UW-Madison Mechanical Engineering

Celebrating 150 Years

1875
First Professor of Mechanical Engineering

1876
First ME graduate

1879
Professor Storm Bull developed ME programming

1885
Leander M. Hoskins

1887
Engineering Mechanics

1900
Old Education building

1909
ASME established

1915
"The Gasoline Automobile" published by Ben Elliott

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Pi Tau Sigma established

1920
Charles Lindbergh enrolled in ME courses

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ME building

1944
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1946
Engine Research Center established

1954
Solar Energy Lab established

1963
Nuclear Engineering Department established

1969
Industrial & Systems Engineering became a separate department

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Professor Emeritus Ali A. Seireg's exoskeleton research

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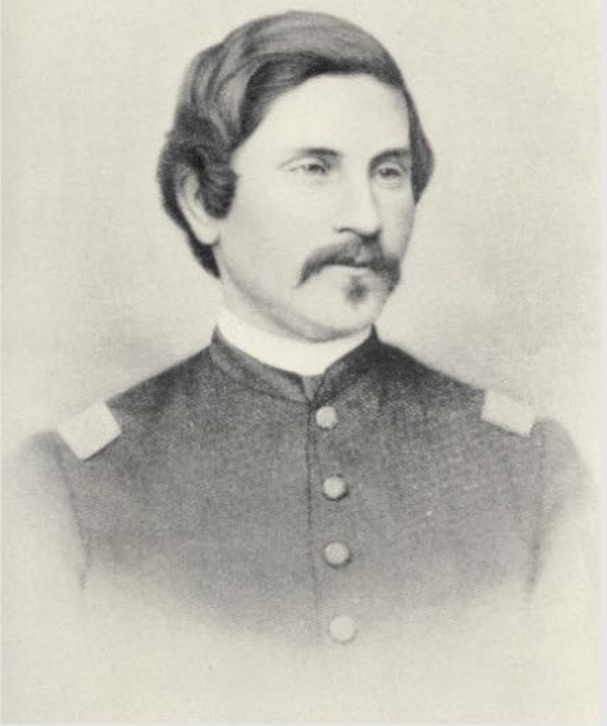
John Bollinger Chair of Mechanical Engineering established

2022
UW-Madison Center for Traumatic Brain Injury (TBI)

2023
Engineering Mechanics degree program moves to ME

2025
ME alumnus Dinesh Ranjan becomes 10th Dean of UW College of Engineering

1875



First Professor of Mechanical Engineering

In 1875, Mechanical engineering study was introduced. Major William Joseph Leonard Nicodemus was appointed professor of civil and **mechanical engineering.**

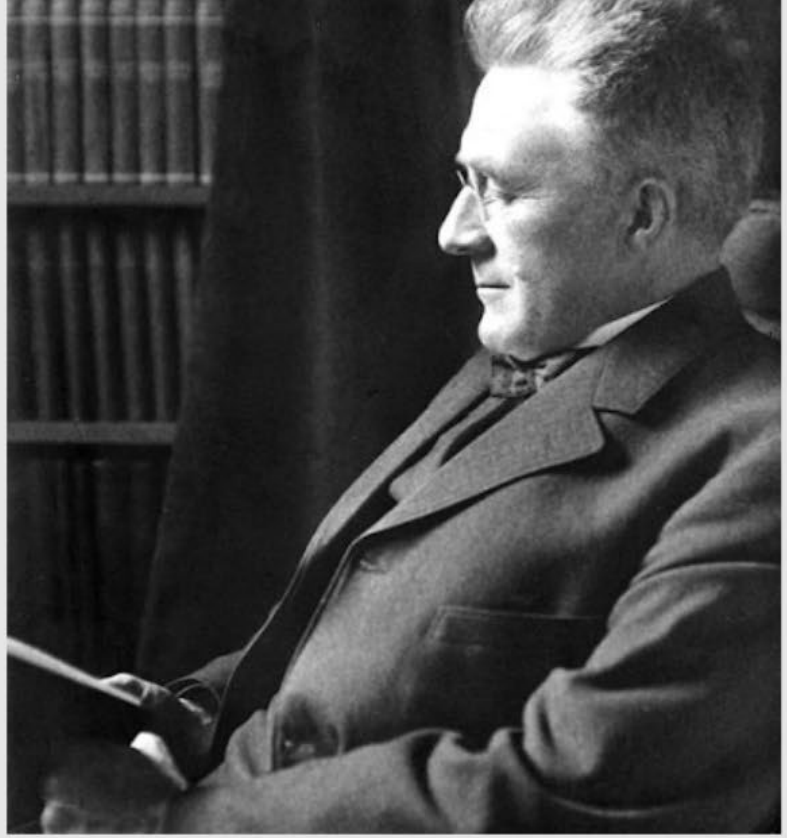
1876

First ME graduate

The first graduate to receive the degree of Bachelor of Science, Mechanical Engineering Course, was **Mr. Frank Challoner**, who graduated in 1876.

