Virtual Issue on Research in the Center for Enabling New Technologies Through Catalysis (CENTC)

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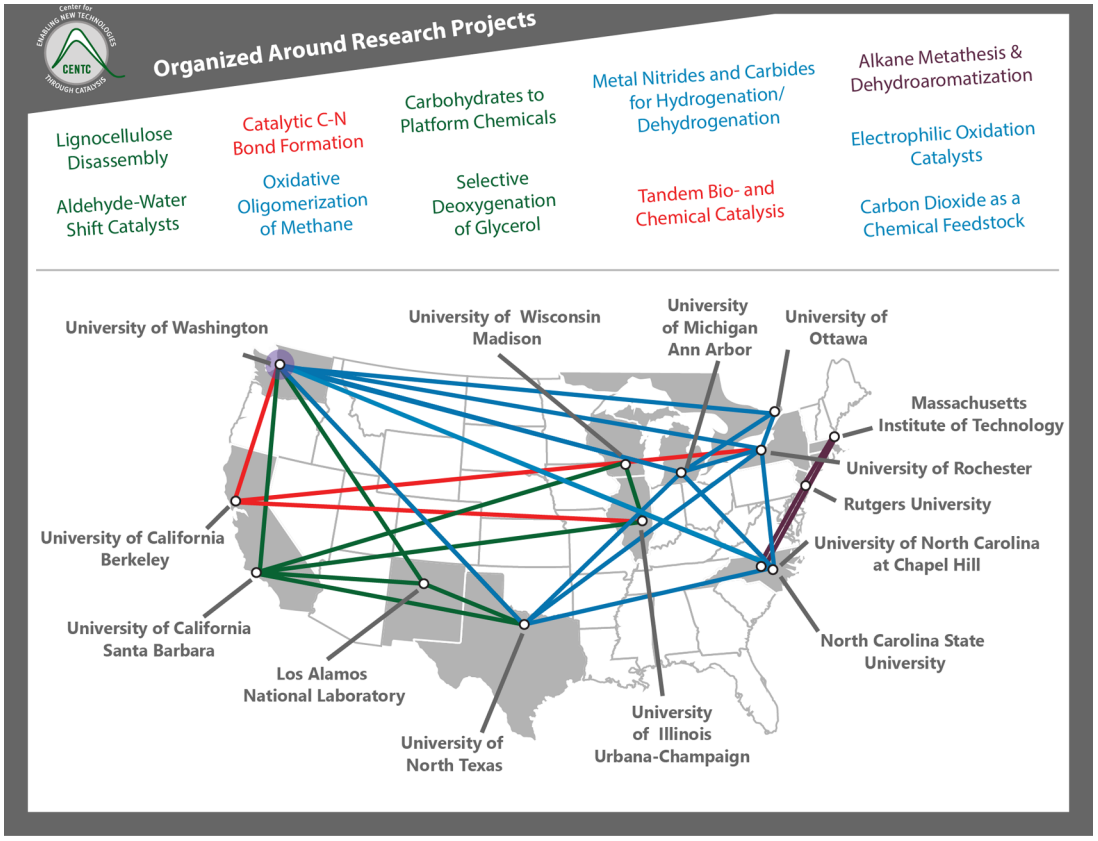

The Center for Enabling New Technologies through Catalysis (CENTC) was established in 2007 as the first NSF Phase II Center for Chemical Innovation and was renewed for a second five-year period beginning August 2012. The aim of the Center is to discover and develop catalytic science that will enable the implementation of new processes for efficient and environmentally responsible production of chemicals and fuels from common feedstocks. This virtual issue highlights some of the work being carried out in our virtual center. Rather than a single physical location, CENTC is a collaborative effort involving 18 principal investigators and their students and postdoctoral associates at 14 different institutions across North America. CENTC scientists work in project teams, interacting sometimes through in-person meetings but most often virtually through Internet videoconferencing. Information and data are also routinely exchanged via the Internet.

The group of scientists gathered together by CENTC brings a range of expertise in homogeneous and heterogeneous catalysis, mechanistic analysis, synthetic methodology, enzymatic chemistry, computational chemistry, high-throughput screening, and chemical engineering. We are particularly proud that the contributions of our investigators to catalysis have been recognized with numerous awards, including the inaugural 2012 (Alan Goldman) and subsequent 2013 (John Hartwig) *ACS Catalysis* Lectureships.

The CENTC research portfolio is dynamic and deliberately balanced with consideration for the potential to develop new, efficient catalytic technologies that will benefit society and the U.S. economy. Interactions with the chemical industry are an integral part of CENTC. Our vibrant industrial affiliates program provides a direct line of communication with industry that assists us in evaluating the potential utility of our research and aids in converting discoveries into useful technologies.

Collaboration is at the core of CENTC, with the vision that scientific advances are best made through collaboration rather than competition. The varied talents of members of the Center together with the broad portfolio of CENTC projects (illustrated in part by the range of topics in this virtual issue) leads to facile cross-fertilization of ideas and fosters new approaches and insight into problems in catalysis. The collaborative spirit of CENTC is demonstrated by the fact that the majority of the contributions in this virtual issue result from work carried out in two or more laboratories.

CENTC offers our student and postdoctoral researchers a unique training environment through exposure to a wide scope

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of projects, personalities, and methodologies and provides extensive involvement in collaborative research planning. As a result of widespread contacts with industry and with other academic institutions, former CENTC students and postdocs have moved on to positions in industry, government agencies/laboratories, and academic institutions with a ready-made broad peer network to support each other's science and careers.

CENTC also leads efforts to educate the chemical community and the general public about catalysis and spark interest in careers in chemistry. A biannual summer school in catalysis for graduate students, postdocs, and early career professionals is offered, with the next one scheduled for 2015. CENTC K-12 outreach takes place at multiple sites across the U.S. CENTC has also contributed to exhibits at prominent U.S. science museums that allow the public to gain appreciation of the role of catalysis in developing a more sustainable society. We encourage you to visit the CENTC Web site (www.nsfcentc.org) to learn more about our research, our industrial affiliates program, and our educational and outreach activities.

We thank the Editor-in-Chief, Christopher Jones and the Managing Editor, David J. Smith for their support and all our colleagues for contributing the Articles and Perspective gathered here. We hope the readership of ACS Catalysis will enjoy this virtual issue. (http://pubs.acs.org/page/accacs/vi/centc.html)

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Notes

Views expressed in this editorial are those of the authors and not necessarily the views of the ACS.
The authors declare no competing financial interest.

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