



DISCOVERY WORLD
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Dear Friend of the Great Lakes,

The UWM-Great Lakes WATER Institute and Discovery World invite you to a new and exciting program that focuses on our community's most vital and life sustaining resource – The Great Lakes. Celebrating FreshWATER will be a hands-on experience that combines the fresh water focus of Discovery World with the freshwater expertise of the Great Lakes Water Institute.

Beginning on Saturday, March 21, World Water Day, and ending on Saturday, April 18, this five - week series will explore and discuss the Great Lakes' wonders as well as the threats they are facing. We will discuss the importance of the Great Lakes WATER Institute as a research facility in an urban area on Lake Michigan and the researchers and their work addressing the dynamics of invasive species, the effects of pollution and much more (a detailed program is attached).

During this five - part series you will be able to interact with WATER researchers and discuss their scientific work in order to understand freshwater from multiple perspectives. You will also be able to explore fresh and salt water species and habitats in Discovery World's Reiman aquarium, the Helen Bader Foundation's Great Lakes Future exhibit as well as Discovery World's newest exhibit – The City of Freshwater.

Celebrating FreshWATER begins on Saturday, March 21st World Water Day and continues for five consecutive Saturdays, ending on April 18th, Earth Day, from 2 pm – 3 pm.

Please join us for this new, five week series. Tickets for Celebrating FreshWATER are \$10 for the first session attended and \$5.00 for subsequent sessions. Ticket includes admission to Discovery World. To register for this program, please contact Tasha or Elisha, Discovery World Reservations, at (414) 765-8625.

Joel Brennan
President and CEO
Discovery World

Val Klump
Director
UWM-Great Lakes WATER Institute

Celebrating FreshWATER!

**Session one: Celebrating FreshWATER, The Kick-off: World Water Day - Saturday, March 21st
2:00 pm – 3:00 pm**

Presenters: Carmen Aguilar, Associate Scientist. Major areas: biogeochemistry, freshwater and marine environments.

Thomas R. Consi, Associate Scientist. Major area: aquatic robotics

Russell Cuhel, Senior Scientist. Major areas: physiological ecology of aquatic microorganisms, undergraduate research opportunities

Rebecca Klaper, Shaw Assistant Scientist. Major area: Ecology, ecological and environmental genomics.

J. Val Klump, Senior Scientist, Great Lakes WATER Institute and Senior Scientist and Adjunct Professor, Department of Biological Sciences and Department of Geosciences. Major areas: biogeochemistry, chemical limnology and oceanography

Sandra McLellan, Associate Scientist. Major areas: bacterial genetics, environmental toxicology.

Robbert Paddock, Researcher. Major areas: water chemistry, analytical chemistry.

Peter McAvoy 16th St Community Health Center.

* Reception immediately following the Series Opening:

Session one: Celebrating FreshWATER –The Mission: Advance Science to Inform Policy, Improve Management, and Promote Health and Sustainability of Freshwater Systems!

Presenter: J. Val Klump, Senior Scientist, Great Lakes WATER Institute and Senior Scientist and Adjunct Professor, Department of Biological Sciences and Department of Geosciences. Major areas: biogeochemistry, chemical limnology and oceanography, UWM-Great Lakes WATER Institute

Explore Discovery World's Helen Bader Foundation's Great Lakes Future tanks with WATER Researchers to set the scene; hang over the side of the S/V Challenge to grab bottom samples, and then move into the Digital Theater to meet Dr. Val Klump, Director of the UWM-Great Lakes WATER Institute and its researchers to discuss the importance of WATER research from the signing of Great Lakes compact to freshwater exploration.

Session two: A Window into Lake Michigan – Turning the Lake Upside Down! Aquatic Systems Dynamics – Saturday, March 28th 2:00 pm–3:00 pm

Presenters: Carmen Aguilar, Associate Scientist. Major areas: biogeochemistry, freshwater and marine environments, UWM-Great Lakes WATER Institute and Russell Cuhel, Senior Scientist. Major areas: physiological ecology of aquatic microorganisms, undergraduate research opportunities, UWM-Great Lakes WATER Institute

Have you ever wondered how the planet is resilient enough to buffer ecological change or what strategies help quaaqa mussels to be resilient? Join the Window into Lake Michigan to investigate the three fold separation of water due to changing water density using a circulation tanks and other experiments. Relate these water separations to what is happening on the lake bottom especially from 2003-2008 to explore the change dynamics of the zebra and quaaqa mussel invasion.

Session three: Real-Time with Robotics & Remote Sensing: Freshwater and Technology – Saturday, April 4, 2:00 pm – 3:00 pm

Presenters: Thomas R. Consi, Associate Scientist. Major area: aquatic robotics, UWM-Great Lakes WATER Institute; and Robert Paddock, Researcher. Major areas: water chemistry, analytical chemistry, UWM-Great Lakes WATER Institute.

Satellites, buoys, data loggers, Remotely Operated Vehicles; extend the researchers ability to retrieve data at a distance. Join Real-Time to experience how scientists expand their understanding of aquatic biology, chemistry and geology using remotely operated vehicles, remote sensing, wireless buoy networks and underwater robotics. Then go to the Reiman aquarium to try your skills driving an ROV and collect data like the pros.

Session four: Why is the Beach Closed? And Other Big Questions Sustainable Coasts: Saturday, April 11, 2:00 pm-3:00 pm

Presenter: Sandra McLellan, Associate Scientist. Major areas: bacterial genetics, environmental toxicology, UWM-Great Lakes WATER Institute

Where does pollution come from and where does it go? Why is the beach closed? What can we do about it anyway? Join an intrepid microbiologist and her team as they examine water at the coastline to answer the big questions concerning freshwater and the Lake Michigan ecosystem:

Session five: How the WATER Institute & Great Lakes Scientists Influence Policy: Laws Protecting Our Freshwater: Policy and Management – Saturday, April 18, 2:00 pm-3:00 pm

Presenters: Rebecca Klaper, Shaw Assistant Scientist, Major area: Ecology, ecological and environmental genomics, UWM-Great Lakes WATER Institute; and Peter McAvoy, 16th St Community Health Center

Join this session to explore the science behind the laws that protect the freshwater of the Great Lakes Basin. Examine the challenges to get the resources needed to protect and improve our lakes. Then, learn more how you can play a role in affecting policy to protect the Great Lakes.