Chancellor Mark S. Wrighton delivered a keynote address on May 29 at the Shanghai Forum; he spoke on global energy demands and alternative energy options that are both economically and environmentally sustainable.

In addition to attending the forum — a summit focused on economic and political progress in Asia — Wrighton received an honorary doctorate from the Chinese Ministry of Education and Fudan University.

“The Shanghai Forum provides an outstanding opportunity for leaders throughout the region and across the world to come together to discuss topics of importance to the future of Asia,” Wrighton says. “My presentation on the global energy future allowed me to discuss interrelated issues of critical significance to current and future generations of people in China: energy, environment and the economy.”

Wrighton’s speech, “The Global Energy Future: The Options Before Us,” emphasized the importance of securing safe, abundant, affordable energy resources while avoiding adverse effects on the environment for all nations.

“For China,” Wrighton told the forum, “the challenge is even greater because the rapid growth in the economy of one of the world’s most populous countries is leading to an unprecedented demand for energy. How China meets this demand will have consequences for the rest of the world.”

Wrighton based his keynote address on knowledge gained from serving as the vice chair of the Committee on America’s Energy Future. The National Research Council prepared the committee’s report, “America’s Energy Future: Technology Opportunities, Risks and Tradeoffs,” which is available online.

Other Washington University leaders participating in the Shanghai Forum were James V. Wertsch, PhD, the Marshall S. Snow Professor in Arts & Sciences, associate vice chancellor for international affairs and director of the McDonnell International Scholars Academy; and Gary S. Wihl, PhD, dean of the Faculty of Arts & Sciences and the Hortense and Tobias Lewin Distinguished Professor in the Humanities. Both served as panelists at a session on the “Reflections on Cooperation in Climate Change.”

Fudan University hosted the Shanghai Forum, which was sponsored by the Korea Foundation for Advanced Studies. Founded in 1905, Fudan University is one of the most prestigious universities in China, with an international reputation for achieving excellence in both academics and scientific research.

Chancellor Wrighton said he was deeply honored by the honorary degree he received from Fudan University and the Chinese Ministry of Education.

“I accept this honorary degree on behalf of all of my colleagues at Washington University who have worked over the past decade to strengthen our relationship with Fudan University, one of the world’s premier universities,” Wrighton said. “Today is an important day in the history of what I expect will be a long and productive partnership between Fudan University and Washington University.

continued on page 2
Discarded Brain Signals May Reveal New Insights by Michael C. Purdy

Scientists who monitor brain waves, one of the oldest techniques for observing changes in brain activity, regularly discard up to 90 percent of the signals. They consider this data as noise because it produces a seemingly irregular pattern similar to those seen in river fluctuations, seismic waves, heart rates and stock market prices.

Now, researchers at Washington University School of Medicine have found evidence that this data may contain significant information about how the brain works. In a study published in the May 13 Neuron, a closer look reveals not only previously unrecognized patterns in the data but also shows that putting the brain to work on a simple task can change those patterns.

“We don’t yet know how to decode the information contained in these signals, but the fact that they’re such a large part of brain activity and that they can be modulated when you do a task suggests that they are going to be very important to understanding the brain,” says lead author Biyu Jade He, PhD, a postdoctoral fellow.

Electroencephalography (EEG), a long-established technique for monitoring brain waves, involves attaching an array of electrodes to the head. The electrodes can detect minute changes in electrical fields caused by brain cells firing.

Routine EEG analysis focuses on periodic components of EEG activity that are caused by brain cells firing in coordination. These components are known as brain waves, and they occur at varying frequencies.

The remaining, irregular signals in EEG recordings didn’t seem to contain useful information. By using a mathematical technique called spectral analysis, neuroscientists have found that these “irregular” signals produce a regular pattern: a diagonal line on the results graph that goes from the upper left (high-power, low-frequency brain waves) to the lower right (low-power, high-frequency brain waves).

That didn’t seem interesting to scientists in the past because spectral analyses of many other phenomena produce the same pattern. In linguistics, for example, analysis of the most frequently used words in a language and the number of times they appear indicates the source of the seizures.

