

Penn State Student Awarded the First Ronald B. Linsky Fellowship

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Douglas Call, an M.S./Ph.D. candidate in Environmental Engineering at Pennsylvania State University, received the inaugural NWRI Ronald B. Linsky Fellowship for Outstanding Water Research in 2007 for his research on breakthrough technology for generating energy and treating biodegradable organic matter in wastewater.

The Fellowship, which provides \$20,000 a year for 2 years, was established in honor of Ron Linsky, who served as NWRI's Executive Director for 15 years.

Apply Now for an NWRI Fellowship. Deadline: March 1st

www.nwri-usa.org/fellowships

Under Ron's leadership, NWRI grew from an idea among local Southern California utilities supporting and promoting water research to becoming a nationally recognized water research organization.

"Doug Call is an outstanding choice for the Ronald B. Linsky

Fellowship, based on his multi-disciplinary background and on his research addressing both water quality and the need to develop clean and renewable energy sources," said Jeff Mosher, NWRI's Executive Director.

Originally from Virginia, Doug grew up with the Chesapeake Bay as his backyard. An Eagle Scout and avid outdoorsman (he spent his honeymoon in Zion National Park in Utah), Doug has always been actively involved with the environment. Volunteering as a water quality monitor for the Chesapeake Bay Alliance in high school paved the way for him to tackle environmental issues and, after graduation, he majored in Environ-

mental Science at the University of Virginia.

A few years later, with his B.S. in hand and a cache of environmental knowledge, he searched for a way to make a meaningful difference toward the environment. It was not until he read *Cradle to Cradle: Remaking the Way We Make Things* by William McDonough and Michael Braungart that he discovered how he could make the impact he desired.

"I realized that the design and engineering of technology contributes to many of our environmental problems," he said. "The way to solve these issues is to go back to the table where decisions are made to stop them before they start."

Inspired to better impact human and environmental health, Doug became an intern at McDonough Braungart Design Chemistry. While there, he noticed that the engineers and designers working for clients such as Nike and Ford were charged with the task of making changes to improve the environmental impact of their products. He realized that to effectively make similar changes, he would need a strong foundation in engineering.

Returning to school, Doug earned a B.S. in Civil and Environmental Engineering at Virginia Tech, and graduated *summa cum laude* in December of 2005. The following year, he began his graduate studies at Penn State with a focus in Environmental Engineering.



Douglas Call

NWRI's Newest White Paper Addresses Reliability Actions for Policymakers and Water Managers

With time frames for 2020, 2030, and beyond, water resource management strategies currently underway are too distant for addressing current water supply need for a growing number of western states and metropolitan areas. A record dry summer across the western region and a devastating fire season, particularly in California, has underscored the dangers of drought; for these regions, sustainable water management alternatives are needed to increase water reliability in the next few years.



Dr. William Blomquist

NWRI's newest downloadable publication, *Water 2010: A "Near Sighted" Program of Water Resource Management Improvements for the Western United States*, addresses the need for short-term actions that can be implemented immediately to improve today's water reliability.

Water 2010 was written by Dr. William Blomquist, Professor at the Department of Political Science at Indiana University-Purdue University Indianapolis (IUPUI) and an expert

on water institutions and water policy.

"Other contributions, such as the Bureau of Reclamation's *Water 2025* report, will have long-term benefits and will go forward and be fulfilled," said Dr. Blomquist, "but their focus on the years 2025 and beyond leaves a gap for treating the crunch many Western states are feeling now."

A 28-page document, *Water 2010* highlights 10 less costly actions that can improve the reliability of current water supplies in the West and ensure adequate water resources for the future, including:

- System inerties and mutual-aid agreements in every watershed and metropolitan area.
- Meeting realistic water conservation targets.
- Promoting uses of recycled water where it is already available.
- Storing more water underground at all feasible sites.
- Water banks in every state.
- Interstate water banks in every interstate river basin.
- Improvements to water rights.
- Adopting and maintaining assured water supply requirements.
- Building the information infrastructure for more effective management.
- Building the organizational infrastructure for more active management.

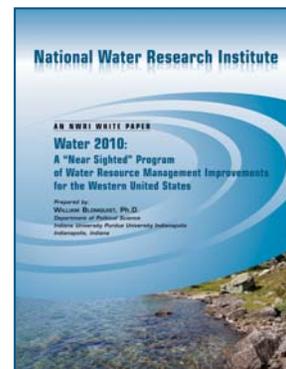
"*Water 2010*'s action items have relatively low – in a few cases, non-existent – capital costs and can be instituted in any combination by state and local policymakers and water resource managers," explained Dr. Blomquist. "Long-term actions, on the other hand, tend to involve high costs with long periods of financial recovery."

