

MEMORANDUM

To: Board of Regents
From: Board Office
Subject: New Center to be Called the Center for Catalysis, ISU
Date: May 6, 2002

Recommended Action:

Accept Iowa State University's report of a new center to be called the Center for Catalysis.

Executive Summary:

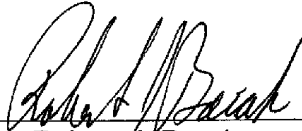
Board Policy The Board of Regents policy (*Policy Manual §6.06*) requires that the Board be informed of new centers or institutes that are financed from external sources and do not require a "major commitment of State appropriated/institutional funds in excess of \$25,000. When the external funding expires, these units are to be terminated or Board approval is needed for their continuance.

Purpose of Center The purpose of the Center for Catalysis is to serve as a nationally recognized research and education facility in catalysis research and applications. It will investigate catalysis, the science of making chemical reactions proceed under milder conditions than they otherwise would and to occur faster with less energy expenditure--in both its fundamental and applied aspects. In doing so, the Center will develop useful, practical catalysts by investigating the applications of catalysis to environmental, industrial and agricultural sciences.

External Funding This Center is being funded through the U.S. Department of Energy with initial funding of \$485,000. Annual funding of \$2 to \$3 million for at least the next six years is anticipated. Research funding for this Center will be enhanced through grants from both the public and private sectors; however, the Center's existence depends on the continuation of the federal appropriation.

Regent Review
Questions

A copy of the University's responses to the Regent Review Questions on
new centers and institutes is attached (pages 3-5).



Robert J. Barak

Approved: 

Gregory S. Nichols

**Board of Regents Review Questions
Center for Catalysis**

1. What is the title of the proposed center?

Center for Catalysis.

2. What is the administrative relationship of the proposed unit to other entities on campus, such as departments or colleges?

It will be administered as an IPRT center and will be closely linked to the Ames Laboratory.

3. To whom will the administrative director of the unit report?

The director of IPRT.

4. Succinctly describe the basic purposes and objectives of the unit.

The purpose of the Center for Catalysis (CC) is to serve as a nationally recognized research and education facility in catalysis research and applications.

Any successful, comprehensive approach to today's energy and environmental problems will necessarily rely heavily on catalysis, which is the science of making chemical reactions proceed under milder conditions than they otherwise would, and to occur faster with less energy expenditure. The objective of the Center is to investigate catalysis in both its fundamental and applied aspects and to develop useful, practical catalysts by investigating the application of catalysis to environmental, industrial, and agricultural sciences. The goal is to make ISU a well-spring of catalysis innovation and thus, the Center will enhance the economy of Iowa and other Midwestern states through the transfer of this innovation from the laboratory to the market place.

Multi-disciplinary teams of university and Ames Laboratory researchers will investigate challenges and opportunities of state, regional, and national scope. In traditional research settings, homogeneous, heterogeneous, and biocatalysis are usually treated as separate disciplines. However, in the Center, the focus will be squarely on the problem of application, and these distinct disciplines will be 'Green Chemistry,' which is the term applied to the development of chemical processes that seek to mitigate industrial chemical pollution at its source by exploiting chemical reactions that use environmentally benign chemicals and solvents under mild conditions. The Green Chemistry Catalysis Laboratory, soon to be established in the Ames Laboratory, will be one focus unit in the Catalysis Center.

5. How will the activities of the unit relate to the general mission and teaching programs of the university?

The Center for Catalysis will focus on contemporary problems of the state and nation and will address economic opportunities as well. In so doing, it will directly contribute to ISU's fulfillment of its land-grant mission. The Center will sustain and enhance ISU's reputation as having one of the nation's premier chemistry departments. Through its ties to Chemistry, Chemical Engineering, and other academic departments, the Center will directly support ISU's principal mission of delivering a quality education to undergraduate and graduate students.

6. Do similar units exist at other public or private colleges or universities in Iowa? If so, how does the proposed unit relate to them?

While there is no similar research unit at other public or private colleges in Iowa, the University of Iowa does operate the Center for Biocatalysis and Bioprocessing (CBB). The CBB and the ISU Center have quite different, but complementary, missions. As its name implies, the CBB is focused on essential industrial bioprocessing techniques, such as fermentation, and is a vital research and education resource for Iowa's agricultural and related industries. The Center for Catalysis is broader in scope in that it will not concentrate only on biocatalysis and agricultural industries. For this reason it will serve as a resource for a broad range of existing Iowa industries as well as those yet to be developed. However, it will also serve the useful function of linking ISU's vast resources in agriculture to the CBB at the University of Iowa.

7. What are the proposed sources and annual amounts of funding for the unit? Please itemize. (Include faculty, staff, and clerical salaries; supplies; equipment; travel; other costs.)

Initial funding of \$485,000 for the Center for Catalysis (CC) has been provided for start-up of the Center by the Department of Energy (Spring 2002). Annual funding of \$2 to 3 million for at least the next six years is anticipated. Research funding for this center will be enhanced through grants from both the public and private sectors; however, the Center's existence depends on the continuation of the federal appropriation.

Budgetary Item	Source of Funds	Annual Amount (in millions)
Personnel (salary/benefits)	Department of Energy	0.385
Materials/Supplies/Travel	Department of Energy	0.100
Equipment	Department of Energy	0.00
Total	Department of Energy	.485

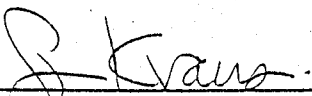
8. Which of the costs in Item 7 represent new financial obligations to the general fund of the university?

None.

9. Endorsement Page


See next page.

Endorsement Page



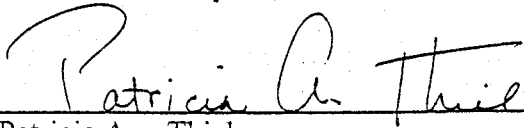
George A. Kraus
Director Designate

4/8/02
Date



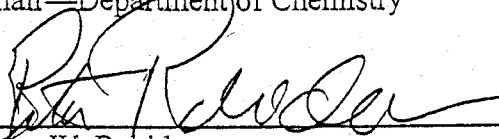
Thomas J. Barton
Director—Institute for Physical Research & Technology
Director—Ames Laboratory

4/10/02
Date



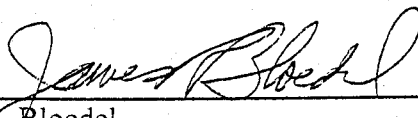
Patricia Ann Thiel
Chair—Department of Chemistry

4-12-02
Date



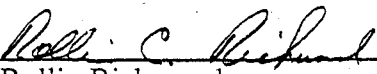
Peter W. Rabideau
Dean, College of Liberal Arts and Sciences

4/12/02
Date



James R. Bloedel
Vice Provost for Research & Advanced Studies

4/14/02
Date



Rollin Richmond
University Provost

4/18/02
Date