the Class of 1871, but strictly speaking were in reality graduates of the College of Letters and Science. The first graduate to receive the degree of Bachelor of Science, Mechanical Engineering Course, is the late Mr. Frank Challoner, who graduated in 1876. This degree was not conferred again un-

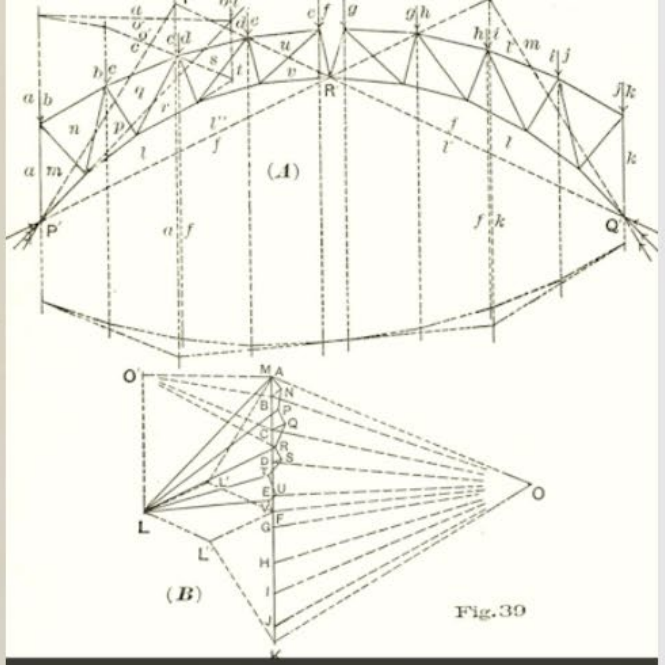
1879



Professor Storm Bull developed ME programming

Storm Bull, a Norwegian native who joined UW in 1879, implemented a rigorous hands-on curriculum, helped design the campus power plant and served as Madison's 33rd mayor.

1885



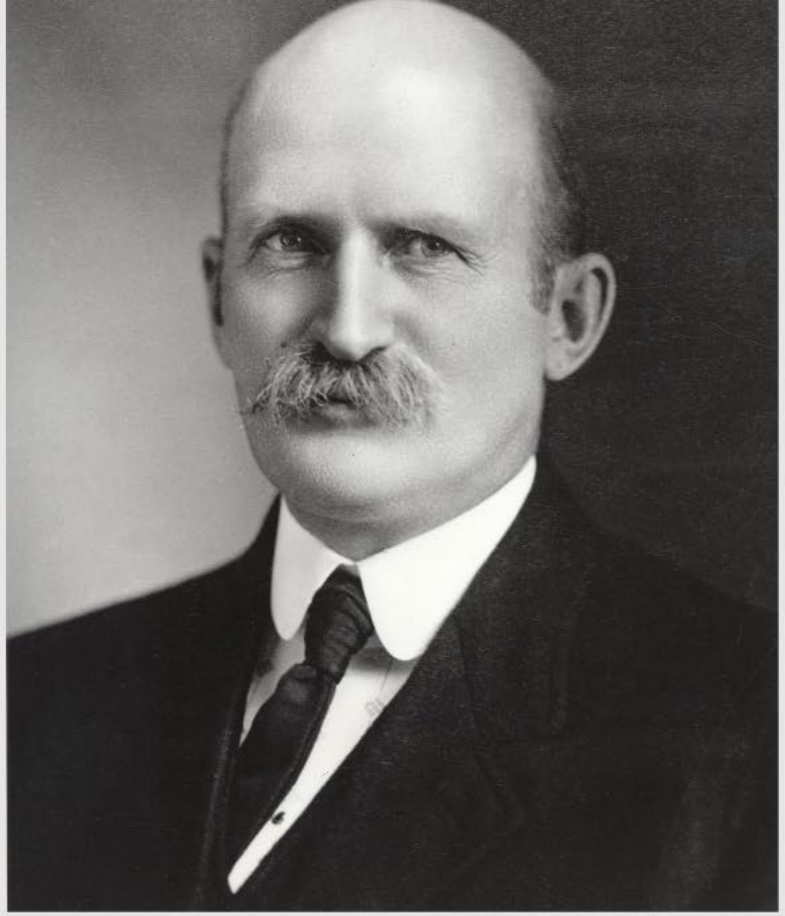
The elements of graphic statics

Leander M. Hoskins

Leander M. Hoskins (C.E., M.S. 1885) authored influential texts in mechanics, hydraulics and geophysics including *The Elements of Graphic Statics*, which introduced visual force analysis

1887

Engineering Mechanics



The Department of Pure and Applied Mechanics (which eventually became the Department of Engineering Mechanics) was established with **Allen D. Conover** serving as first chair. The Engineering Mechanics degree program moved into the ME department in 2023.

