

## East meets west on common ground of environmental public health

By Eddy Bal

NIEHS welcomed a special delegation of public health scientists and leaders from Thailand July 11, led by Professor Dr. Her Royal Highness Princess Chulabhorn Mahidol, founder and president of the Chulabhorn Research Institute (CRI), the Chulabhorn Graduate Institute, and the Chulabhorn Cancer Center.

The Princess and her colleagues met with NIEHS and NTP Director Linda Birnbaum, Ph.D., and members of the Institute's leadership for discussions about training opportunities and [NIH International Postdoctoral Programs](https://www.training.nih.gov/international_postdoctoral_programs). ([https://www.training.nih.gov/international\\_career\\_transition\\_awards](https://www.training.nih.gov/international_career_transition_awards))

The meeting included presentations by Birnbaum and Princess Chulabhorn, as well as ones by NIEHS and NTP scientists on a range of environmental public health topics of special interest in Thailand - specifically traffic-related air pollution, hazardous electronic waste, children's health, and clean water.

Birnbaum noted the approximately 100 foreign trainees at NIEHS and pointed to NIH partnerships with several countries to offer postdoctoral training to recent Ph.D. recipients. "We will be happy to explore partnerships with Thailand for future research collaboration and training," she said.

### Showcasing NIEHS and its global health initiatives

"This is an exciting opportunity for me and our NIEHS scientists to discuss our research and our support for international scientific collaborations," Birnbaum said as she began her overview of NIEHS and NTP organization and research.

Early on, she reminded her listeners of the importance of research to improve the ability to anticipate the impact of the environment on health, which contributes to some 85 percent of all human disease. "Thirteen million deaths could be prevented each year by improving our environment," she said.

In the course of her overview, Birnbaum introduced the themes of the talks by NIEHS and NTP scientists that followed (see [text box](#)). These included presentations about specific global health initiatives and collaborations between NIEHS and such groups as the World Health Organization (WHO); prenatal exposures that shape the development of people everywhere and can trigger adult-onset diseases; research on the health effects of arsenic, which is present in the food and water billions of people consume throughout the world; and environmental causes of the growing epidemic of asthma among children in developing countries with rapidly growing urban centers.

In closing, Birnbaum invited the Princess to return to NIEHS for further discussions.

### Noblesse oblige and a passion for science

The [Chulabhorn Research Institute](http://www.cri.or.th/en/about_mission.php),

([http://www.cri.or.th/en/about\\_mission.php](http://www.cri.or.th/en/about_mission.php))

Chulabhorn Graduate Institute, and Chulabhorn Cancer Center have a shared mission of applying science and technology to improve life, which parallels several key aspects of the NIEHS strategic plan. Her Royal Highness has given generously of her personal fortune, time, and influence to promote environmental public health and scientific exchange programs, including a series of seven Princess Chulabhorn International Science Symposia.

A member of the chemistry faculty at Mahidol University, Princess Chulabhorn is the first Asian to be selected as an honorary fellow of the Royal Society of Chemistry in England. In addition to her doctorate, the Princess holds numerous honorary degrees from universities in Thailand, the U.S. and the U.K., Japan, and elsewhere. Among her domestic and international honors, awards, and decorations for her service to global public health, the Princess has received the United Nations Educational, Scientific and Cultural Organization (UNESCO) Einstein Medal, as well as the Environmental Mutagenesis Society Hollaender International Fellow Award.



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After Princess Chulabhorn, right, and the Thai delegation arrived at NIEHS, she greeted Institute leaders in the receiving line, accompanied by Birnbaum, center. She is shown shaking hands with Suk, who has attended past Princess Chulabhorn International Science Symposia (see [story](#)) as a representative of NIEHS. (Photo courtesy of Steve McCaw)



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Birnbaum spoke with pride and enthusiasm about NIEHS and NTP research as she gave her informal presentation for the visitors. (Photo courtesy of Steve McCaw)



