Centennial Celebration August 12-14, 2005

# One Hundred Years of Chemical Engineering at the University of Wisconsin

# **R. Byron Bird**

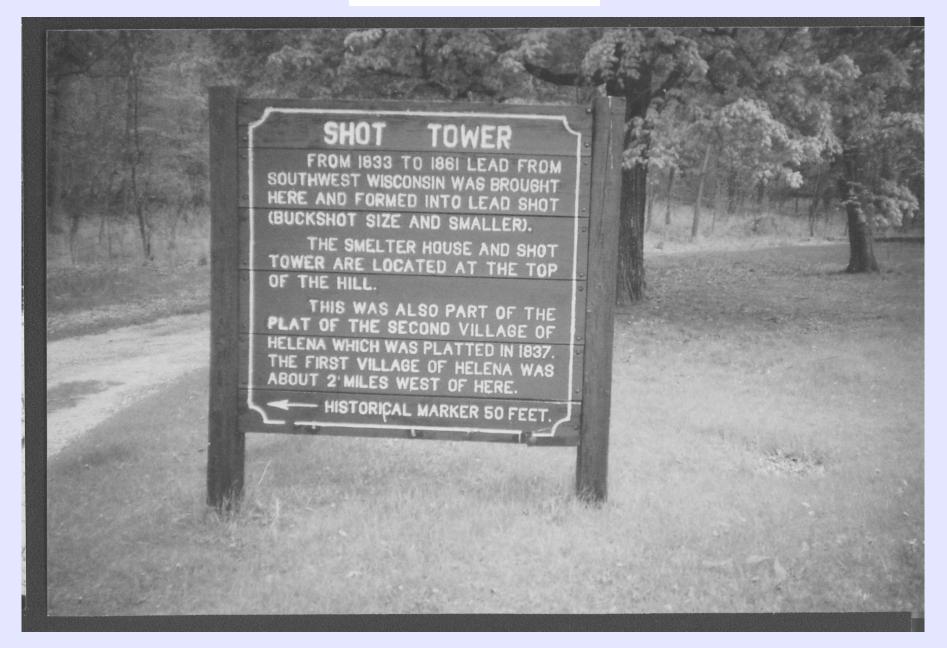
**Professor Emeritus** 

University of Wisconsin - Madison Dept. of Chemical & Biological Engineering





### **Tower Hill Park**



#### **Tower Hill Park**

#### SHOT TOWER

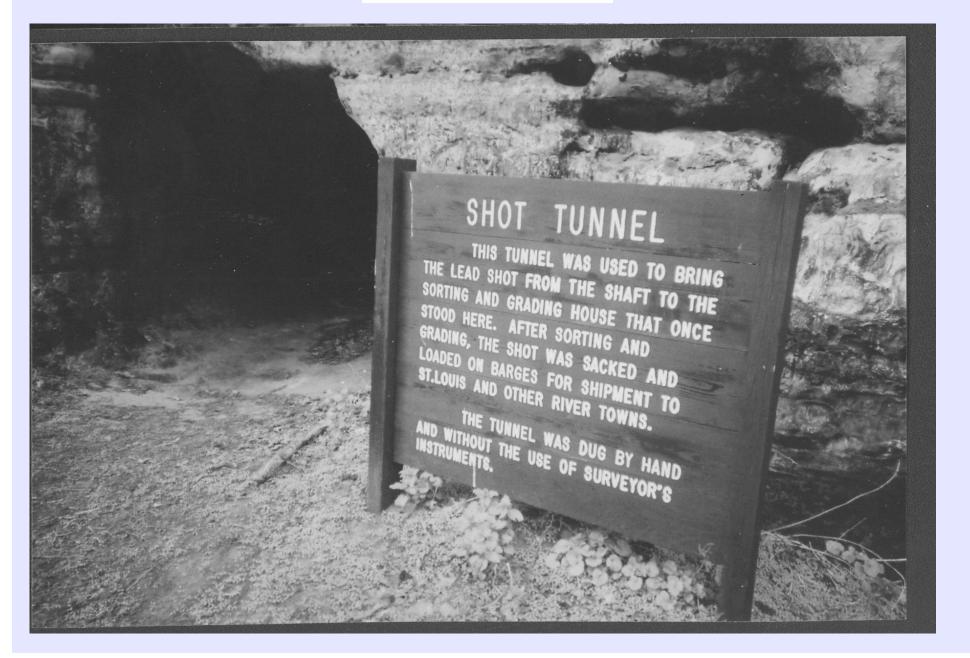
FRCIAL MARKER

Twenty years before Wisconsin became a state, the discovery of vast lead deposits brought a population boom to this area. Green Bay merchant, Daniel Whitney organized the Wisconsin Shot Company to build a shot tower on this site. T. B. Shaunce dug out the shafts with pick and gad and removed the earth in buckets. The history of the shot tower is told in detailed exhibits within the tower house. Men like Daniel Whitney and T. B. Shaunce worked with humble tools and crude methods, utilizing Engineering ideas and principles which provided the foundation for the highly sophisticated procedures of today's Manufacturing Engineers.