1900

Old Education building

Erected in **1900**, the Old Education building on Bascom Hill served as the original home of the Engineering Department.

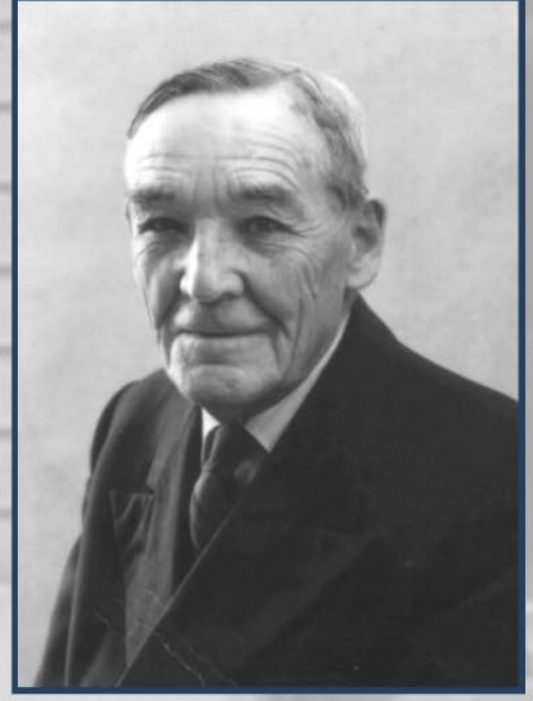
The rise of engineering as a university pursuit was too swift even for the new building. By **1910** the building was too small. It was decided that in the future engineering would be given a large group of buildings on the western end of the campus.

1909

ASME established

The American Society of Mechanical Engineers Wisconsin Chapter was established. The group's mission is to build social, professional, and academic connections for mechanical engineering students as well as to develop soft-skills that will be valuable in future career endeavors.

1915



"The Gasoline Automobile" published by Ben Elliott

Professor **Ben G. Elliott** conducted pioneering research on the internal combustion engine, visited with and advised Henry Ford in Dearborn, MI, and co-authored the 1915 textbook, "The Gasoline Automobile." Elliott became a UW associate professor in 1917 and chaired the Department from 1947 until he retired in 1959.

1915

Pi Tau Sigma established

The Wisconsin chapter of the international honor society of top Juniors and Seniors in Mechanical Engineering was co-founded in 1915.

1920

Charles Lindbergh enrolled in ME courses

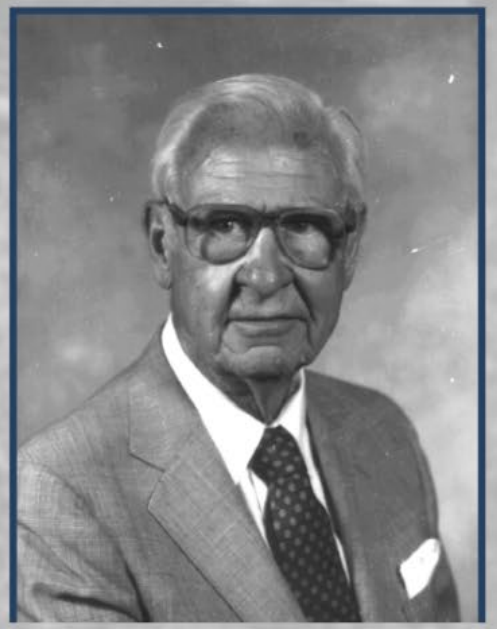
Charles A. Lindbergh, who completed the first solo flight across the Atlantic Ocean in 1927, was enrolled in ME courses in the College of Engineering from 1920–22. He received an honorary degree from University of Wisconsin in 1928.

1931

ME building

Mechanical Engineering was the first significant building erected after the University decided to move engineering from Bascom Hill to the Camp Randall site. It opened in 1931, and enclosed an older shop building (Sawtooth) within its “U’ shape.

1944



Prof. Edward F. Obert publishes 1st edition of Internal Combustion Engines

Professor **Edward F. Obert** was ME department chair from 1963 to 1967. From the first edition in 1944, through the the fourth edition in 1973, Obert's Internal Combustion Engine textbooks were the mainstay in the field until the mid-1980's.

1946

Engine Research Center established

In 1946, in a metal shack located in the undergraduate Mechanical Engineering Laboratory, **Phil Myers** and **Otto Uyehara** developed methods and instrumentation to measure the time-resolved temperature history of gas mixtures in combustion cylinders. Recognition of this seminal work lead to a 5 year, $50K grant from the UW Graduate School to support the Internal Combustion Engine Laboratory, and use of a “war surplus” building east of ME, i.e., T25.