Take for example the recommendation to institute water banks in every interstate river basin. Water banks can facilitate short-term exchanges of water supplies during drought or similar circumstances. With the development of a water bank, a water agency that has more water than it needs in a year can deposit the water in a "bank"; the water then can be used by farmers in another region to irrigate drought-stricken land. Meanwhile, the water agency – or the "depositor" – preserves its rights and has a claim for future withdrawals on water that would have otherwise been lost altogether. Not only does this practice cost less than constructing new pipelines and water replenishment systems, but it can be achieved without a long review of the allocation of expenditures and other conflicts that often delay water progress.

For those who are skeptical of the feasibility of programs like water banks, take a look at Idaho, home to one of the most successful water banks currently operating in the West. The Idaho Water Supply bank, operated by the Idaho Resources Board, has leased and sold banked water to users for irrigation purposes and has used banked water to maintain stream flows for endangered aquatic species.

"For each of the 10 recommendations in *Water 2010*, we can point to an actual example being performed in some other part of the country," said Dr. Blomquist. "Everything in this White Paper is already being done somewhere and is achievable by policymakers and water managers."

Each action is also designed to be scalable so that local areas – not just statewide or regional – can benefit from implementing any of the items. Even a large inertia, which connects two water sources (to serve as "back up" for each other in case of an emergency), can benefit a small area. For example, the Stagecoach General Improvement District in



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An Autumn Festival with a Watery Twist

They came on foot, drove by car, and rolled in by the busload. West Basin Municipal Water District's ninth annual Water Harvest drew in a crowd of more than 2,000 community members to help celebrate the importance of water. The Harvest, hosted annually at the West Basin Recycling Center in El Segundo, California, is an interactive event where families can learn about the environment, water, and energy conservation through games, contests, prizes, and food – all of which are free due to the generous donations of sponsoring organizations.

Over 19 organizations participated in the event this year, including NWRI, Heal the Bay, Golden State Water Co., SunPower, Roundhouse Aquarium, Sanitation Districts of Los Angeles County, and others.

Community outreach is a key component to the District, which purchases imported water and wholesales the water to cities, mutual water companies, investor-owned utilities, and private companies, ultimately serving a population of nearly 1 million Southern Californians. Water Harvest is one of the District's many community-based programs. Others include art contests, facility and lab tours, and even a Traveling Tidepool that introduces live creatures and coastal vegetation to city kids. Earlier this year, the Water Reuse Association recognized the District for its above and beyond approach to increasing community involvement in water education, by presenting them with the Community Outreach/

Public Education Program of the Year award.

In addition to community outreach, the District helps the environment through an extensive recycling program. Its recycled water plant in Carson, California, is one of the largest of its kind in the nation, and it is the only treatment facility in the country to provide five qualities of custom-made recycled water for various municipal, commercial, and industrial applications. The custom-made water is used in a multitude of arenas, from parks to college campuses and even the home stadium of Los Angeles' soccer team, Galaxy. Late last year, the facility was installed with 60,000 square feet of solar power generating panels, which will produce an estimated 783,000 kilowatt hours per year of solar energy – enough to power nearly 100 homes for 1 year.



Event sponsors provided free food, games, energy-saving appliances, and much more. Here, participants get up-close and personal with ocean creatures in a touch tank provided by the Sealab in Redondo Beach, CA.



NWRI's student intern, Angie Im, greeted NWRI Water Harvest participants with candy, crayons, and water-saving tips at the NWRI exhibit booth.

White Paper Provides Affordable and Timely Alternatives

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northwest Nevada, which serves an expanding community east of Carson City and Reno, connected two separate water delivery systems to address the problem of above-standard level arsenic in two wells. The intertie project was completed in less than a year at a cost of just over \$1.5 million.

Safeguarding valuable water resources, improving reliability, and planning for the future requires changes in state and municipal practices. *Water 2010* advocates advancing long-term solutions already underway, while at the same time providing short-term solutions to help communities already facing water emergencies.

"This NWRI White Paper serves as an important resource for water managers and policymakers who want to improve the reliability of their limited water resources," said Jeff Mosher, NWRI Executive Director. "Instituting the 10 recommendations in *Water 2010* will improve efficiency and increase reliability within the water industry and, in turn, benefit the communities they serve."