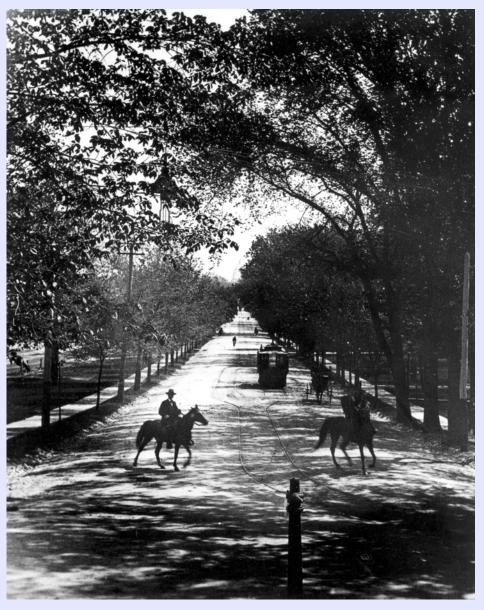
DEDICATED JUNE 22. 1977 Society of Manufacturing engineers Milwaukee chapter 2



### **Tower Hill Park**



#### Late 90's: State Street looking towards the Capitol



#### <u>1905</u>

Population of Madison ~ 24,000 Number of Automobiles ~ 50 Number of Horses ~ 1000 Number of UW Students ~ 2,500

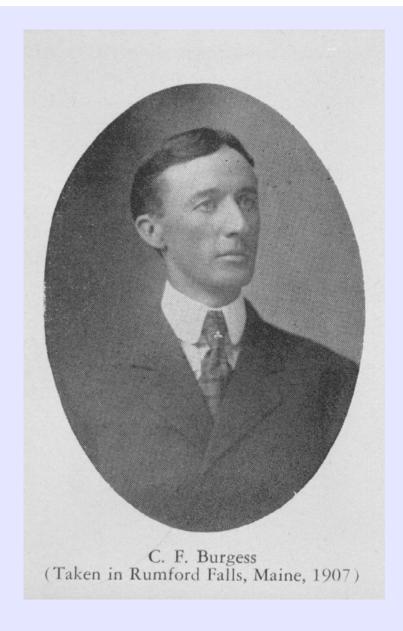
#### **Engineering at Wisconsin:**

- Civil Engineering (1870)
- Mining and Metallurgy (1871)
- Mechanical Engineering (1879)
- College of Mechanics & Engineering formed 1889; first Dean appointed 1899!
- Electrical Engineering (1891)
- Applied Electrochemistry (1899)
  Chemical Engineering (1905)

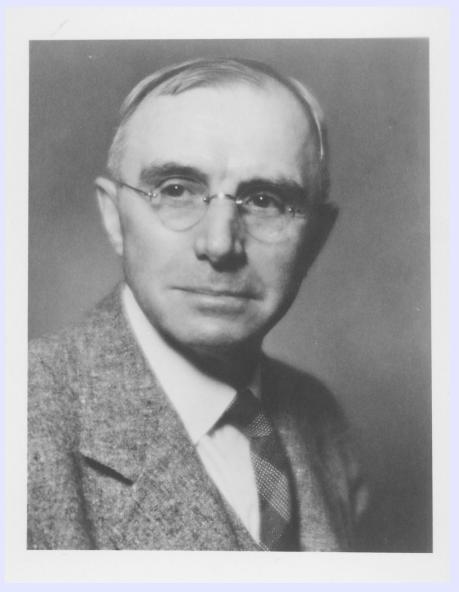
# **1907:** University of Wisconsin Campus