“Why this pattern is so common is one of the great questions of modern physics, and it’s spawned a relatively young field of research called complex dynamics,” He says.

She studied data gathered from five patients with drug-resistant epilepsy. To treat these patients, surgeons temporarily implanted grids of electrodes on the surface of the brain to gather detailed EEG readings and pinpoint the source of the seizures.

Using a technique called nested-frequency analysis, He showed that the temporal connections between low-frequency brain waves and high-frequency brain waves are more extensive than previously realized.

“Given that this statistical pattern of activity is so common in the world around us, it makes sense that evolution would mold our brains into a similar organization, and that our cultural activities would reflect that pattern,” she says.

Global Energy, cont’d from page 1

“...the program is designed to prepare them as future leaders knowledgeable about the United States, other countries and critical international issues...

The academy also encourages other initiatives, such as faculty collaboration across institutions on global issues including energy, the environment, cultural understanding, human health, and economic and social development.
As an award-winning architect and urban planner in India — a country supporting 17 percent of the Earth’s population on just 2.4 percent of its land — Rajeev Kathpalia’s services are in high demand.

Kathpalia, MAUD ’84, is ideally positioned to help his country as it experiences seismic shifts in technology, urbanization, population growth and environmental degradation. He is one of five partners in Vastu Shilpa Consultants, an architecture firm located in Ahmedabad, a city of more than 5 million people in the western state of Gujarat.

“We work in planning, urban design and architecture all over India,” Kathpalia says. The firm takes on a wide range of challenges, from designing a temple and its surrounding complex to creating master plans for modern new towns that house 100,000 people. “Switching among a variety of projects at different scales fascinates me,” he says.

A current project that excites Kathpalia involves designing a memorial for the 2001 Gujarat earthquake victims. Responding to the client’s wish for 14,000 new trees — one for each victim — he designed reservoirs to harvest scarce rainwater in the arid climate. This way, he can bring self-sustaining renewal and biodiversity to the landscape.

Kathpalia’s education and experience also reflect his taste for variety. As a young man with a bachelor’s degree in architecture, he worked in New Delhi and Kuwait before choosing to study urban design at Washington University’s Sam Fox School of Design & Visual Arts.

After practicing architecture in St. Louis for awhile, he returned to India and co-founded a “design laboratory” with his wife, Radhika Doshi Kathpalia, an architect and interior designer. Their firm, Mansar, won several national housing and urban design competitions.

In 1995, the Kathpalias merged their practice with the Vastu Shilpa firm, founded by internationally known architect and educator B.V. Doshi — Radhika’s father. An institution builder, B.V. Doshi served as the founding dean of Ahmedabad’s Centre for Environmental Planning and Technology (CEPT) University and helped establish a respected nonprofit institute, the Vastu Shilpa Foundation for Studies and Research in Environmental Design.

Today, Rajeev Kathpalia’s work extends to both of these institutions. He is a visiting faculty member in CEPT University’s Schools of Architecture and Urban Design, and he has served as director of the Vastu Shilpa Foundation since 2007.

“Through the foundation, we conduct research on various aspects of the human habitat and disseminate our research through publications and workshops,” he says. “We also work with squatters and slum dwellers in India — the poorest of the poor — to help alleviate their conditions.”

Integrating the historic with the contemporary, designing for rural spaces and urban centers, working and teaching — Kathpalia keeps very busy. His compatriots continue to benefit as he and his partners create built environments for an assured and sustainable Indian future.

To view Kathpalia’s work, visit sangath.org.

Volunteer Spotlight

Sean (YongQing) Goh, BSBA ’05
Marine Implementation Lead for Asia Pacific, Shell Marine Products

“Washington University provided me with wonderful memories and acted as a great stepping stone into the job market,” Sean (YongQing) Goh says. “I decided to return the favor by promoting the university’s presence in Singapore.”

In 2007, Sean began to volunteer for the Alumni and Parents Admission Program (APAP) by participating in interview sessions, college fairs and other university events. He chaired the group in 2008.