To download the *Water 2010* White Paper, please visit www.nwri-usa.org/e-publications.

The District is a powerful force in promoting water and energy awareness through its achievements in water technology. This year's Harvest participants left with more than just low-flow showerheads and energy saving light bulbs; they carried with them abundant knowledge on what they can do as individuals to help conserve our valuable water resources.

West Basin Municipal Water District is one NWRI's six member agencies. Edward C. Little represents the District on NWRI's Board of Directors.

Meet Our Newest Research Advisory Board Members

NWRI's research program is reviewed and evaluated semi-annually by its Research Advisory Board, whose members represent expertise from academia, private sectors, public utilities, and regulatory agencies. NWRI welcomes the Board's two newest members.

William J. Cooper, Ph.D.

*Director, Urban Water Research Center
University of California, Irvine*

For over 35 years, Dr. Cooper has worked in research and education focusing on drinking water quality, water reuse, and water pollution. A Professor in the Department of Civil and



Dr. William Cooper

Environmental Engineering at the University of California, Irvine (UCI), Dr. Cooper is also the Director of UCI's Urban Water Research Center, overseeing the collaboration of over 70 faculty members spanning several schools and 10 departments to provide graduate education and conduct research and public information programs. One of the areas of his research that is currently being tested in "real world" studies

involves the application of ozone to treating ballast water (water carried in ships to provide stability) to prevent the transfer of invasive species from one location to another.

Prior to his arrival at UCI, Dr. Cooper served as Chair of

the Department of Chemistry at University of North Carolina Wilmington and Director of the Drinking Water Research Center at Florida International University. His background also includes running the U.S. Army's Water Reuse program and helping organize the First International Water Reuse Symposium.

Dr. Cooper received a B.S. in Chemistry from Allegheny College, an M.S. in Fuel Science and Organic Geochemistry from Pennsylvania State University, and a Ph.D. from the University of Miami in Marine and Atmospheric Chemistry.

Steven J. Duranceau, Ph.D., P.E.

*Associate Professor,
Department of Civil and Environmental Engineering
University of Central Florida*

Recently appointed as Associate Professor for the Department of Civil and Environmental Engineering at the University of Central Florida (UCF), Dr. Duranceau pursues research that focuses on water quality, treatment, and distribution, with an emphasis on advanced water treatment processes, disinfection, stabilization, and corrosion control. Dr. Duranceau has contributed to the understanding of corrosion control in water distribution systems and was one of the first professional engineers to demonstrate the design and operation of interstage energy recovery turbines within high-salinity brackish groundwater reverse osmosis facilities.



Dr. Steven Duranceau

Before coming to UCF, Dr. Duranceau was vice president and director for a national design engineering firm. As a consulting engineer, his duties involved directing research, pilot studies, design, permitting, and construction services related to advanced water treatment plants. He continues to provide expertise to numerous organizations, and currently serves on the editorial advisory boards for *Journal AWWA* and *Journal Desalination*. He is also a member of the Board of Directors for the American Membrane Technologies Association, as well as a founding member of both the Southeast Desalting Association and Southwest Membrane Operators Association. He has also been an active member of the American Water Works Association, where he currently serves as Chair of the Water Desalting Committee.

Dr. Duranceau received a B.S. in Chemistry from Florida State University, and both an M.S. in Industrial Chemistry and Ph.D. in Environmental Engineering from the University of Central Florida.

Report Available on Effects of Scaling and Colloid Deposition on Reverse Osmosis

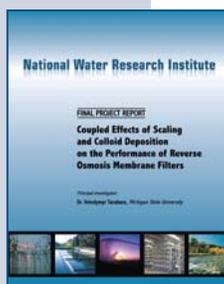
NWRI is pleased to announce that the Final Project Report, *Coupled Effects of Scaling and Colloid Deposition on the Performance of Reverse Osmosis Membrane Filters*, is available to download.

The 22-page report examines:

- Enhancing the fundamental understanding of the process of reverse osmosis membrane fouling by feed waters of complex composition.
- Developing predictive tools for the description of permeate flux under such conditions.

The report was prepared by Dr. Volodymyr Tarabara of the Department of Civil and Environmental Engineering at Michigan State University, based on research sponsored by NWRI.

To download, please visit www.nwri-usa.org/e-publications.



