



World Aquatic Health™ Conference 2006 Offers Inspiration

CEO reminds participants, “We are working on building a cathedral. Something we will be proud of for many years – beyond ours, into the future.”

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The third annual World Aquatic Health™ Conference (WAHC) held in Austin, Texas, September 19-21, 2006, drew 310 registrations from 38 states and 3 countries, participating in 35 seminars. Conference registration was up 25%. Of the 310 registrations, NSPF reports 97 signups to visit the seminars for the web conference; 213 people attended the live conference in person, and 45% of those attendees were high level decision makers including CEO, president, vice president, owner and director.

Once again, this leading scientific conference achieved its objective to bring people with diverse aquatic interests and experience together in order to better understand issues so that we can continue to develop a coordinated approach to formulating solutions,” says Thomas M. Lachocki, Ph.D, CEO, NSPF®. Attendees included program managers, facility managers, health officials, educators, consultants, academicians, service companies, and manufacturers.

Seminars focused on a broad spectrum of aquatics topics, underscoring attendees’ affirmation that the WAHC is the foremost scientific conference that addresses the full range of aquatic issues and solutions.



Thirty-five seminar sessions were presented by thirty-three world experts, including new science and research on recreational water illness prevention, health benefits of aquatic activities, advanced chemistry training, drowning prevention and lifeguarding, and effective facility programming for profit. Additionally, new industrial and health benefit technologies were highlighted. Six seminars were presented by NSPF[®] grant and fellowship recipients. In most cases, this was the first time these results were revealed. “We are committed to bringing you new science, advances, knowledge and wisdom,” commented Dr. Lachocki in his opening remarks.

Keynotes

This year, Drs. Bruce Becker and Michael Beach each delivered keynote presentations. All registered attendees were able to participate in these valuable sessions. Both keynote speakers also presented recent research findings from grants funded by NSPF during separate seminars.

The conference opened Wednesday morning with an inspirational and exciting keynote address by Dr. Bruce Becker, Washington State University, who spoke on “Healthier Hearts, Lungs and Lives – Just Add Water.” Dr. Becker is the recipient of a 2005 grant from NSPF in the amount of \$247,000, the largest ever given to study aquatic health benefits. “A true champion for aquatics and aquatic exercise, Dr. Becker discussed current medical knowledge that explains the unique beneficial physiological effects of water pressure,” reports Lachocki. “He revealed the science of immersion benefits in a detailed presentation, looking at varied water temperatures and depths.”

Becker also described the unique scientific health gains that result from immersion including (contrary to uneducated medical myths) a lowered blood pressure, enhanced heart efficiency, improvement of kidney function, strengthening of inspiratory musculature, increased blood flow to muscles and joints, and offloading of joints.



The presentation inspired the 213 attendees who represent the complete span of professions. Dr. Becker reminded the group of the need to educate the medical and health care communities. He explained that aquatics will go far to reduce the health issues burdening our society today and in the future, relieving the growing burden on the health care system. After the presentation, attendees shared ideas about how they can help in the effort to inform the public and the media of the exceptional benefits of aquatics.

“We are excited that hot-water immersion may help heart and respiratory health,” said Lachocki at the conference. “So much so that NSPF received commitments from 12 industry organizations that are supporting our effort to fund health benefit research,” he added. During the awards reception on Wednesday evening, Lachocki announced NSPF® will match the donations from industry to completely fund a program under Dr. Becker’s direction for \$165,000 per year, over the next two years.

Thursday’s keynote presentation by Dr. Michael Beach, Ph.D., the Acting Associate Director and Team Leader of the Water and Environment Activity Division of Parasitic Diseases at the Center for Disease Control and Prevention (CDC), spoke on “Recreational Water Illness Prevention and Lessons Learned – 2007.” Dr. Beach founded and leads the CDC’s Healthy Swimming Program to help reduce the spread of recreational water illnesses. NSPF has funded CDC grants for the Healthy Swimming Program for three consecutive years. Dr. Beach discussed the numerous RWI outbreaks and communicated the CDC’s recommendations to prevent future outbreaks. Many outbreaks can be averted by good operator practices. For parasites that are resistant to chlorine disinfectants, like cryptosporidium, prevention through facility staff and consumer education is the key. In his introduction of Dr. Beach, Lachocki reminded attendees that President John F. Kennedy said, “Our task is not to fix the blame on the past, but to fix the course for the future.” Dr. Beach focused on the future and what we learned from past outbreaks.



