

Ronald W. Rousseau

of Georgia Tech

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Coauthor of the best-selling textbook in the history of chemical engineering . . . outstanding teacher and researcher. . . chair of one of the largest chemical engineering departments in the nation . . . AIChE director . . . chair of the Council for Chemical Research . . . scholar-athlete . . . baseball player and fan—these are only some of the landmarks along the way that delineate the life and career of Ronald W. Rousseau of the North Avenue Trade School (Georgia Tech).

Ron was born in Bogalusa, Louisiana, and spent the early part of his life in Baton Rouge. He recalls selling 7-Ups at Louisiana State University football games during those early years and never had “any thought of going to college anywhere other than LSU.” While he was at LSU, he was awarded an athletic scholarship and lettered three years in varsity baseball. He says he “did not start out as a great student,” and confesses it was partly because he had visions of playing professional baseball. But he found his niche after getting the highest grade in a stoichiometry course taught by Dave Greenberg. From that time on, baseball played second fiddle to chemical engineering—a trend that has continued to this day.

During Ron’s senior year, Jesse Coates (who was department head at LSU at that time) talked about the possibility of graduate school if Ron continued to do well in his chemical engineering classes. As a result of his encouragement, Ron eventually obtained both his BS and PhD degrees at LSU, the former in January of 1966 and the latter in May of 1969. His PhD



*Ron in his early days as catcher
for LSU. (1963)*

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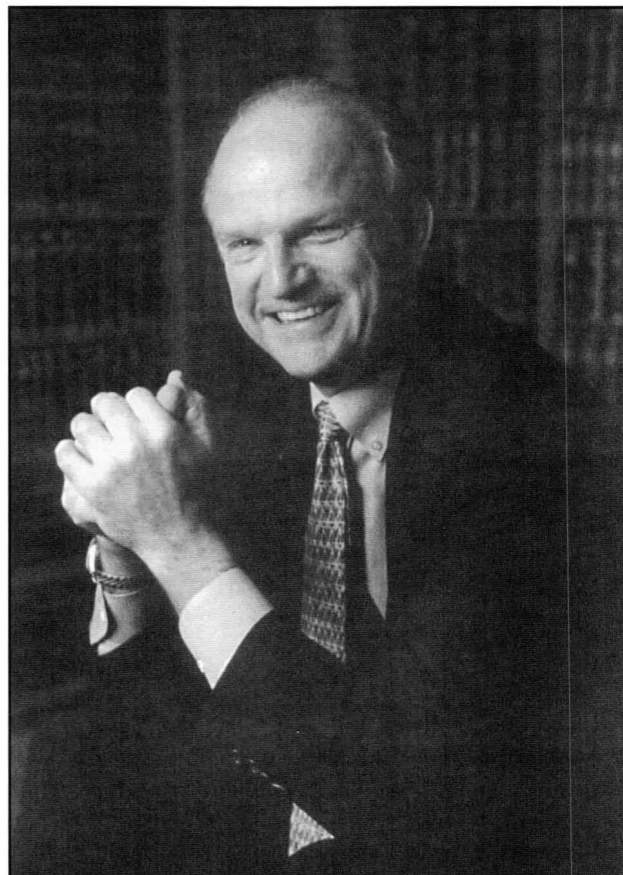
research was concerned with reacting cellulose to produce ion exchange resins and was directed jointly by Clayton Callihan and Bill Daly. Ron reminisces that Callihan had “unbridled imagination and industrial experience,” whereas Daly had “the rigor and enthusiasm for pure research.” Both these men, and several others (including Paul Murrill, Dave Greenberg, and Frank Groves) were great influences on Ron’s subsequent career as a professor.

TEACHING AND RESEARCH

After obtaining his PhD, Ron accepted a position as Assistant Professor at North Carolina State University. He remained there for seventeen years, rising through the ranks to become Professor of Chemical Engineering in 1980. He formed many associations during these years in Raleigh, the most notable of which were his collaborations with Warren McCabe, Rich Felder, and Jim Ferrell.