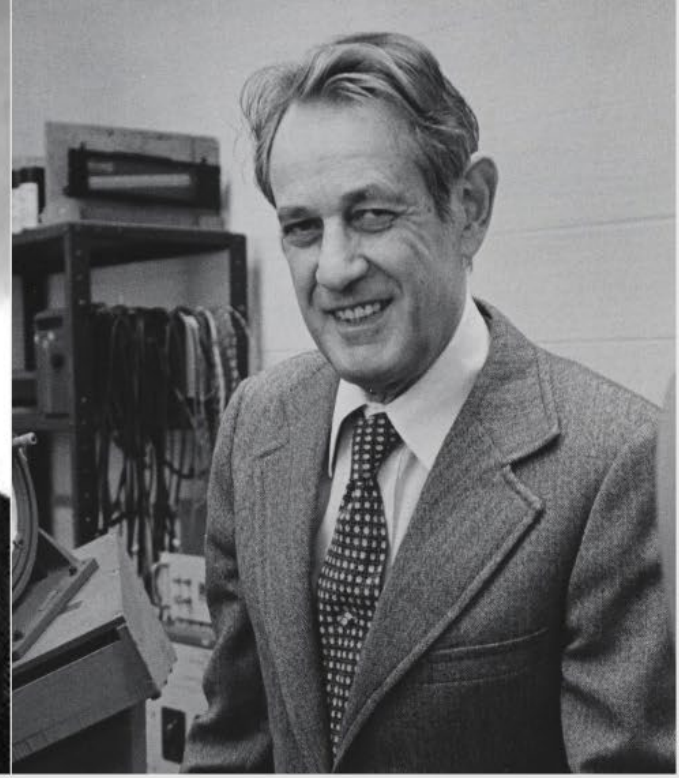
1954

Solar Energy Lab established

Farrington Daniels and **John Duffie** founded the Solar Energy Laboratory in 1954. The TRaNsient SYStems (TRNSYS) software, the most enduring outcome of former SEL Director Sanford Klein's dissertation, laid the foundation for SEL's worldwide reputation.

Pictured: The professorial staff of the Solar Energy Laboratory in 1984 included (from left to right) chemical engineer John A. Duffie and mechanical engineers Sanford A. Klein, William A. Beckman, and John W. Mitchell.

1963



Nuclear Engineering Department established

In 1963, the Department of Nuclear Engineering was established. Founding Chair of Nuclear Engineering Professor Emeritus **Max W. Carbon** and Professor **M.M. El-Wakil** were both in the ME Department and lent their expertise to establish new areas of engineering at UW-Madison. The UW's experimental nuclear reactor was built in 1961.

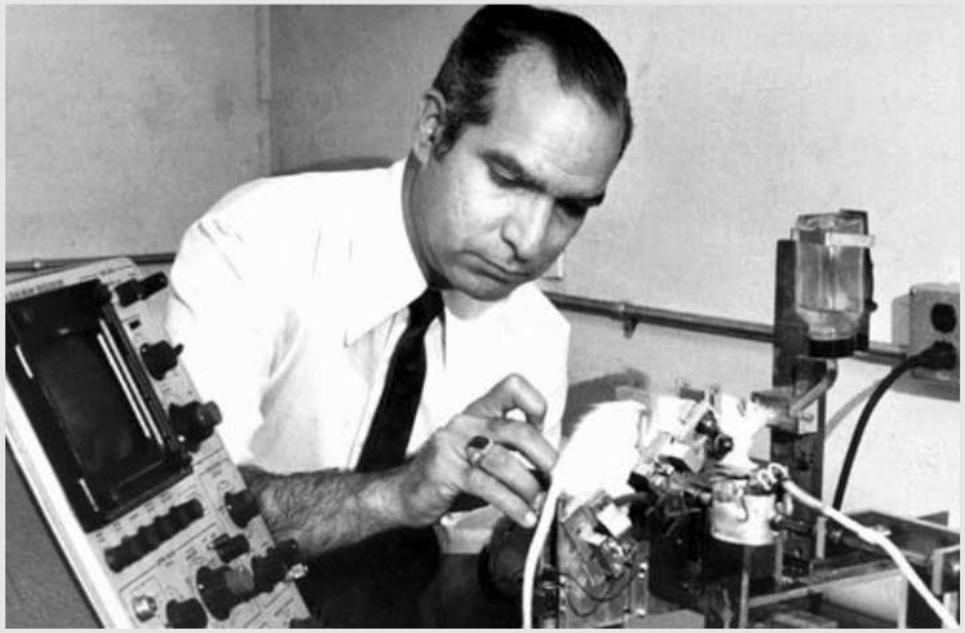
1969

Department of Industrial and Systems Engineering
UNIVERSITY OF WISCONSIN–MADISON

Industrial & Systems Engineering became a separate department

The Industrial Engineering Department (now Industrial & Systems Engineering) and all its faculty were a part of ME until it became its own department in 1969. The first Industrial Engineering degree was awarded through the ME department in 1966.