# **1905-13:** Charles F. Burgess, our first Chairman



# **1913-40:** Otto L. Kowalke, our second Chairman



# **Otto L. Kowalke's 90th Birthday Party**





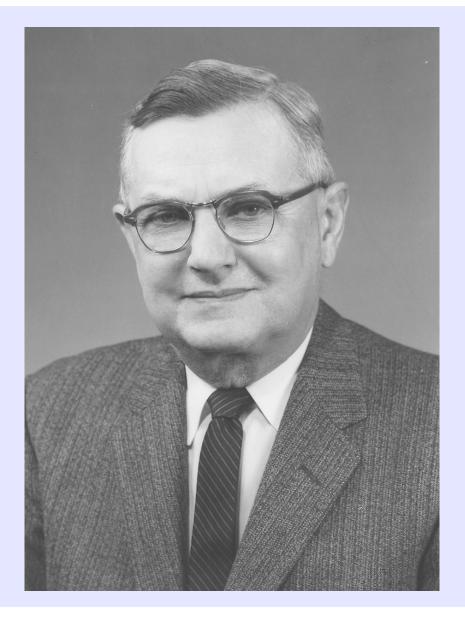




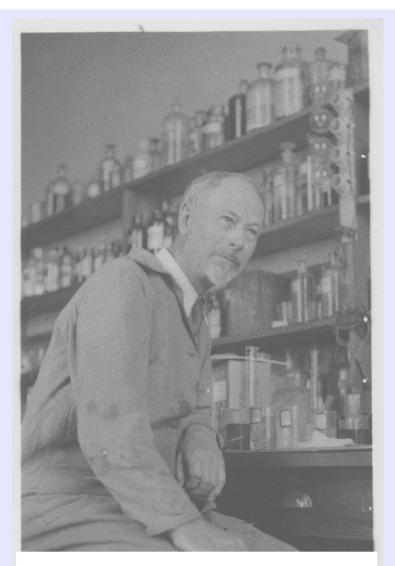
# **1940-64 (alternating with Roland Ragatz):** Olaf A. Hougen, our third Chairman



# **1940-64 (alternating with Olaf Hougen):** Roland A. Ragatz, our fourth Chairman



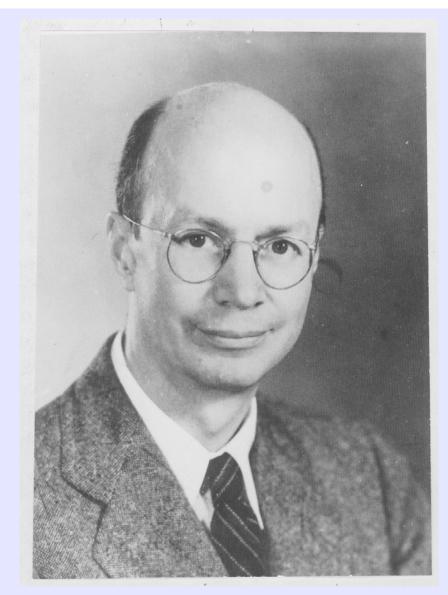
### Some Early Alumni who became Academic Leaders: Oliver P. Watts



# Some Early Alumni who became Academic Leaders: Charles A. Mann



# Some Early Alumni who became Academic Leaders: Allan P. Colburn



# Some Early Alumni who became Academic Leaders: Norman H. Ceaglske



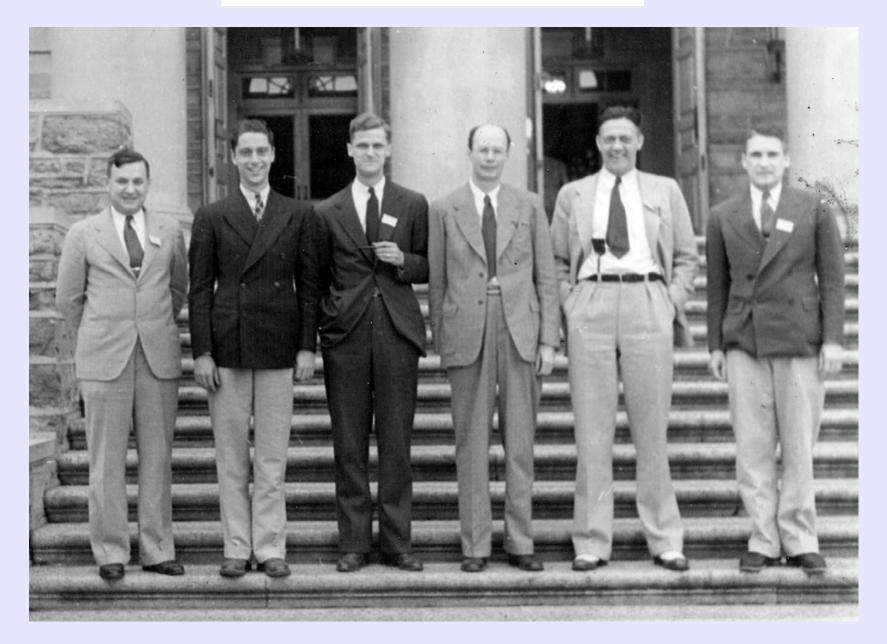
# Some Early Alumni who became Academic Leaders: Kenneth M. Watson