Remembering Dr. Kenneth K. Tanji, Irrigation and Salinity Expert

For over 47 years, Kenneth K. Tanji, D.Sc., tackled all aspects of irrigation and drainage with a blend of laboratory, chemistry, and computer modeling experience. His reserved, but firm, hand of knowledge had a far reach, touching the lives of many through his kindness and passion for water.

Ken passed away on September 7, 2007, from bacterial pneumonia at 75 years old. He is survived by his wife Flora Tanji, daughters Lydia and Lorelei, and son Kenneth Tanji, Jr. A private service was held at his birthplace in Honolulu, Hawaii. The Department of Land, Air and Water Resources (LAWR) at the University of California, Davis – where he worked for over 20 years – also honored Ken with a “Celebration of Life” ceremony in October, where friends, family, and colleagues paid tribute to Ken, who inspired and influenced so many. NWRI also donated to a scholarship in his name to the LAWR Department’s Opportunity Fund, which supports research programs for students who have excellent academic records and participate in activities that have added depth to their education.

Ken’s tireless work ethic was instilled at a young age while working on the family farm in Hawaii. Initially wanting to escape the dawn-’til-dusk hours of the farm, he enrolled at the University of Hawaii, Honolulu, where he earned a B.A. in Chemistry. He then served in the military during the Korean War and, in July of 1956, moved to UC Davis, where he graduated with a B.S. and M.S. in Soil Science.

After graduation, Ken continued to serve the LAWR department at UC Davis. He worked his way up the ranks from Laboratory Technician to Professor and, eventually, Department Chair and Professor Emeritus. As a Professor, he helped cultivate the professional careers of over 60 students by being an advisor for their research and graduate studies. Thanks to Ken’s guidance, many of his students developed professional careers in water and soil industries at organizations such as the U.S. Fish and Wildlife Service, California Department of Pesticide Regulation, State Water Resources Control Board, and U.S. Geological Survey.

One of his former doctoral students, Fawzi Karajeh of the Water Recycling and Desalination Branch at the California Department of Water Resources, remembered Ken as a wise and loving soul. “He listened to me, calmed me, and directed me to the right professional path: soil and water management. When I consulted with him about difficulties that I encountered, he never let me down, and instead pressed me kindly and gave me

the tools to help me achieve my dreams.”

Beyond the university, Ken contributed to the community on local, state, and national levels by serving on numerous panels for organizations such as the California Department of Water Resources, National Research Council, and United Nation’s Food and Agricultural Organization. He was also the founding Director of the University of California’s United States Department of Agriculture–Economic Research Service (USADA-ERS) Water Quality Program, which deals with problems at watershed scales.

He also traveled the world, providing expertise to organizations such as the International Commission on Irrigation and Drainage in Japan and the United Nation’s Food and Agriculture Organization in Italy. One trip he particularly enjoyed was to the coast of Baja, California, where he taught an environmental course for high school students from Japan who were top of their class.

Larry Rollins, a longtime friend and colleague, first came to know Ken when Ken became his graduate advisor. “He liked to travel,” remembered Larry, “but more so, he loved to fish. We went camping once in the High Sierras, and Ken was in heaven. Fishing for native trout, cooking beans and hot dogs – he just loved it.”

Larry also helped Ken on what would become one of Ken’s most notable accomplishments – serving as the Editor for the American Society of Civil Engineers (ASCE) *Manual No. 71, Agricultural Salinity Appraisal and Management*, published in 1990. The manual received international recognition as a premier reference book on salinity and led to more publications by Ken for the ASCE. After *Manual No. 71*, the ASCE’s Irrigation and Drainage Division honored Ken with the Outstanding Service Award and, in 1993, with the prestigious Royce J. Tipton Award “for his significant contributions to sustaining irrigated agriculture in California and the western United States.”

Ken was a longstanding member of NWRI’s Research Advisory Board, actively serving since 1997, and was one of NWRI’s Principal Investigators. His most recent project was the *Salinity Management Guide*, an innovative new tool designed to help landscape professionals accurately diagnose and manage salt-related problems, which he completed in 2007. His contributions in the field of water quality will continue to influence many through the work he achieved in life.



“Driven to learn, driven to serve,” best described the late Dr. Ken Tanji.

O.C. Water Camp: Summer Fun with Water Science

If you are looking to inspire a desire for science in young people, homework and summer school are not the answer. What is the best way to get them interested and excited about science? Bring them to O.C. Water Camp!

O.C. Water Camp is an educational summer program that uses hands-on activities to engage young people's interest in



With the help of the Discovery Science Center, campers learned to sample water for nitrates, pH, and phosphates at Water Camp headquarters before taking their work to the field at the San Joaquin Marsh and Wildlife Sanctuary, the largest coastal freshwater wetlands reserve in Southern California.

issues surrounding water and the environment.