Warren McCabe spent what he called his “Indian Summer” at NC State and was instrumental in Ron’s entry into the field of crystallization. Together, Warren and Ron did pioneering work on contact nucleation and identified mechanisms by which anomalous crystal growth occurs. This led to Ron’s later work on the role of nucleation and growth in determining crystal habit, purity, and size distributions. It also led to over 135 publications and an equal number of presentations, as well as to his current research on the use of crystallization technology in the separation and purification of specialty chemicals.

Ron’s research in crystallization as a separation technology



naturally led to an interest in other separation processes and to the giving of more than 150 short courses that emphasized crystallization, distillation, extraction, and general separation. Ron also edited *The Handbook of Separation Process Technology* (Wiley, 1987), which has become a standard reference on separations for the profession.

All this body of work culminated in the Clarence G. Gerhold Award of the American Institute of Chemical Engineers in 1996. This award is given by the Separations Division of AIChE for “a notable record of outstanding contributions to separations teaching and research.”

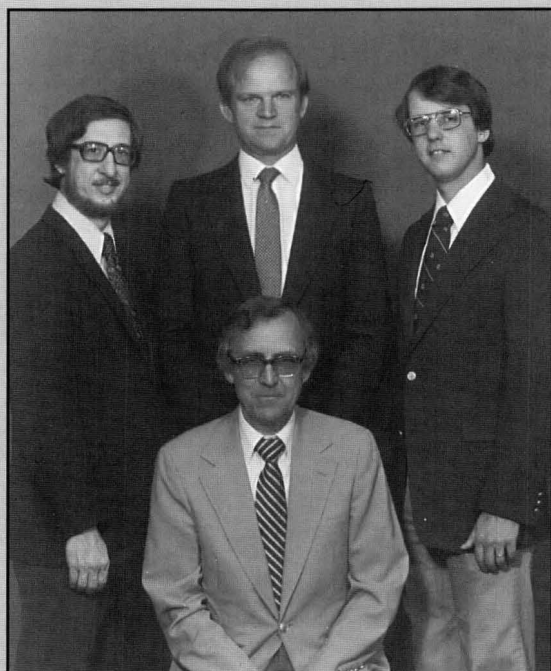
Another association, formed during his years at NC State, was with Rich Felder. Together they coauthored *Elementary Principles of Chemical Processes* (Wiley, 1978 and 1986), which is the most widely used chemical engineering textbook in the world. It is used by more than 80% of the chemical engineering programs in the United States and has sold over 110,000 copies worldwide. Felder and Rousseau brought “a perfect blend of styles and interests” to the writing of this book—Ron brought broad concepts and case studies, while Rich brought specific



**Some pictorial landmarks
along the way.**

Top left: Ron, shown with Rich Felder, at left, and Warren McCabe, center. (1980)

Top right, Ron and friends, including Klaus Timmerhaus (center) enjoy some Christmas camaraderie at a local section AIChE function in 1977.



Bottom left: Ron and Rich Felder (left), Bob Kelly (right), and Jim Ferrell (sitting), in 1980.

Bottom right: Ron is shown testifying before Congress in 1997 in support of an increase in the budget of the National Science Foundation.



topics, computational techniques, and the communication style. According to Ron, the book has been successful “beyond my dreams.” He is working on the third edition at the present time.

A third association formed at NC State was with Jim Ferrell, who was department head for much of Ron’s time there. Although Jim made Ron “teach two courses per semester for seventeen years,” he also influenced him on many aspects of administration and eventually convinced him to apply for his present position as Chairman at Georgia Tech.

He accepted the chairmanship position “much to the chagrin of my wife, Sandra,” he says.

ADMINISTRATION AND SERVICE

His timing in accepting the chairmanship at Georgia Tech, of course, was perfect. Its School of Chemical Engineering had made tremendous strides under Gary Poehlein’s leadership; Gary had hired fifteen new faculty and had brought the school’s undergraduate and graduate programs into national prominence. Enrollments were still increasing when Ron took over, and he found a very supportive dean in Bill

Sangster when he set out to address the problems created by increasing numbers of students. Ron has hired some outstanding new young faculty (Sue Ann Bidstrup-Allen, Pete Ludovice, Jeff Morris, Mark Prausnitz, Matthew Realff, Mary Rezac, Thanassis Sambanis, Tim Wick) and some outstanding senior faculty (Chuck Eckert, Dennis Hess, Paul Kohl, Arnold Stancell). Two of the young faculty are Presidential Young Investigators, and two of the senior faculty are members of the National Academy of Engineering. Indeed, with a supportive administration behind him, the School of Chemical Engineering has been "in a hiring mode" for both junior and senior faculty ever since 1977. The faculty now numbers 32 and "we are still planning to add more," says Ron.