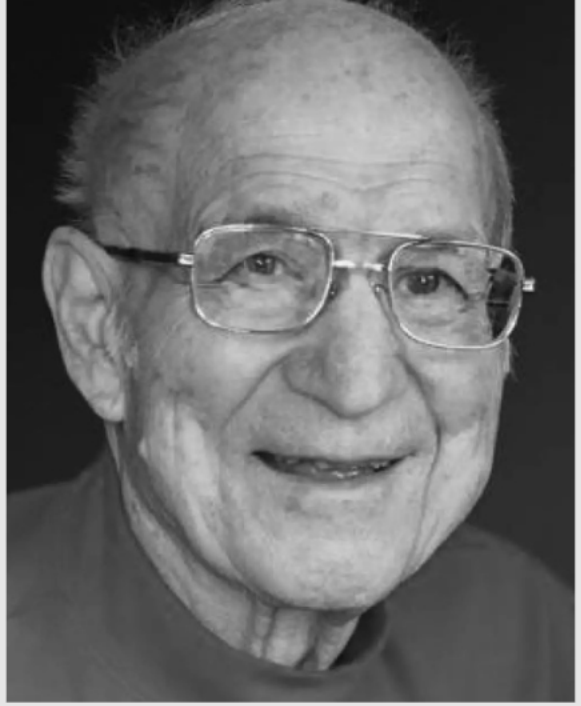
1970s



Professor Emeritus Ali A. Seireg's exoskeleton research

Professor Emeritus **Ali Seireg** was the first to develop a mathematical model of the entire human musculoskeletal system that could predict the muscle and joint forces and interactions, given a motion input. In the early 1970s, he performed pioneering research on using powered exoskeletons to help disabled people rehabilitate and walk. Jack Grundmann is shown below left wearing the walking device he constructed under the guidance of Prof. Seireg.

1973



Philip S. Myers elected to National Academy of Engineering

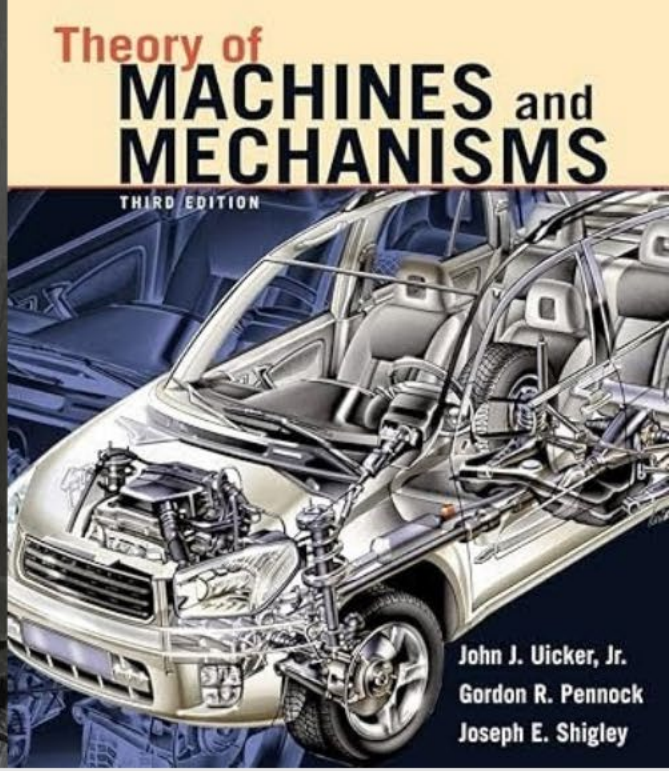
Phil Myers pioneered techniques for in-cylinder temperature measurements and made important contributions to understanding the diesel combustion process, droplet combustion, engine heat transfer, and engine modeling. Myers came to UW-Madison in 1942 and joined the Department. He earned his MS and PhD degrees from UW-Madison in 1944 and 1947, respectively. Myers remained at Madison as part of the faculty, receiving tenure in 1950 and achieving the rank of professor in 1955. He was elected to the National Academy of Engineering in 1973.

1979

Prof. Shien-Ming (Sam) Wu recognized with UW Research Professor in Manufacturing Engineering award

Professor **Sam Wu** earned his BS and PhD in Mechanical Engineering from UW-Madison in 1958 and 1962 respectively. He was a primary force in the Department's Design and Production Divisions in the 1970s and advised upwards of 200 PhD students. Wu had a huge influence nationally on manufacturing education and research and was recruited away to University of Michigan.