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Prominent among the delegation was Mathuros Ruchirawat, Ph.D., head of the CRI Laboratory of Environmental Toxicology in Bangkok, where she has collaborated with NIEHS-funded researchers in Thailand. (Photo courtesy of Steve McCaw)



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Princess Chulabhorn was obviously impressed by the wide range of environmental public health research described by Birnbaum. Along with lead author Mathuros and colleagues at CRI, the Princess co-authored a study on prenatal arsenic exposure and gene expression (see [story](#)) with NIEHS grantees Leona Samson, Ph.D., and Rebecca Fry, Ph.D. (Photo courtesy of Steve McCaw)



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Balbus spoke forcefully about the NIEHS commitment to global health research, WHO collaboration, and the NIH Cookstove Initiative. (Photo courtesy of Steve McCaw)



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London described her recent work as part of an international consortium studying gene expression and environmental exposure - specifically changes in DNA methylation patterns in offspring linked to maternal smoking. (Photo courtesy of Steve McCaw)



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Tokar spoke on a topic of interest throughout southeast Asia - the presence of unsafe levels of arsenic in drinking water and in the rice irrigated by groundwater there. (Photo courtesy of Steve McCaw)



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Gray described NIEHS support for research on the mechanisms involved in asthma triggered or worsened by exposure to air pollution in the U.S. and how the findings can be used to inform programs to help clean up the air. (Photo courtesy of Steve McCaw)



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At the close of the formal meeting, Birnbaum presented Chulabhorn with a token gift, graciously given by her hosts and gratefully received with royal humility by Her Royal Highness. (Photo courtesy of Steve McCaw)



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Escorted by Ambassador Vijavat, Princess Chulabhorn greeted a group of visiting Thai nationals who are living and working in the Triangle. (Photo courtesy of Steve McCaw)



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The delegation's caravan of limousines lined up in front of the NIEHS main building in anticipation of the group's departure. (Photo courtesy of Steve McCaw)



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With her visitors on their way to their next destination, Birnbaum took time to chat with Thai-born research fellow [Wipahee \(Joy\) Winuthayanon, Ph.D.](#) Winuthayanon is an award-winning member of the NIEHS Receptor Biology Group headed by Kenneth Korach, Ph.D. (Photo courtesy of Steve McCaw)



In a gesture of solidarity that underscored their commitment to productive future collaborations, Princess Chulabhorn and Birnbaum, center, gathered with their respective delegations. (Photo courtesy of Steve McCaw)

### Taking a place at the table

The Thai delegation included Princess Chulabhorn, who presented a talk about the activities of the institutes and centers supported by the Chulabhorn Foundation, as well as the following dignitaries:

- His Excellency Ambassador Vijavat
- His Excellency Doctor Thakur
- Science Advisor Associate Professor Doctor Mathuros
- Professor Doctor Somsak
- Associate Professor Doctor Supanna
- Doctor Anucha
- The entire royal entourage

In turn, the visitors had an opportunity to meet and discuss interests and concerns they have in common with Birnbaum and the Institute's leadership:

- Rick Woychik, Ph.D., deputy director
- William Suk, Ph.D., head of the Division of Extramural Research and Training Hazardous Substances Research Branch
- Joellen Austin, associate director for management
- John Bucher, Ph.D., NTP associate director
- Darryl Zeldin, M.D., scientific director
- Gwen Collman, Ph.D., director of the Division of Extramural Research and Training
- Mark Miller, Ph.D., chief of staff

Along with Birnbaum's opening overview of NIEHS and NTP public health initiatives, "Our Environment, Our Health, Our Future," the visitors heard presentations by four Institute scientists:

- Senior Advisor for Public Health John Balbus, M.D. - "Climate Change and WHO Collaborating Center"
- Lead researcher Stephanie London, M.D., Dr.P.H. - "International Consortium on Prenatal Exposures"
- NTP Laboratories biologist Erik Tokar, Ph.D. - "Arsenic in Drinking Water, Rice, and Cancer End Points"
- Health Scientist Administrator Kimberly Gray, Ph.D. - "Children's Environmental Health: Asthma"

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