The Great Lakes WATER Institute of the University of Wisconsin–Milwaukee and the National Science Foundation Division of Ocean Sciences offer career development and experience in Great Lakes Aquatic Sciences through a Centers for Ocean Sciences Education Excellence (COSEE) enhancement program. Two teachers from each Great Lake will accomplish hypothesis-testing research with WATER scientists, apply concepts to standards-oriented classroom activities, and compare perspectives among the very different Great Lakes. Topics and hands-on experience will encompass interdisciplinary views of aquatic sciences (e.g., chemistry, biology, physics, geology, mathematics) with discussion of social and political applications. Middle- and High-school teachers with new or developed interest in aquatic resources are encouraged to apply.

You will be directly involved in cutting-edge investigations of large water bodies using modern equipment and concepts. This program may provide unparalleled insight into future classroom and curriculum possibilities.

BENEFITS TO TEACHERS:
REAL research on invasive species
ACCESS to science resources
TAKE-HOME activity hardware
GREAT LAKES comparative focus
Travel, housing, and stipend

APPLICATIONS ARE DUE FRIDAY 04 JUNE, 2010.

TO APPLY: Call, click, or FAX to
Drs. Russell Cuhel and Carmen Aguilar, Scientists
Phone: 414-382-1711 (RC) or 1755 (CA)
Web Forms: www.glwi.uwm.edu/aquanauts
email: rcuhel@uwm.edu or aguilar@uwm.edu
FAX: 414-382-1705
Dear Teacher:

We invite you to participate in a very exciting program that includes interdisciplinary research that will integrate with pedagogy and hands-on activities. Activities include cruises aboard the RV Neeskay, lab analysis and applications. Utilizing the knowledge from the different components, teachers will put together laboratory analysis, and context-based interpretations into a final poster.

This session will be devoted to comparison of the 5 Great Lakes in regards to invasive species influences. Two teachers involved with each of the Great Lakes are sought, for a total of 10 teachers.

Goals and Objectives:

This program seeks to provide exciting, immersion science learning for teachers. The focus of the effort will be changing habitat structure and function brought about in the biological community of Green Can Reef, a local spawning reef at the heart of invasive species influences.

Specific objectives are:

1. expand educator awareness of exotic species occurrence and activities in local waters.
2. engage educators in short, intense hands-on workshops using modern-day tools including Remotely Operated Vehicles and analytical instrumentation to test specific hypotheses.
3. provide educators with resources to access current environmental research activities and results in their own region.

Bringing educators and scientists together provides a direct linkage with the research process and research mentors. It may provide a model for teacher and teacher-mentor relationships. The process of creating and developing a project will encourage critical thinking, connecting the experiences in the field to every day and classroom applications. Project-based research will address science standards in an interdisciplinary manner through the inclusion of links to the social sciences, arts and humanities, chemistry, geography, math, biology, and physics. Teachers will bring their most challenging standards for communal development of appropriate activities.

Teachers will receive materials and supplies as well as a stipend and travel expenses.


APPLICATIONS ARE DUE FRIDAY 04 JUNE, 2010.

For more information contact Carmen Aguilar at 414-382-1755 or aguilar@uwm.edu; or Russell Cuhel at 414-382-1711, rcuhel@uwm.edu.
COSEE EDUCATION AQUANAUT PROGRAM IN AQUATIC SCIENCES
2010 APPLICATION FOR 28 June – 02 JULY SESSION.

Completed application must be sent to the address below.
(Faxed application is acceptable). APPLICATIONS ARE DUE FRIDAY 04 JUNE, 2010.

Dr. Russell Cuhel and Dr. Carmen Aguilar, Coordinators
University of Wisconsin-Milwaukee WATER Institute
600 East Greenfield Ave. Milwaukee, WI 53204
414-382-1755 phone  414-382-1705 fax

Last Name: ___________________________ First __________________.

School Affiliation: ____________________________

Address:

City: _______________ State ___________ Zip code ____________.

Telephone: ___________________ Fax: ___________________.

E-mail: ____________________.

GRADE LEVEL ________________ GREAT LAKE FOCUS ________________.

Degree of familiarity with Great Lakes processes:  ___High  ___Medium  ___Low  ___Newbie

Home address:

City: ______________________ State_________________ Zip code ____________.

Telephone: ____________________________.

Include a cover letter indicating:  A) your interest in the program,  B) how you will integrate content into your curriculum, and  C) how you will work with others in your school to stimulate student excitement about STEM topics.