1980



'Theory of Machines and Mechanisms' published by John J. Uicker, Jr. & colleagues

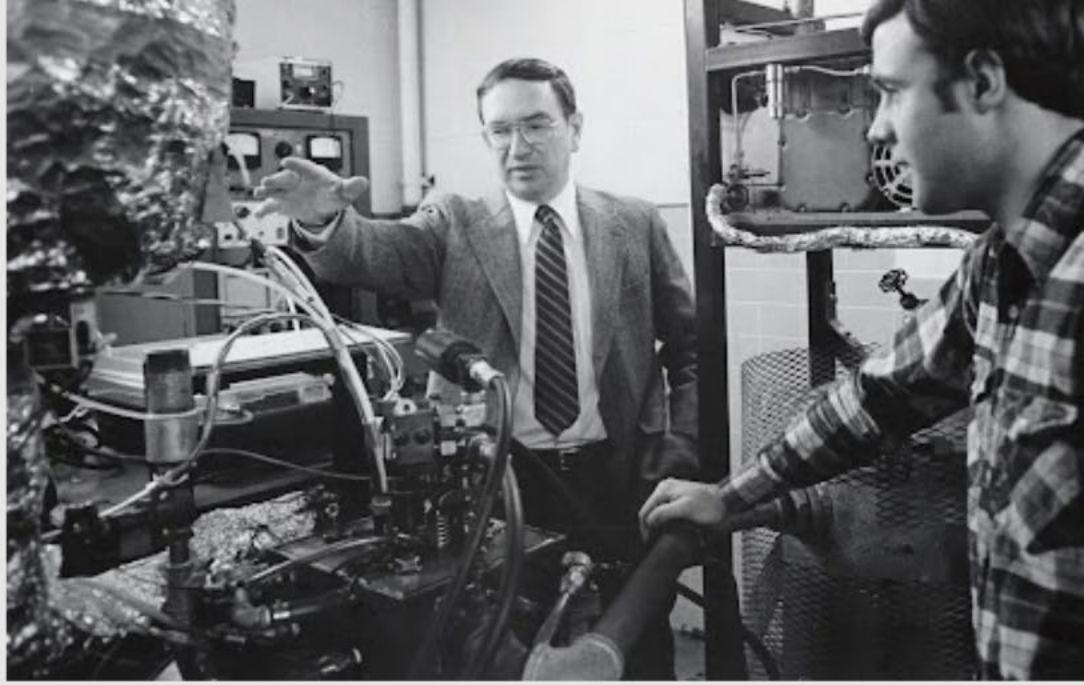
Professor **John J. Uicker, Jr.**, taught Mechanical Engineering at UW-Madison for over 40 years and founded the Computer Aided Engineering Center (CAE). His seminal textbook, 'Theory of Machines and Mechanisms' is now in its 6th edition.

1981

ME alumnus John Bollinger elected Dean of College of Engineering

John C. Bollinger earned his BS and PhD in mechanical engineering from UW-Madison in 1957 and 1961 respectively. In July of 1981, John was elected dean of the College of Engineering at the University of Wisconsin-Madison, a position he retired from in 1997. He was elected to the National Academy of Engineering in 1983.

1990



Gary L. Borman elected to National Academy of Engineering

Professor Emeritus **Gary L. Borman** earned degrees at UW-Madison in mathematics (BS, 1954; MS, 1956) and mechanical engineering (MS, 1957; PhD 1964). His pioneering work in thermodynamic analysis of engines led to an analysis technique known as heat-release analysis that has been adopted by every internal combustion engine manufacturer in the world. He helped the UW engine research program grow from a collection of individual faculty with research contracts into the internationally recognized Engine Research Center. He served as its first director from 1986 to his retirement in 1994.

1999

UW's 'Future Car' first in national competition

A team of UW–Madison student engineers earned first place in the national Future Car Challenge. Scoring 973 out of 1000 points possible, the UW team beat the next closest competitor by more than 300 points. They doubled over-the-road fuel efficiency of a mid-size American car without sacrificing safety, comfort or performance.

2001

Polymer Engineering Center established

In 2001, eleven faculty members at the College of Engineering, including Professor Emeritus **Tim A. Osswald**, joined forces to create the Polymer Engineering Center (PEC). Polymer engineering activities at UW-Madison date back to 1946 when Professor **Ronald L. Daggett** originated the first engineering plastics course taught in the world. The Polymer Processing Research Group and Daggett attracted national attention in the early 1960s for pioneering work on injection-molded heart valve.

