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### A Tribute to Prof. Josef S. Gratzl: Scientist, Teacher, Friend, May 24, 1929-December 2, 2004

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**A Tribute to  
Prof. Josef S. Gratzl:  
Scientist, Teacher, Friend,  
May 24, 1929–December 2, 2004**

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Josef S. Gratzl was a colleague, teacher, and friend to many in the Wood Chemistry and Paper Science fields. He touched and enhanced many lives through his passion for science and his zest for life. This memorial issue, compiled by his colleagues, honors his life and the achievements of his more than 40-year career.

Josef S. Gratzl was born in Klosterneuburg, Austria on May 24, 1929. He lived with his parents and older brother in Michelhausen from 1929–1946. Michelhausen is a village in the Tullnerfeld, an agricultural region in the Danube Valley northwest of Vienna. His father was the Elementary School Principal, the teacher of grades 1 through 4, and an avid scholar of Latin and History. He also was the choirmaster of the church and of the village choir. Joe lost his mother when he was six. His father remarried and Joe has four younger siblings. After the war, the family moved to the neighboring village of Tulbing in 1947. His older brother, Gottfried, was 9 years older than Joe but he died of TB shortly after the War.

Like many young men of his generation, he was forced to fight the advancing allies in the Second World War. Joe was captured by allied forces moving into the Tullnerfeld toward the end of the war. He was only 16 years old. Because he had no papers and could not prove his age, he was sent to a prison camp in Russia and spent from 1946 to 1948 as a POW. He did physical labor in fields, quarried stone for the Moscow subway system, and built stone jetties in the Black Sea by Odessa.

Upon his return to Austria, there were special programs for students whose high school education was cut short by the war. Because Joe had not finished 10th grade, he was not eligible for these programs. However, during the war his high school was bombed and all records had been destroyed. Joe found his old Latin teacher who wrote a note stating that he had finished 10th grade, so that he did not have to go back to high school. Joe enrolled in the University of Vienna in 1949 to study chemistry, and attended the university from 1949 to 1959, receiving his Diploma in Chemistry in 1956 and his Ph.D. in 1959. Throughout his years of study, Joe always worked on the side and during vacations at various jobs to support himself. During his doctorate from 1956–1959, he worked as a research assistant at the Austrian Wood Research Institute in Vienna, and thus began his career in wood chemistry.

From 1959 to 1961, Joe was awarded a Fulbright Fellowship, and spent two years as a postdoctoral fellow at the Institute of Paper Chemistry in Appleton, Wisconsin. There he worked under the guidance of Prof. I. A. Pearl, and met Profs. Stephen Darling and Kyle Ward, who remained lifelong friends. Upon his return to Austria in 1961, Joe worked as a research group leader on a research project supported by Westvaco at the Institute of Organic Chemistry at the University of Vienna until 1969. He married his wife Margit in 1964 and had two daughters, Uli and Martina. In 1969, the family moved to Seattle, Washington, where Joe took a position as a research associate professor in the Dept. of Chemical Engineering at the University of Washington. He joined the Dept. of Wood and Paper Science at North Carolina State University as an associate professor in 1971 and remained on the faculty of the University for 30 years until his retirement in July 2001. He was promoted to full professor in 1975 and was named the Elis Signe Olsson Professor of Pulp and Paper Science at

North Carolina State University in 1977, a position he held until his retirement.

Joe's reputation as a distinguished researcher is well known and is exemplified by his numerous outstanding publications, by his recognition as the Ellis Signe Olsson Distinguished Professor of Pulp and Paper at NCSU, by his elections as a fellow of the International Academy of Wood Science and TAPPI, and by the many awards and prizes he received over the years. He received the TAPPI Research and Development Division Award, the William H. Aiken Prize, the Dr. Karl Kellner Award of the Austrian Pulp and Paper Association, the Alexander Mitscherlich Medal of the German Association of Pulp and Paper Chemists and Engineers, and the Anselm Payen Award of the American Chemical Society. He is best known for his pioneering works on the fundamental chemistry of chlorine-free bleaching agents, on the photophysical and photochemical reactions involved in the color reversion of lignin, on the chemistry of anthraquinone in alkaline pulping processes, and on the characterization and utilization of technical lignins.

In the academic setting, Joe was instrumental in bringing the graduate program in pulp and paper science at North Carolina State University to its prominence. His complete devotion and commitment provided the driving force for a group of young faculty members to rally around his leadership and to strive for excellence. He was an outstanding and devoted teacher. He often spent a lot of time with a student, leading the student to the answer of a complicated problem with probing questions and helpful hints. His wisdom, his patience, his charming encouragement, and his fatherly compassion toward his students made lasting impressions on his students and colleagues alike. Joe's ability to bring the best out of a person and to develop an average student into an outstanding scientist was impressive and characteristic of his philosophy of education and life. Again, his willingness to take the time with students, his patience with them, and his ability to intellectually stimulate and motivate students contributed to this success. During his tenure at North Carolina State University, he had been the most productive member of the Department in terms of the number of graduate degrees granted per year and resulted in him serving as major professor for more than 50 students over his career. His former students are spread throughout the world and many of them are now accomplished researchers and technical leaders of the industry.

Although he spent most of his creative and productive professional career at North Carolina State University, his influence and impact is not limited to Raleigh. He was a world-renowned scientist with both a sound fundamental background and a practical knowledge of the pulp and paper processes. He regularly presented papers in international conferences, gave numerous lectures in developing countries, and attracted many graduate students, post-doctoral associates, and visiting scholars from all over the world. He also served as an adviser for Organization of American States

(OAS), the Education and Science Organization (UNESCO), and the Industrial Development Organization (UNIDO) of the United Nations and generously assisted several developing countries such as India, China, and Burma in their research and development efforts. He was a Concurrent Professor of Nanjing Forestry University, Nanjing, China and an Honorary Professor of Guangzhou Institute of Chemistry of the Chinese Academy of Sciences, China. He also held an Honorary Doctorate Degree of the St. Petersburg Forestry Technical Academy, St. Petersburg, Russia. He served on the selection committee for the Marcus Wallenberg Prize, and on the editorial boards of *Journal of Wood Chemistry and Technology*, *Wood Science and Technology*, and *Cellulose Chemistry and Technology*.

Prof. Josef Gratzl was not only an eminent scientist and teacher, but he was also a true friend to all his students, co-workers, and many colleagues all over the world. His heartiness and sincerity, his readiness to help, his hospitality, his uncomplicated friendship, and his narrative skills were gifts for those who regarded him as their friend. We miss him greatly.