“We take students on field trips all over Orange County, from the marshes and the beaches to the smelliest parts of sanitation districts, and let them conduct experiments

and work out problems that actually affect our daily lives,” said Gina Melin of NWRI, who served as a Camp Coordinator. “The point

of Water Camp is not only to build a greater understanding of our water resources and how to best manage and protect them, but also to encourage the students to pursue careers in water-related fields.”

Twenty students ranging from 11 to 15 years old were chosen on the basis of merit from all over Orange County for the first ever O.C. Water Camp, held in summer 2007. Along with 20 other agencies, NWRI volunteered time, staff, materials, transportation, and give-away items to make O.C. Water Camp 2007 possible.

Water Camp was designed to give students first-hand exposure to the duties and roles undertaken by the many individuals who make up the water community. Each day of the program involved activities held at various site locations to inform and engage students in important water issues, such as treatment, conservation, reuse, and environmental protection.

Day 3 of Water Camp, for example, began at the Orange County Water District, where students built their own edible aquifer to help them learn about the importance of dirt and sand to Orange County's water supply. To see this water science in action, they headed over to the Santa Ana River and were taken on a behind-the-scenes tour of the river's recharge basins, where river water is directed to Orange County's underground

drinking water supply. They also had the opportunity to witness the river's inflatable dam up-close and personal.

“The best part of the Camp was when we got to make ice cream aquifers and learned about how water is processed,” said Christine Hsu, 11, from Irvine.

Edible delights and tours weren't the only things Water Camp offered – many Camp activities allowed students to gain actual lab experience. Dressed in lab coats, goggles, and gloves, students were able to be scientists for a day as they tested water samples for the presence of harmful bacteria in local recreational beach waters at the Orange County Sanitation District. At the Santa Margarita Water District, they learned to identify different types of living organisms under the microscope.

For 13 year old Chloë Brown from Costa Mesa, the scientific experiments were the most exciting part of Camp. “The labs were my favorite – I enjoyed the hands-on work.” She added, “I feel more strongly about our environment

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O.C. Water Camp Sponsors:

Irvine Ranch Water District
 Metropolitan Water District of Southern California
 Municipal Water District of Orange County
 National Water Research Institute
 Orange County Community Foundation
 Orange County Sanitation District
 Orange County Stormwater Program
 Orange County Water District

O.C. Water Camp Supporters:

Anaheim Public Utilities ♦ Centennial Farm
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 Discovery Science Center ♦ Mesa Consolidated Water District
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 Orange County Stormwater Program –
 Project Pollution Prevention
 Santa Margarita Water District
 South Coast Water District ♦ Surfrider Foundation
 University of California Cooperative Extension
 Water Emergency Response Organization of Orange County

NWRI Holds Asset Management Workshop To Improve Utility Effectiveness and Sustainability

As water demands increase and infrastructure continues to age, water and wastewater utilities are finding it harder to deliver the same level of service to customers each passing year. Utility managers are instead finding themselves investing more time and money into repairing and improving capital assets without seeing a lasting and comparable return.

To help these utilities achieve the desired level of service to customers while still minimizing the total cost of owning and operating infrastructure capital assets, the Office of Water of the U.S. Environmental Protection Agency (EPA) developed Advanced Asset Management workshops to train water and wastewater utilities to improve operational, environmental, and financial performance.

In September 2007, NWRI hosted an Advanced Asset Management workshop in Orange County, California, with the intent of raising awareness of the sustainable management of assets among community and decision makers, and to provide them with the skills to achieve lasting sustainability in their utility infrastructure.

“The NWRI-EPA Asset Management Workshop provided a significant amount of information that helped assure us that our staff is heading in the right direction,” said Bill Dunivin, Supervisor of Water Production at Orange County Water District. “During the past 4 years, the District’s Water Production staff has worked on the development of a computerized maintenance system to help us manage approximately 10,000 new assets. This workshop pointed out a number of new ideas, but more importantly, it reinforced the fact we need to remain focused on continued development and that asset management

requires constant refinement and development. The 2-day seminar was time well spent in helping us continue with our effort.”