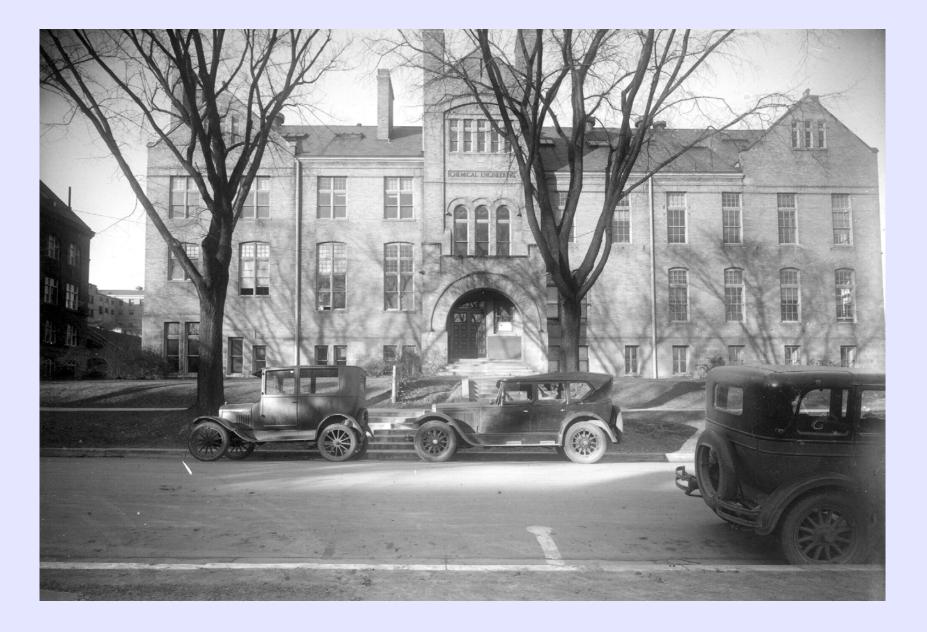
# Some Early Alumni who became Academic Leaders: W. Robert Marshall



# **A Puzzle:** The Gang of Six



# **Chemical Engineering (1905-1952): 600 North Park St.**



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# **Chemical Engineering (1905-1952): Quonset Hut Q-15**