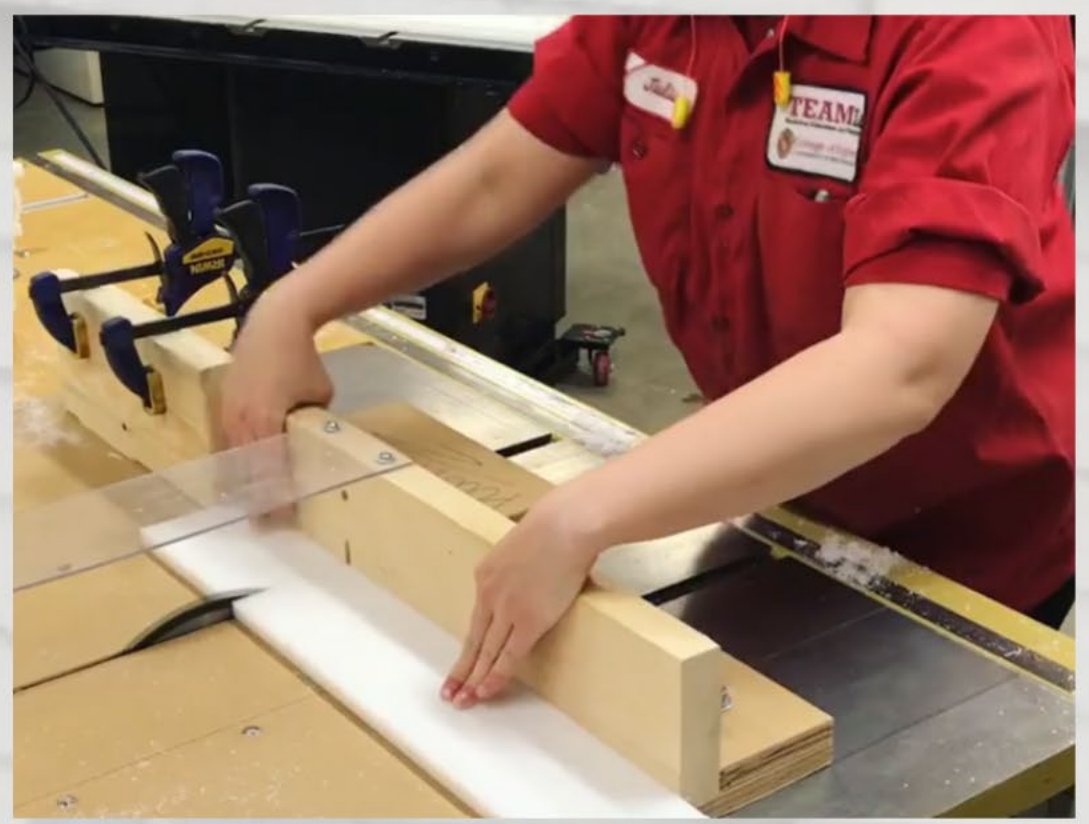
2002

Phil Myers Automotive Center “PMAC” lab opens

In recognition of the exceptional leadership of Phil Myers and John Bollinger, Fred Mancheski (BSME’1948) pledged $2 million for the Engineering Centers Building in 1997. Emeritus Professor Phil & Jean Myers ('47 MS, SOHE) made a gift in 1999 to fund the operation of the Myers Automotive Laboratory (MAL). Everything came together by 2002, when the Phil Myers Automotive Center opened in ECB to house UW’s engineering competition and automotive teams.

2002

TEAM lab opens



The TEAM Lab (Technical Education and Manufacturing Lab) opened in 2002, in conjunction with the opening of the Engineering Centers Building. It is now part of the Grainger Engineering Design Innovation Lab.

2007

ME building renovation

Originally, the stately Italian Renaissance-style Mechanical Engineering building encircled a machine shop that dates back to 1920. Project contractor, Neenah-based Miron Construction Co., demolished the machine shop and replaced it with a four-story addition for academic and research programs, adding more than 155,000 square feet of space. Then, Miron gutted and renovated the existing building resulting in 270,000 square feet of new and completely renovated space, shared between ME and the Department of Industrial and Systems Engineering. The new building opened in 2007.

2007

Roxann Engelstad leads

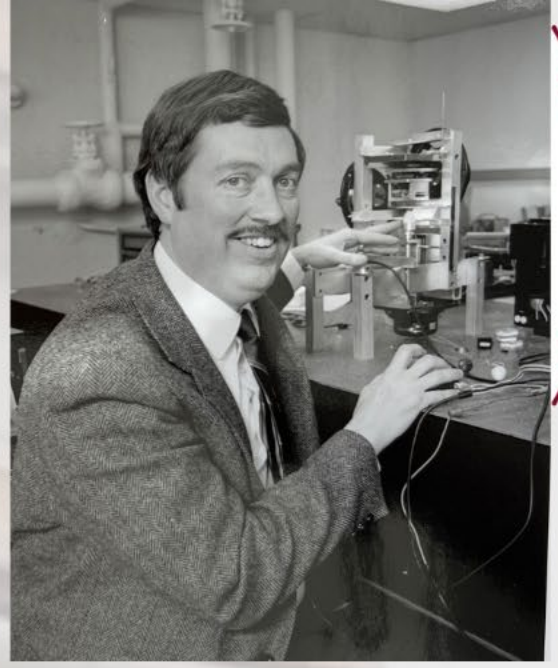
Roxann Engelstad was the first woman to lead Mechanical Engineering at UW. She earned her bachelor's, master's, and PhD degrees in engineering mechanics from UW-Madison in 1977, 1979, and 1988, respectively, and joined the faculty as an assistant professor in 1988. She chaired the mechanical engineering department from 2007 to 2013 and was the first woman in the College of Engineering to receive a WARF named professorship from UW-Madison, the Stephen P. Timoshenko professorship, in 2008.