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In addition to the two keynote presentations, there were many cutting-edge seminars to help find solutions to prevent injuries and health problems at aquatic venues.

Recreational Water Illness Track

- Dr. Michael Beach (CDC) reported recent research findings on the impact of cyanuric acid on the inactivation rate of cryptosporidium by chlorine. The findings will impact CDC recommendations when diarrhea fecal accidents occur. In addition, Dr. Beach reviewed several recommendations to prevent illness.
- Doug Sackett (NY State Dept of Health) helped us understand the causes of the RWI outbreak in 2005 that made over 3,000 people ill and over 700 of those test positive for cryptosporidium. He described the steps taken to assure acceptable water quality including control of turbidity and inactivation of cryptosporidium in spray parks.
- Dr Richard Cavestri (Imagination Resources) updated us on the work he is doing to improve indoor air quality associated with ventilation and dehumidification.
- Robert Lowry (Lowry Consulting Group) informed us about chloramines and methods for reducing ammonia and nitrogen-containing compounds before they form chloramines or the irreducible nuisance of combined chlorine residuals. He also discussed methods of reduction after they are formed.
- Roy Vore, Ph.D. (DuPont) presented a discussion on legionella and focused on factors that allow legionella to colonize and proliferate in pools and spas and how the failure of disinfectant management can result in outbreaks. Case studies were used to illustrate the mechanism of outbreaks.
- Darla Goeres, Ph.D. (Montana State University) gave us an overview on biofilms, explaining their structure, how and where they form, and how maintaining good water quality can control biofilm accumulation in recreational waters.
- Dr. James Amburgey, Ph.D. (University of North Carolina at Charlotte) revealed his recent NSPF-funded research that explored how clarifiers and flocculants help traditional sand filters remove cryptosporidium from pool water.
- William Rowley, Ph.D. (Rowley International) presented the results of a recent study evaluating the effectiveness of dual-main drains to understand how to reduce the risk of suction entrapment.
- Alfred Dufour (EPA) reviewed results of a two-year study that was conducted to determine the volume of water ingested by recreational swimmers. This is the first time a large number of swimmers were studied to determine how much water individuals swallow during recreational swimming activities. He discussed the potential impact on their health.



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- Jeff Neistadt (National Association of Local Boards of Health (NALBOH)), another NSPF® grant recipient, reported how NALBOH is working to educate boards of health on benefits and risks surrounding aquatics.

Drowning Prevention & Lifeguarding Track

- Gitanjali Saluja, Ph.D. (National Institute of Health) reminded attendees that drowning is a preventable cause of death in early childhood and adolescence. Research has uncovered many individual and environmental risk factors for drowning. Age, gender, and race are three important risk factors for drowning. Prevention strategies were discussed, and a look to the future for further understanding of risk and protective factors was urged.
- Dr. Frank Pia, Ph.D. (American Red Cross Advisory Council for First Aid & Safety) examined the research, questions, and hypotheses supporting the efficacy of the three lifeguarding scanning strategies for drowning prevention. He provided concrete examples, video footage, and illustrations to clarify the science discussed and opinions shared.
- Tom Griffiths, Ed.D. (Pennsylvania State University) illustrated possible causes of how people die in well-guarded and managed pools. He discussed genetic drowning triggers, shallow water blackout, restricted breathing training, visual body blindness, perceptual body blindness and the importance of the water safety community to expand their understanding of how drownings occur.
- David Markenson, M.D. (American Red Cross Advisory Council on First Aid and Safety) reviewed the new American Red Cross guidelines and the scientific basis of those new recommendations. Dr. Markenson is a 2006-2007 NSPF grant recipient.
- James Wheeler (City of Oakland, Office of Parks & Recreation) taught about the importance of continuing education and training for all aquatic staff after their initial certification. He stressed the need for active supervision and recommended that advanced or “secondary” lifeguard development should become an educational priority, with discussion on four key focus areas.