# Chemical Engineering (1952-2005): Move to Camp Randall - Unit 1(1951) Elec. Eng and Eng Mech.



# **Chemical Engineering (1952-2005):** Move to Camp Randall - Unit 2 (1952) Chemical Engineering





# **Chemical Engineering (1952-2005):** Move to Camp Randall - Unit 3 (1964) Chemical Engineering





# **Chemical Engineering (1952-2005):** Move to Camp Randall - Unit 4 (1993) Chemical Engineering







# Old Chemical Engineering Building (1969): Making Room for Helen White Library



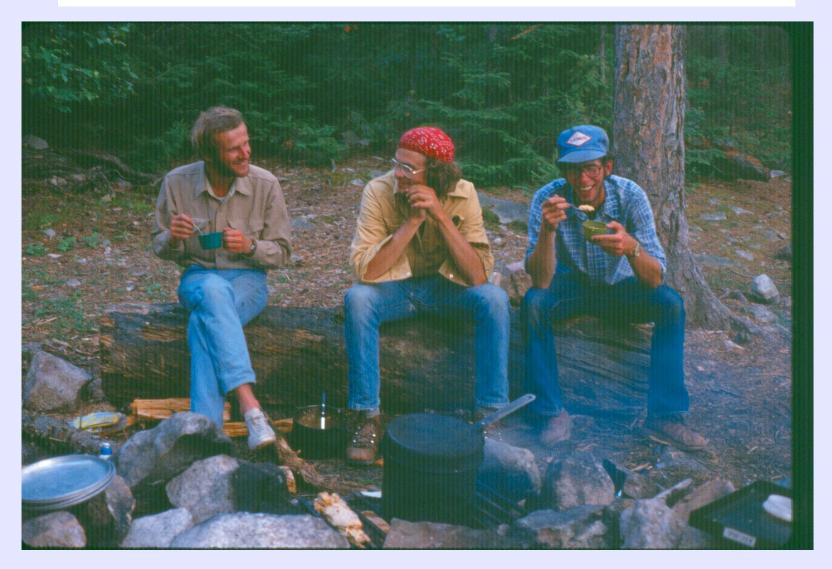




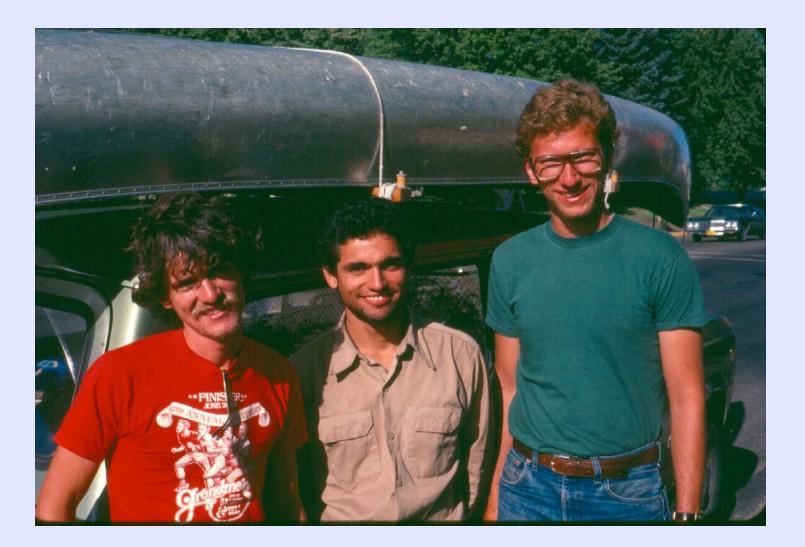
# **Quonset Hut Q-15 (2004):** The end of a drafty old friend



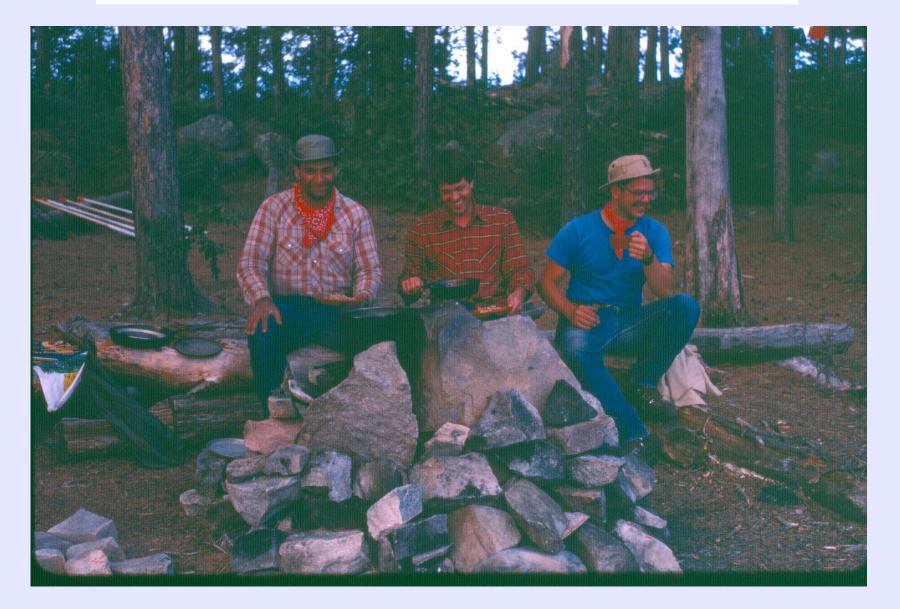
# **Canoe Trip to the BWCA:** Manfred Morari, Paul Dotson, Joe Kubsh (1979)



