Breakthrough Research

OSU's invention of the transparent thin-film transistor and the development of prompt inorganic condensation are representative breakthroughs that have created new fields of



research and new technologies. These and other OSU research successes have led to numerous licensing agreements, industrial partnerships, start-up companies, and research contracts funded by federal agencies, private foundations, and corporate partners.



To explore opportunities for collaboration, contact

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For information on user facilities, contact

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Visit us online at: research.engr.oregonstate.edu/masc



Materials Synthesis & Characterization Facility





Technical Areas

- Flat panel displays
- Large-area electronics
- Printed electronics
- Thin-film solar cells
- Transparent electronics
- Novel approaches to solid state lighting
- Thin-film capacitors
- Thin-film piezoelectric materials
- Magnetics and magnetoelectrics
- Nanolaminate thin-films
- Metal-insulator tunneling electronics

MASC Innovation Facility



The Materials Synthesis and Characterization Facility (MASC) is a comprehensive resource that serves as both an open user facility and an innovation center. MASC faculty and staff provide deep experience in thin-film deposition, device fabrication, and materials analysis, serving as a hub for materials and device development on the Oregon State University campus.

Innovation

OSU's inorganic materials research has recently elicited worldwide interest in areas including transparent transistors, inorganic photoresists, and blue pigments. These developments and recent hiring of numerous top-flight researchers have positioned MASC for growth in industrial research engagement.

The collaboratory is transforming research and education at OSU, while creating an engine for economic impact through job creation, new ventures, and company partnerships. Strategic partners, including other university researchers, industry, and national laboratories, co-locate and collaborate with MASC researchers.

What We Do

For external users, MASC is the gateway to materials and device synthesis and characterization on the OSU campus. MASC intensively partners with industry to foster novel technologies, transforming new concepts to reality.

Taking It to the Next Level

Plans are being advanced to build a 50,000 squarefoot centralized MASC Innovation Facility comprising a cleanroom, synthesis labs, characterization labs and office/conference rooms capable of accommodating 40 faculty, staff and industrial partners, and 200 graduate students. The facility will house a technology incubator for launching spinoffs and assisting established businesses in the development of new technologies and products.

Faculty Collaborators

College of Engineering

- Liney Arnadottir
- David Cann
- John Conley
- Pallavi Dhagat
- Brady Gibbons
- Gregory Herman
- Albrecht Jander
- John Wager
- Alan Wang

- **College of Science**
- Douglas Keszler Mike Lerner
- Yun-Shik Lee
- David McIntyre
- Ethan Minot
- Vince Remcho
- Mas Subramanian
- Janet Tate