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Aquatic Health Benefits & Therapy Track

In addition to Dr. Becker's keynote address, five presentations spotlighted the incredible opportunities available to help mankind through aquatics. Exercise is needed for long-term good health and to control rising medical costs due to obesity, heart disease, diabetes, and other maladies. Pools and spas are ideal environments to reverse these trends and to help our aging and sedentary population. Speakers stressed the aging of America and reminded us that there are currently 3.8 million people in the United States older than 85. That figure is expected to grow to 9 million by year 2030 and 19 million by the year 2050.

- Dr. Bruce Becker (Washington State University) revealed the new research results funded by NSPF[®] comparing land-based and water-based exercise programs. Key conclusions indicate that the aquatic group showed improvement in breathing capacity and respiratory endurance compared to the land group. They also showed statistically significant improvements in weight loss, lean body mass, percentage of body fat, VO₂max, resting tidal volume, and peak expiratory pressures. Data continues to be analyzed from this study.
- Joel Stager, Ph.D. (Indiana University) presented data, studying US Masters swimmers, to hypothesize that a daily intensive swimming routine more positively affects longevity, rather than strictly genetics. His discussion reviews that, while aging is a biologically mandated process, physical activity is the single mechanism that has been shown to humans to significantly extend quality life and that aquatic benefits offer the fountain of youth.
- Jamie Brass (Indiana University of Pennsylvania), an NSPF grant recipient, discussed fibromyalgia and her examination of aquatic exercise benefits to those who suffer from this painful disease.
- June Lindle Chewning, MA (Aquatic Exercise Association) provided an impartial review of different types of aquatic exercise equipment and the targeted uses, including which to implement when targeting specific markets/populations. She also reviewed staff training considerations.
- Bill Kohl, Ph.D. (CDC) looked at physical activity from a public health point of view along with its benefits and risks. He shared data showing that those people who had higher percentages of non-leisure time activities (were inactive) had higher percentages of injuries. Dr. Kohl reviewed the history of environmental policies supporting and promoting physical activities and recommendations.



Facility Programming Track

In addition to spending a day understanding aquatic health and therapy benefits, five stimulating presentations focused on helping aquatic facilities improve their programming for greater financial viability.

- Ruth Sova, M.S. (Aquatic Therapy and Rehab Institute) provided an energetic, detailed, step-by-step discussion on how facilities can improve their profitability by adding aquatic therapy, rehab and post-rehab programs for special populations. Her presentation included finding employees, clientele, considerations for the aquatics facility, equipment, temperature, and more. She urged attendees to expand their offerings to reach our aging baby boomers.
- Melon (M. Ellen) Dash, MA (Transpersonal Swimming Institute, LLC) discussed how we can grow our market by reaching the vast untapped group of people afraid of the water. Research conducted through the Gallup Poll in 1998 reveals that 78 million (39%) Americans are afraid to put their heads under water; 92 million (46%) are afraid in deep water pools; 128 million (64%) are afraid in deep, open water.
- Paul Blake (American Pool Consultants) involved the audience as he explored creative programs and services that aquatic facilities can use to develop alternative funding streams for their facilities. In times of budget cuts and funding reductions, operators are under increasing pressure to deliver quality services and increase revenue without increasing expenses.
- Stephen Langendorfer, Ph.D. (Bowling Green State University) contrasted a variety of ‘myths’ to facts about the water and swimming instruction. He concluded with a call for systematic investigation of issues for which there is insufficient information to debunk (or not) existing aquatic myths. Dr. Langendorfer, editor of the new International Journal of Aquatic Research and Education-IJARE (co-published by Human Kinetics and the NSPF), explained that a wide variety of these issues will be explored in IJARE.
- Farhad Madani (City of Austin) addressed key factors in recruiting lifeguard and maintenance personnel including cost of certifications, salaries, unemployment rate, employee expectations, prior knowledge of risks, and the hiring process. He urged attendees to pay close attention to each factor and interact with other attendees to learn the secrets of effective recruitment.