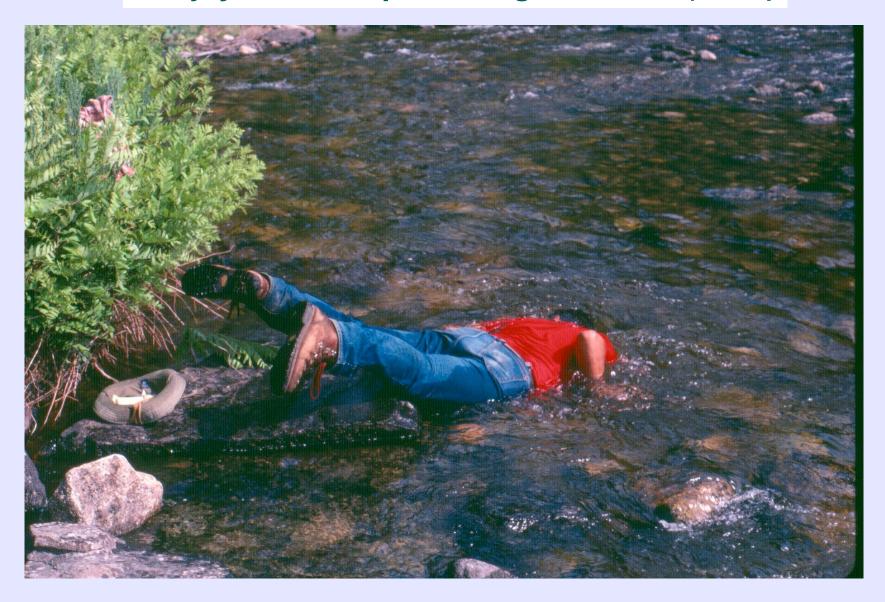
# **Canoe Trips to the Quetico Park:** Jim Rawlings, John De Aguiar, John Torkelson (1982)



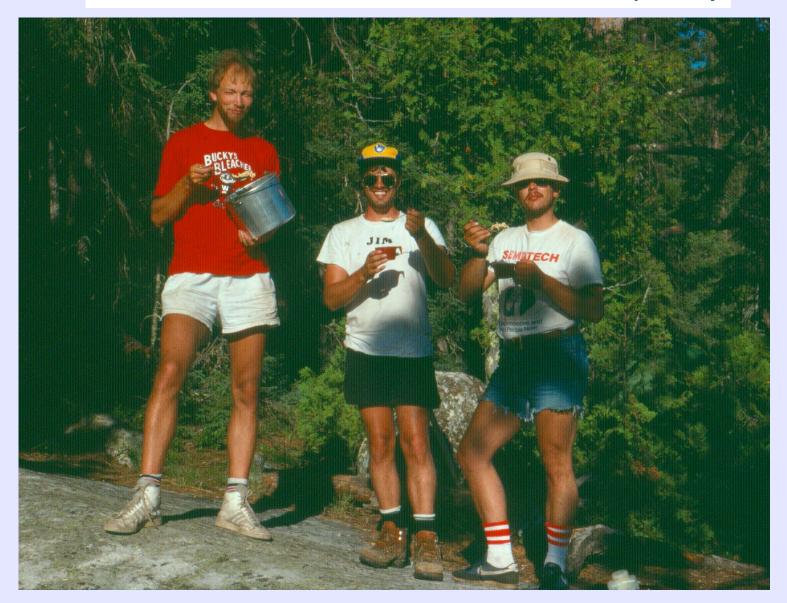
# **Canoe Trips to the Quetico Park:** Sanjay Sharma, Jim Silver, Tom Srnak (1988)



# **Canoe Trips to the Quetico Park:** Sanjay Sharma quenching his thirst (1988)



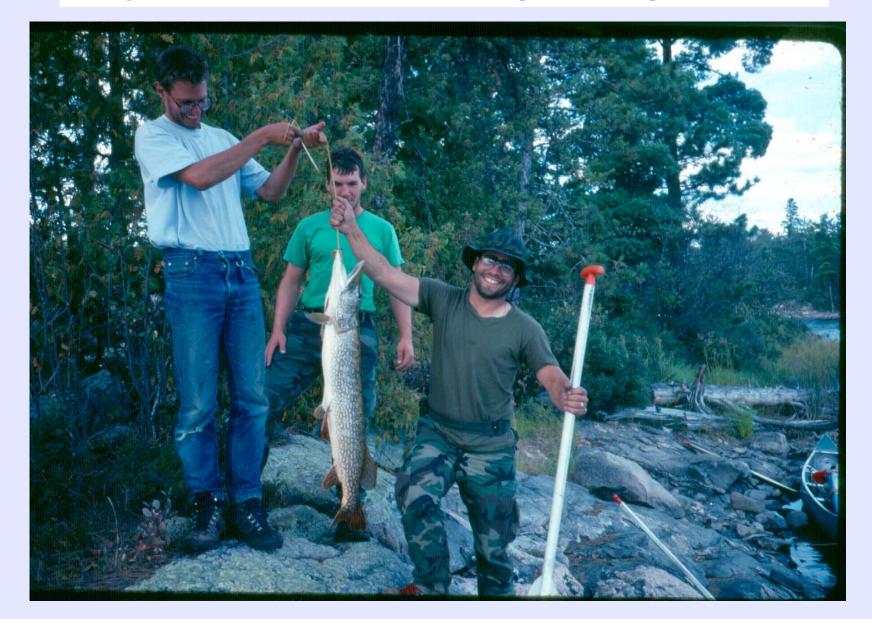
# **Canoe Trips to the Quetico Park:** Justus Rau, Jim Silver, Tom Srnak (1988)