2017

Makerspace opens

The Makerspace at Wendt Commons officially opened in September 2017. This 12,000-square-foot facility, located on the second floor of Wendt Commons at 215 N Randall Ave, was established as part of the Grainger Engineering Design Innovation Laboratory initiative.

2019



WEMPEC

Robert Lorenz elected to National Academy of Engineering

Bob Lorenz was a pioneer in the field of physics-based controls engineering and pursued highly interdisciplinary research from early in his career, at a time when blending disciplines wasn't the norm. Lorenz received his bachelor's, master's and PhD in mechanical engineering from UW-Madison. He joined the UW-Madison engineering faculty in 1984. As a longtime co-director of the Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC), he played a vital role in growing WEMPEC, a technology center at UW-Madison that supports innovative research to benefit its corporate sponsors and educate the next generation of engineering leaders in power electronics and electromechanical power conversion.

2019

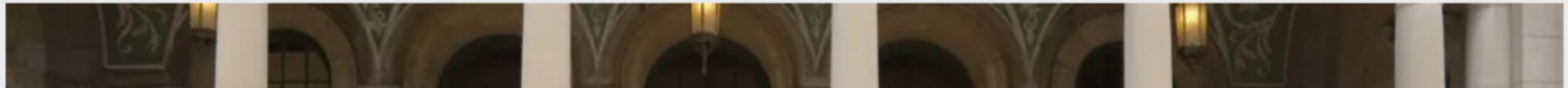
John Bollinger Chair of Mechanical Engineering established

In 2019, three distinguished alumni and supporters endowed the Chair position, naming it in honor of former College of Engineering Dean John Bollinger and his wife, Heidelore Bollinger. **Jaal Ghandhi** had the honor of being appointed as the inaugural Bollinger Chair of Mechanical Engineering. The endowment's proceeds are strategically invested in research and educational initiatives, ensuring the department remains at the cutting edge of advancements in the field.

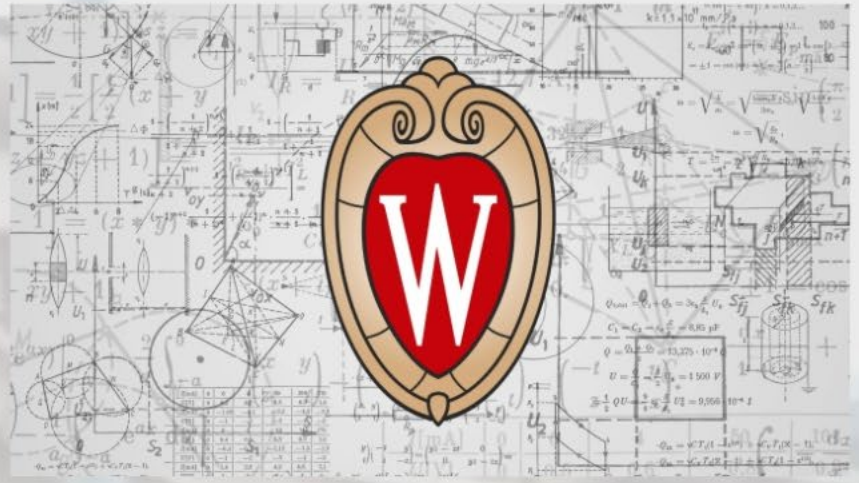
2022

UW–Madison Center for Traumatic Brain Injury (TBI)

The UW–Madison Center for Traumatic Brain Injury (TBI) was established to advance interdisciplinary research and collaboration in the field of TBI. In September 2022, the center co-hosted a national workshop with the PANTHER Program, which investigates Physics-based Neutralization of Threats to Human Tissues and Organs. Founded in 2017, the PANTHER Program blunt and blast trauma. The program integrates expertise from academia, industry, and government agencies to develop advanced protective materials, real-time brain motion sensors, and predictive simulations of head impacts. It serves as a central hub for Department of Defense research on TBI.



2023



Engineering Mechanics degree program moves to ME

The Engineering Mechanics program moved into the Department of Mechanical Engineering from the Department of Nuclear Engineering and Engineering Physics. The College of Engineering has a long history of strong Engineering Mechanics programs and the move into ME aligns with peer and industry standards, while also expanding research and educational opportunities for students. ME is now one department with two majors.

2025

ME alumnus Devesh Ranjan becomes 10th Dean of UW College of Engineering

Devesh Ranjan earned his PhD from UW-Madison ME in 2007 in the lab of Professor Riccardo Bonazza. He was elected the tenth Dean of the College in 2024.