early experience with giving him “an understanding of the way that research and scholarly activities reinforce teaching and vice versa.” Sonia Kreidenweis co-authored her first publication with Drs. Reynolds

and Theodore in the *Journal of the Air Pollution Control Association*, based on her undergraduate research at Manhattan College. She credits Joe as being “the first to suggest [that] I apply to graduate school and go on for a Ph.D.”—a degree she subsequently completed at California Institute of Technology. Ruben Carbonell says that as an undergraduate, he “looked up to Dr. Reynolds as a role model of an excellent professor,” which greatly influenced his decision to pursue a career in college teaching.

“Participate as much as possible. This will lessen your chance of being randomly called on during class.”

—Advice from seniors to students planning to take Reynolds’ class.



Top left, Joe and wife Barbara. Top right, Barbara and daughter Megan on a family trip to Toledo, Spain—where both Reynolds daughters got to practice their fluent Spanish. Right, Joe and daughter Marybeth undertaking a favorite family activity—skiing—at Steamboat Springs, Colorado.



OUTSIDE INTERESTS

All is not academics for this overachiever, however. Joe's favorite recreational activities include skiing and jogging. He can be seen early mornings jogging around his Bronx neighborhood near the college. His equally active family—wife Barbara and daughters

Megan and Marybeth—has accompanied him on the annual Manhattan College ski trip every January since the girls were infants. The foursome has also made the AWMA (APCA) meetings in June an annual event. One of Barbara's favorite activities is international travel, and the family has made so many trips to Ireland that Megan and Marybeth recently obtained dual citizenship.

Joe is as proud of his family's achievements as of his own. Barbara has retired from Fordham Preparatory School in the Bronx after 35 years of teaching. Megan and Marybeth both earned baccalaureate degrees in chemical engineering with honors from Manhattan College, so Joe is one of our most enthusiastic alumnae parents. Megan recently received a master's degree from Thunderbird, the Garvin School of International Management in Phoenix. After working in Spain for the pharmaceutical industry, she is currently working for Merck in New Jersey. Marybeth completed her master's in

Public Policy at Georgetown University and currently works for Cancer Care in New York City. Both daughters are fluent in Spanish and have studied other languages as well, *i.e.*, Russian for Marybeth and Portuguese for Megan.

THE MOST REWARDING PART

Joe is well known for his quick smile and easygoing manner, as well as for his endearingly annoying habit of correcting everybody's grammar—often in mid-sentence. The seniors say, "Use proper English. He will call you on it every day!" This applies equally to his faculty colleagues.

Joe's story is unusual in that he is an outstanding teacher and a respected researcher at a primarily undergraduate institution. When he was honored with a Bonus et Fidelis Medal on his 25th anniversary at Manhattan College, he was interviewed about his experiences. Asked about the most rewarding part of his career, his response was immediate: working with students. □