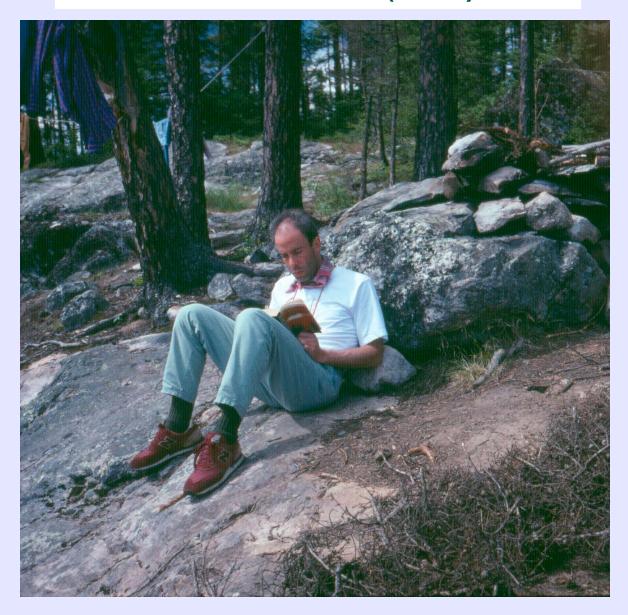
# **Canoe Trips to the Quetico Park:** Dale Rudd, Lou Bruch, Doug Cameron (1989)



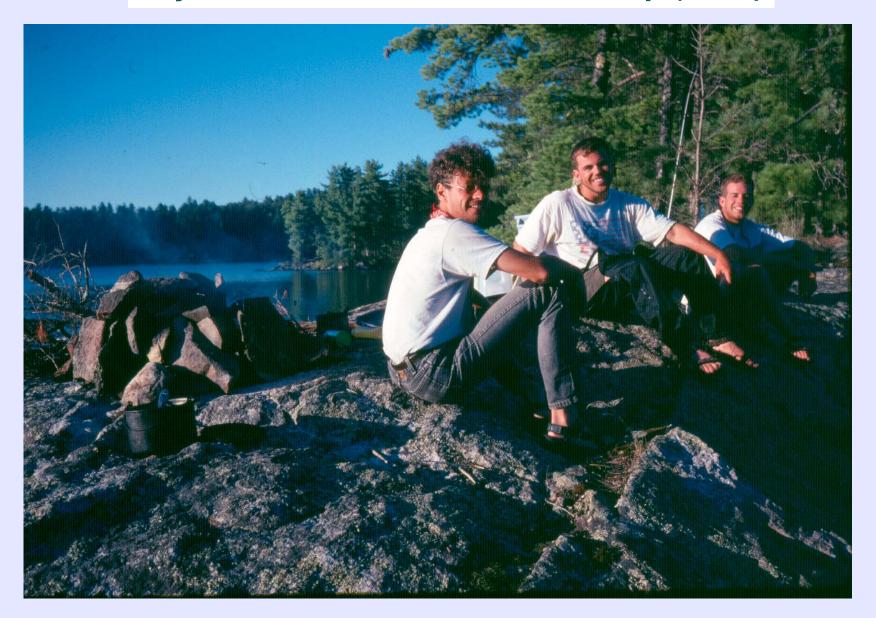
# **Canoe Trips to the Quetico Park:** Gary Huber, Jon Dorofi, George Rodrigues (1991)



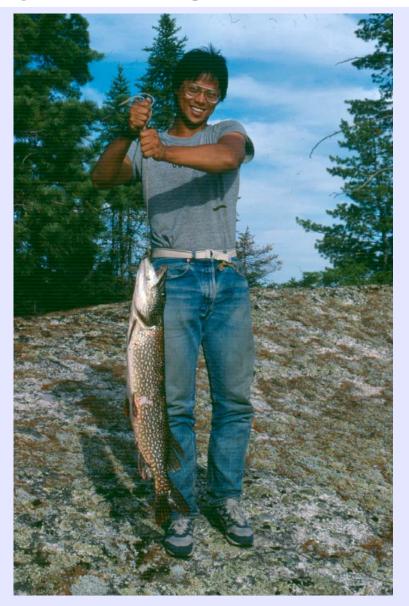
# Canoe Trips to the Quetico Park: Juan de Pablo (1993)