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New Industrial and Health Benefit Technology Track

Nine experts discussed new technologies that prevent illness and injury and new tools that can improve facility programming.

- Cameron Tapp (Clearwater Technology) explained why ozone technology is a commonly used system in many modern aquatic facilities sanitation system.
- Jeff Williams, Ph.D. (HaloSource Corp.) reported on the use of a novel new sanitizer that is bound to solid surfaces.
- Ellen M. Meyer, Ph.D. (Arch Chemicals) reviewed the classification of oxidizers by the National Fire Protection Association (NFPA) and presented information on new calcium hypochlorite formulations that have a less hazardous oxidizer classification.
- Kirk Mitchell (Mitchell Associates LLC) let us know about the Hazardous Chemicals Technical Committee of the National Fire Protection Association and the proposed code, "NFPA 400 Hazardous Chemicals Code," scheduled for publication in 2008.
- Jim Lauria (Team Chemistry) traced the history of DE use for microbial removal and research, specifically for cryptosporidium removal. He presented cost effective systems for commercial pools.
- Cang Li (Selecto Scientific) discussed carbon block technology for cryptosporidium removal, EPA protocol and NSF Standards.

Dr. Alex Antoniou, NSPF® Director of Educational Programs, gave a presentation to the NSPF Certified Pool-Spa Operator® Instructors in attendance, introducing the new eProAcademy™, the new NSPF on-line training center at www.eProAcademy.org. This innovative web-based training center gives anytime, anywhere access to quality, cost-effective training materials. It also provides a new avenue to obtain pool/spa operator training, to pursue CPO® certification, and to help busy professionals and organizations comply with government training requirements. NSPF is launching a total of 16 on-line eProAcademy™ classes between October, 1, 2006 and March 31, 2007. Instructors had an opportunity to preview the new blended version of the CPO® certification program which will launch on January 1, 2007. "Blended learning takes advantage of the power of computers and the experience of the instructor into one training program," says Antoniou. "This new format is going to open new doors for both students and instructors."



NSPF[®] donated table-top display space to several non-profit organizations who attended the conference including NSF International (NSF-I), the CDC, IJARE, USA Swimming, and the Aquatic Therapy and Rehab Institute (ATRI).

An awards ceremony was held which recognized the recipients of most recent NSPF grants, as well as several leading Certified Pool-Spa Operator[®] instructors. The foundation has committed to fund \$650,000 in grants, fellowships, and scholarships in the next 18 months.

Registration included complimentary continental breakfasts, buffet luncheons, afternoon break snacks, and sumptuous hors d'oeuvres at evening receptions. Each attendee received a complete package including the conference proceedings with printouts of PowerPoint slides, bios, and abstracts from nearly all the speakers.

Post Conference Web Option to View Seminars

For those who were not able to attend the conference, or for those who attended but missed some presentations due to scheduling conflicts, the WAHC seminars are now available on the web through March 31, 2007. Each registrant receives 20 access codes for a \$455 registration fee. NSPF does not limit the number of people who view a seminar at the same time once an access code is entered. "If an organization has 10 people viewing one seminar each week during a team meeting, each person can learn from these world-leading scientists for about \$2.27 per person," explains Lachocki. "This approach will save organizations thousands of dollars," he adds. Log onto www.eProAcademy.org or contact NSPF at 719-540-9119 to purchase online access codes.

Reflecting on the conference, Dr. Lachocki says, "Safety is built on sound science. We are honored to host the conference that forges the foundation of that safer future."



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NSPF[®] announces that the fourth annual World Aquatic Health[™] Conference is scheduled for Cincinnati, Ohio, October 2-4, 2007. The 2007 conference will also be available on-line after the conference.

Here's what people are saying about the WAHC

Bruce Becker M.D., University of Washington

“For me, the WAHC is a wonderful opportunity for a cross-disciplinary meeting of minds. It is the only such opportunity I know of where clinical practitioners, researchers, facility engineers and designers, water chemists, and safety specialists can interact and better understand each others problems and work communally for creative problem-solving. It is a meeting that has and will continue to assist in moving the field towards broader, safer and more accessible aquatic use, achieving universal peace and health.”

