



ABOUT THE DEPARTMENT OF CHEMISTRY

Founded as the department of chemistry and metallurgy in 1871, one short year after Missouri School of Mines was established, it was later to become the department of chemistry and chemical engineering, and finally to become the department of chemistry in 1968.

Academic staff includes 14 full-time faculty, 12 emeritus faculty members, and 7 adjunct faculty and comprise one of the highest external research grant-generating departments at Missouri S&T.

Whether it's replacing the chromium in aircraft coatings, using algae as an alternative energy source or treating lead poisoning, at Missouri S&T's department of chemistry, it's all about interdisciplinary research that will have a positive impact on the world.

The department offers a bachelor of arts with emphasis in secondary education and a bachelor of science which is certified by the American Chemical Society and places strong emphasis on the integration of research into undergraduate education. The graduate programs include a master of science (with or without thesis), a master of science for teachers, and the doctor of philosophy degree with research in all areas of chemistry.



MISSOURI
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THE 8TH ANNUAL JAMES O. STOFFER LECTURE IN CHEMISTRY

2 p.m. Friday, Oct 27, 2023

Schrenk Hall, Room G3

The Business of Chemistry

*Dr. Terry Brewer, founder and president of
Brewer Science in Rolla, MO*

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“THE BUSINESS OF CHEMISTRY”

By Dr. Terry Brewer

Abstract:

The Qualities Needed

- People
- Products
- Customers
- Differentiated Innovation
- Facilities/Location
- Vision/Perspective/Commitment

The Chemistry

1. Integrated circuit construction
2. Photo Imaging
3. Fixing the problem
4. Producing and selling and supporting the solution
5. Reproducing thousands of times –

DR. TERRY BREWER

Terry Brewer is founder and president of Brewer Science, headquartered in Rolla, Missouri.

Dr. Brewer is the founder of a unique business model, one that extends beyond product creation and development to creation of an environment that inspires and enables the cycle of perpetuating the ability and desire to be innovative. Under his leadership, Brewer Science has grown to be an international company with a global network of people providing superior products, support, and service.

Founded in 1981, Brewer Science is known as an innovator and manufacturer of leading-edge materials and processes used in the semiconductor and microelectronics industry. Dr. Brewer is recognized as the inventor of anti-reflective coatings (ARC® materials). Brewer Science creates, develops, and manufactures specialty materials, equipment, and process solutions for applications in semiconductors, advanced packaging/3-D ICs, MEMS, sensors, displays, LEDs, and printed electronics. The company's business model and in-depth knowledge and expertise in materials science, chemistry, physics, optics, modeling, and process integration distinguish Brewer Science from all other material suppliers worldwide.

Dr. Brewer serves as a member of the SEMI North America Advisory Board and is a founding member of the Jordan Valley Innovation Center (JVIC), located in Springfield, Missouri.

Dr. Brewer is a strong advocate for economic development, entrepreneurship, job creation, STEM education, the environment, and the arts. He serves on many related boards, committees, and panels.

Dr. Brewer holds numerous patents and has authored multiple technical papers and business articles for industry publications. Under his leadership, Brewer Science has successfully commercialized many government-sponsored technologies and is actively consulted by our government leaders for guidance regarding U.S. advanced technology, manufacturing, and small business development policies.



- i.e., Quantity
6. Improving hundreds of times – i.e., Quality
 7. Do all the above, again and again

The Business

1. Paying for it
2. Protecting it
3. Taking it to the world
4. Do no harm / Do good
5. Challenge of change
6. Manage economics
7. Grow
8. Sustain again and again

The People

1. Achieve all the above
2. Fail and gain (evolve)
3. Be fulfilled again and again

DR. JAMES O. STOFFER

James Stoffer is Curators' Distinguished Professor Emeritus of Chemistry and past director of the Graduate Center for Materials Research. He taught many courses in the chemistry department including Freshman Chemistry, Organic Chemistry and Polymer Chemistry. Additionally his experience includes teaching paint short courses in Rolla for over 30 years, as well as at the National Paint Show and at the American Chemical Society meeting each year. He has advised over 50 graduate students and research with these students includes the first papers on microemulsion polymerization processes, one of the first papers on polymerization of liquid crystals, the first papers on ultrasonic dispersion of pigments for paints, on ultrasonically initiated and microwave initiated free radical catalyzed polymerizations, and on transparent composites. Most of his research deals with the preparations and properties of coatings and polymers. He has sought to develop a replacement for chromium as the corrosion inhibitor for aluminum of aircraft since 1992, in collaboration with Dr. Tom O'Keefe and his group. Dr. Stoffer published over 150 publications and authored 12 patents, one of which provides royalties to fund this lecture.



ABOUT THE DR. JAMES O. STOFFER LECTURE SERIES

The purpose of this lecture series is to invite highly respected and qualified professionals to Missouri S&T to discuss topics relevant to chemistry, especially polymer chemistry. Speakers shall address the faculty and students of the department, as well as the university community and the public. The topics chosen vary in order to cover a full spectrum of the fields of interest relevant to the department. Preference is given to speakers from the chemistry department, alumni and/or those specializing in polymer chemistry, and be chosen in a collegial manner by a means normal to the operation of the department. Annually, the lecture series provides an opportunity for an alumnus or another outstanding individual to speak to students and the campus community about the impact and importance of education on their career.

PREVIOUS DR. JAMES O. STOFFER LECTURERS:

2016 - Dr. Janet Lynn Kavandi

2017 - Dr. Eric Peterson

2018 - Dr. William James

2019 - Dr. Delbert Day

2020 - Dr. M. Stanley Whittingham*

2021 - Dr. Jay Switzer

2022 - Dr. Philip D. Whitefield

* Deferred to 2021 due to pandemic