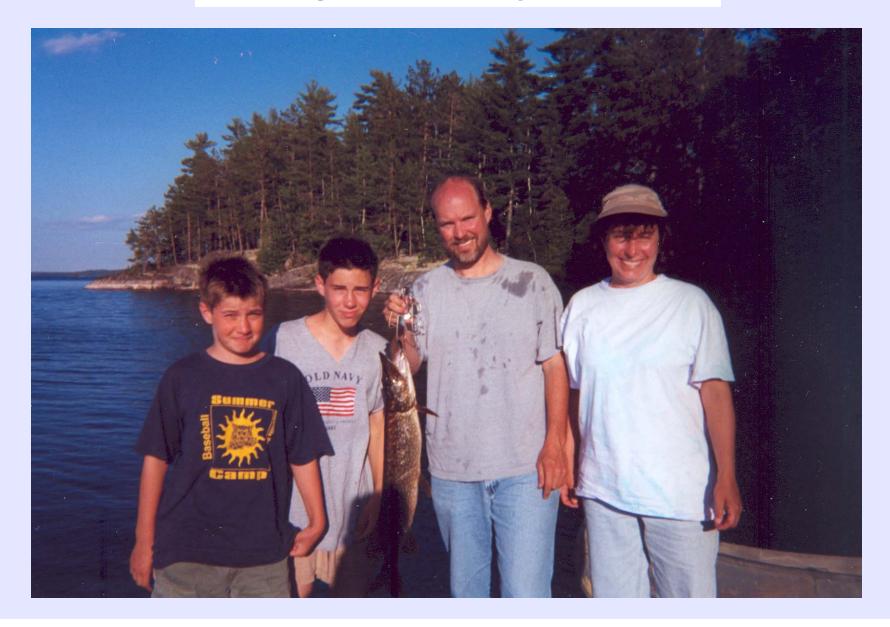
# **Canoe Trips to the Quetico Park:** Jay Schieber, Todd Bell, Tom Culp (1995)



# **Canoe Trips to the Quetico Park:** Tony Liu having success (1987)



# Canoe Trips to the Quetico Park: Wedgewood family -1 (2001)



### Viewing the Kickapoo River: Boudewijn van Nederveen, Len Rothfeld, Hsien-Wen Hsu



#### "100 Years of Chemical Engineering at UW" by Olaf A. Hougen and R. Byron Bird

**Part I. Prologue** 1. Historical events in chemical processing 2. Instruction in engineering and chemistry 3. Applied electrochemistry (AEC) 25. ChEGS 4. From AEC to ChE Part II. Ten decades of ChE 5. The first decade: 1905-1915 6. The second decade: 1915-1925 7. The third decade: 1925-1935 8. The fourth decade: 1935-1945 **Appendices:** 9. The fifth decade: 1945-1955 10. The sixth decade: 1955-1965 11. The seventh decade: 1965-1975 12. The eighth decade: 1975-1985 13. The ninth decade: 1985-1995 14. The tenth decade: 1995-2005 Part III. Some reminiscences 15. Reminiscences—1916-1917 (Hougen) 16. Reminiscences—1916-1920 (Ragatz) 17. Reminiscences —1947 and 1953 (Bird) 18. Reminiscences—1961 (Rudd) Part IV. Special topics in education 19. The "summer lab" 20. General policies in engineering education 21. Theses 22. Professorial activities in foreign countries

Part V. Student participation 23. Student activities 24. Student unrest and violence **Part VI. Special topics** 26. Relations with the AIChE 27. Department staff—the essential people 28. Endowments, bequests, and funds 29. Women in ChE 30. Research in the 21<sup>st</sup> century A. Higher administrative officials B. Chairmen of the ChE department C. Summary of faculty appointments D. Books published by the ChE faculty E. Hougen professors and scholars F. Distinguished Service Awards G. Graduates in professorial positions H. Postdoc. fellows in professorial positions I. PhD thesis titles J. City and campus size by decades K. Founders' and BSL lecturers L. Faculty academic genealogy M. Visiting summer lab instructors N. UW hon. degrees given to our graduates O. Postdoc. fellows and visiting professors P. National Acad. of Engineering members

Q. List of all degrees granted by ChE dept.