Michael J. Beach, Ph.D., Acting Associate Director, Water and Environment Activity, Centers for Disease Control and Prevention, Division of Parasitic Diseases

“The 2006 World Aquatic Health[™] Conference has once again proven to me that it is a must attend event. This is the only meeting that seamlessly brings together the aquatics and public health community to exchange ideas, present research, discuss illness prevention, and promote healthy aquatics.”

Joel Stager, Ph.D., Indiana University

“Terrific! I very much enjoyed the conference and felt that the foundation was very forward thinking in terms of the benefits of aquatic recreation, and important and innovative aspects of facility management.”



Melon Dash, MA, Transpersonal Swimming Institute

“I enjoyed being in a group with other people who are movers and shakers in aquatics. It gave me a chance to spend time with them and connect. New opportunities presented themselves. That’s what I hope for in a conference. I also want to thank you for the fantastic organization and attention to detail you gave the WAHC. What a pleasure it is to go to a conference and have everything taken care of, all questions able to be answered in one place by the person I ask right then and there, and to FEEL as though someone really cared. You get an A+++ from me.”

Francesco A. Pia, Ph.D., American Red Cross Advisory Council for First Aid & Safety

“The 2006 World Aquatic Health Conference was a well organized and thought provoking conference. Dr. Michael Beach and Dr. Bruce Becker were outstanding speakers whose presentations sent the tone for the high quality symposiums that followed their presentations. The WAHC’s collegial atmosphere and wide range of topics reawakened many fond memories about my attendance at Council for National Cooperation in Aquatics (CNCA) conferences, and the rich body of work the CNCA conferences produced. I fully expect the WAHC under Dr. Tom Lachocki’s stewardship, the peer reviewed articles in the IJARE edited by Dr. Stephen Langendorfer, and 21st century web casting of the conference proceedings will fill the void left by the demise of the CNCA.”

Sharon Mannion, NRPA

“I appreciate being able to participate in a conference that truly is about the *science behind the fun*. The resources and networking are valuable educational opportunities.”

June Lindle Chewning, MA, Aquatic Exercise Association

“The World Aquatic Health™ Conference was a great networking opportunity. Coming from primarily a fitness background, my eyes were opened to new concepts and ideas to expand my aquatic horizon.”



Feedback from conference evaluation forms:

“Nothing could have been done better. Everyone did a great, professional job. It was a 1st class conference.”

“Bruce Becker is very deserving of the grant he received for continued study.”

“Michael Beach was outstanding and very knowledgeable!”

“Dr. Becker had an excellent talk from an exercise physiologist’s point of view.”

“The subject of Jim Lauria’s talk needs further research and should be taken very seriously.”

“Paul Blake should have been given more time to talk! If he ever writes a book, I will be the 1st to buy it!”

“Michael Beach’s talk was very well put together. He made excellent points and was very motivating.”

“David Markenson’s talk was very informative. The info helped clear up several questions I had about new guidelines.”

“Ruth Sova’s presentation was excellent. It pulled me in!”

“Farhad Madani’s presentation gave me several new ideas!

“James Wheeler gave a great presentation.”

“Roy Vore’s presentation was absolutely one of the best seminars I have every attended. He’s a keeper!”

“Paul Blake’s presentation was excellent. It did exactly what it was supposed to.”

“Great job this year!”

“Would like to see more seminars like Darla Goeres’ in the future! It was very interesting, and it was especially prevalent for recreational water. I would have enjoyed a longer talk.”



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“Bruce Becker’s presentation was excellent for this conference and this audience.”

“Michael Beach’s presentation was excellent, and I will be sharing the info with Hilton employees next week!”

“Please continue to have Dr. Beach, he was excellent!”

“Joel Stager’s presentation was great. I think I’ll start swimming!”

“Michael Beach is a great speaker. I would like to see more from him.”

“Darla Goeres gave a great presentation. The scientific material was presented in a clear, easy-to-understand format.”