Ron has also seen the number of students grow to the present 800 undergraduates, 120 graduate students, and a dozen or so postdoctoral associates, and staff members now number 14. Faculty members have also been active participants in several interdisciplinary programs, including bioengineering, polymers, microelectronics, pulp and paper, specialty separations, and manufacturing.

As an educator and a researcher, Ron has enjoyed the success and achievements of the forty-or-so Masters and Doctoral students whose theses he has supervised. His crop of advisees include Bob Kelly and Clifford Tai (currently on the faculty at NC State and National Taiwan University, respectively) as well as Jim Boone, Russ O'Dell, Te Chang, Ron Zumstein, and Ray Harrison, who went on to stellar careers at Ethyl (now Albermarle), Hoechst, Arco, and Weyerhaeuser, respectively. Ron continues to advise graduate students and to delight in their achievements.

Ron's service activities attest to his love for the chemical engineering profession. He has organized and chaired numerous symposia at national and international conferences on separations. He was the 1995 co-chair of the Engineering Foundation Conference on separations, was a founding director of the Separations Division of AIChE, and has served as a consulting editor of the *AIChE Journal*, as associate editor of the *Journal of Crystal Growth*, and as a member of the editorial advisory boards of *Separations Technology* and *Chemical Engineering Education*.

As a director of AIChE in 1990-93, Ron was able to see what people outside academia and outside the profession could contribute to chemical engineering education. His services continue to be in demand, as he is currently a member of the task force for restructuring AIChE in order to relate more effectively to its 55,000 members.

Ron also serves as the current chair of the Council for Chemical Research (CCR), an organization consisting of heads of all PhD-granting chemistry and chemical engineer-

ing departments as well as research executives from industry and federal laboratories. CCR's mission is to advance research in chemistry-based sciences, engineering, and technology through productive interactions among the industrial, academic, and governmental research sectors. Ron has been a leading advocate of expanding the influence of CCR and its members institutions in the nation's research agenda.

Among the activities Ron has participated in as the chair of CCR are the signing of a memorandum of understanding between the U.S. Department of Energy and the chemical industry outlining efforts to identify appropriate areas of joint research between government, industry, and universities; supporting the Chemical Weapons Treaty; and testifying before a House Committee in support of an increase in the budget of the National Science Foundation. Ron says that he has found these activities interesting and that they have solidified his belief in the value of linkages between industry and academia.

PERSONAL LIFE

Ron married his wife Sandra (Geller) in 1978 and both have children from previous marriages. Ron has three children (Ron Jr., David, and Brett) and two grandchildren (Ron III and Noelle), and Sandra has two children (Wendy and Bob). Sandra is an accomplished amateur actress and has had leading roles in several local productions. She is also currently running her father's businesses in New York.

Ron enjoys listening to classical music and opera in his spare time. He claims to have little time for any other extracurricular activities (except for the Atlanta Braves) since recently much of his time has been taken up by the Georgia Tech Capital Campaign. The fruits of his efforts and those of

many other people are already obvious, having resulted in plans for a new building to house the Georgia Tech School of Chemical Engineering (and other departments related to Environmental Science and Technology). The new building is due to be completed in 1002-2.

THE FUTURE

What of the future? Ron plans to continue to be department head, at least for the near future. As mentioned previously, he is heavily involved with the current Georgia Tech capital campaign, and sees opportunities there to further influence the direction of chemical engineering both at Georgia Tech and nationally. He misses the daily contact with research and teaching that a regular faculty member enjoys, but he "loves chemical engineering" and values the chance to have some impact on the profession. He has certainly succeeded in the latter. □

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