The 80 attendees who participated in the sold-out workshop were composed of a broad-range of industry leaders from different parts of the country, including Washington, D.C., Texas, and North Carolina. The workshop agenda was targeted toward developing asset management knowledge and skills by introducing and discussing the following five core questions:

- What is the current state of my assets?
- What is my required “sustainable” level of service?
- Which assets are critical to sustained performance?
- What are my best minimum lifecycle cost Capital Improvement Plan and Operation and Management strategies?
- What is my best long-term funding strategy?

By addressing these core questions, workshop participants learned methods to improve acquisition operations, maintenance, and renewal and replacement decisions, ultimately helping their utilities provide sustained performance to the customer at the lowest lifecycle cost and at an acceptable level of risk to the organization.

To download Asset Management Workshop presentations or to find out about the next Advanced Management Workshop, please visit www.epa.gov/OWM/assetmanage/index.htm.



The Asset Management workshop trainers included (from left): Doug Stewart, GHD Inc., Steve Allbee, U.S. EPA, and Duncan Rose, GHD Inc.

O.C. Agencies Sponsor Summer Camp with a Splash

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because of O.C. Water Camp. It’s a good way to expose other students to learn about the importance of water.”

An important take-home message about water dealt not only with having a reliable supply of high-quality water, but also how to keep that water supply safe. The Water Emergency Response Organization of Orange County showed students how to overcome water-related disasters and emergencies, and the South Coast Research and Extension Center – established by the University of California – demonstrated ways to prevent water pollution from pesticides. For the final activity, an

environmental crime detective from the District Attorney’s office taught students about illegal dumping and solving environmental crimes.

“I was amazed to learn so many interesting facts about the water we drink and use, and was appalled to find out how much pollution and urban runoff is destroying our environment,” commented Water Camper Michael Perri, 13, of Fountain Valley. His brother Lee added, “I hope O.C. Water Camp continues so that other young people can learn as much as I did.”

If your child may be interested in attending O.C. Water Camp 2008, please visit www.ocwatercamp.org.

First Linsky Fellowship Awarded

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Because of early research he conducted the summer prior, he was able to contribute to a paper published in the journal *Environmental Science & Technology* regarding a new cathode structure in microbial fuel cells.

“In the 20-plus years I have been advising graduate students, I believe Doug is the first to publish work during the first semester of graduate study,” noted Dr. Bruce Logan, Doug’s advisor and Director of the Engineering Environmental Institute at Penn State.

In microbial fuel cells, electrons are produced by a process involving the breakdown of organic matter by bacteria. This process is relevant to wastewater treatment because one of the main steps in treating wastewater involves the removal of organic human waste, also referred to as biodegradable matter.

The electrons are transferred by the bacteria to an electrical circuit and end their journey at the cathode, where they combine with oxygen to produce water. The more efficient the cathode, the more energy – or electricity – that can be harnessed to power external resistance, such as a light bulb. A combination of the right materials has the potential to provide enough electricity to power an entire treatment plant.

However, models tested thus far have been limited to the laboratory scale.

With the help of the Fellowship, Doug’s initial investigation on cathode materials for full-scale use in wastewater treatment plants has expanded to include research into a new type of reactor called a microbial

electrolysis reactor, which produces hydrogen as an energy source (rather than electricity).

“This technology is a great step towards producing hydrogen in a sustainable manner, while at the same time helping engineers treat wastewater,” said Doug.

Microbial electrolysis reactors are similar to microbial fuel cells. Like microbial fuel cells, microbial electrolysis reactors can remove a significant portion of biodegradable matter in wastewater, but microbial electrolysis reactors have a sealed cathode that excludes oxygen, and also have an additional voltage added to the circuit. The reactors use the same concept as the electrolysis of water (where current is passed through water, breaking it down into hydrogen and oxygen), but with the help of bacteria, a microbial electrolysis reactor requires only one-tenth the electricity to produce hydrogen. The hydrogen, in turn, can be used as an environmentally friendly fuel source to power anything from cars to entire communities.

Doug will be presenting the progress of his research alongside other NWRI Fellowship recipients at NWRI’s Second Annual Graduate Fellowship Research Conference on April 4, 2008, in Washington, D.C. He expects to graduate with his Ph.D. within the next 4 years and hopes to continue finding ways to make wastewater a valuable renewable resource as an alternate source for energy production.



Ronald B. Linsky

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Call for Nominations

The 2008 Clarke Prize

The Athalie Richardson Irvine Clarke Prize is presented annually for demonstrated excellence in water science and technology. Nomination packets are now available by contacting NWRI or by visiting the NWRI website at www.nwri-usa.org/ClarkePrize.

Deadline for Application: March 1, 2008