“APAP provides alumni and parents with a great opportunity to truly understand how complicated the university’s recruitment process is,” he says. “Any help we can get would definitely be welcomed.”

Sean founded the Washington University Alumni Club in Singapore in 2009 and serves as co-president with his friend, Kaavya Narasimhalu, AB ’05.

“The group serves as a platform for engaging the local community and other organizations for hosting events,” Sean says. “I hope to fulfill my vision of taking the club to much greater heights.”
Excavation of ‘gold mine of archaeology’ reveals China’s ancient past

An anthropologist at Washington University is helping to reveal a snapshot of rural life in China during the Han Dynasty for the first time. Around 2,000 years ago, silt-heavy water from the Yellow River flooded Sanyangzhuang, a rural farming village.

Working with Chinese colleagues, T.R. Kidder, PhD, professor and chair of anthropology in Arts & Sciences, is working to excavate the site, which offers an exceptionally well-preserved view of daily life in Western China more than 2,000 years ago.

“It’s an amazing find,” Kidder says of the site, which was discovered in 2003. “We are sitting on a gold mine of archaeology that is untapped.”

Exploration has revealed tiled roofs, compounds with brick foundations, eight-meter deep wells lined with bricks, toilets, cart and human foot tracks, roads and trees.

Researchers have found an abundance of metal tools, including plowshares, grinding stones and coins. Fossilized impressions of mulberry leaves — which researchers see as a sign of silk cultivation — were also discovered at the site.

“One could make the argument that this is where the Silk Road began,” Kidder says.

Kidder believes the site could be substantially larger than currently is known. The flood of sediment that buried the town also covered an area of more than 1,800 square kilometers.

Excavation has revealed two more buried communities beneath Sanyangzhuang. “This sedimentary archive goes all the way back to the Pleistocene Era,” says Kidder, who has experience digging in silt-laden sites near the Mississippi River.

“We have a text written in dirt of environmental change through time that’s associated with the flooding of the Yellow River and its environmental relationships. We have an opportunity to examine an entire landscape dating from the Han and periods before,” he says.

Productive aging in U.S. and China discussed at conference

The 10th annual Friedman Conference on Aging centered around “Productive Aging: Cross-Cultural Perspectives from China and the U.S.” The conference was sponsored by Washington University’s Harvey A. Friedman Center for Aging and the Center for Social Development (CSD).

“Demographic shifts in the human population require a different view of later life,” says Nancy Morrow-Howell, PhD, the Ralph and Muriel Pumphrey Professor of Social Work at the George Warren Brown School of Social Work and a faculty associate with CSD. “The social and economic structures that have developed over human history were not shaped for a world in which 30 percent of the population will be over 60 years of age. Countries have a lot to learn from each other, as the necessary social and economic transitions are uncharted territory.”

The conference provided an important opportunity for scholars from the United States and China to address the challenges and benefits of a rapidly aging population. Morrow-Howell discussed productive aging in the United States, while other panelists focused on productive aging in mainland China and Hong Kong. Michael Sherraden, PhD, the Benjamin E. Youngdahl Professor of Social Development at the School of Social Work and director of CSD, served as moderator.

“Perceptions about elders, and consequently our expectations for how they can continue to contribute to society, vary greatly across cultures,” says John C. Morris, MD, the Harvey A. and Dorismae Hacker Friedman Professor of Neurology and director of the Friedman Center for Aging.

“Both China and the United States have rapidly growing aging populations, so how each country is addressing the capacity of these individuals to remain productive as they age is an important thing to consider.”

MAGEEP hosts third International Symposium on Global Energy Future


The symposium contained several features: the Global Energy Future Study report, the dedication of Stephen F. & Camilla T. Brauer Hall, collaborative projects updates, Consortium for Clean Coal Utilization projects updates, a short course on clean energy and doctoral student networking events.

MAGEEP is a consortium of 26 universities and corporate partners working together in energy, environmental and sustainability research, education and operations.

Tsinghua University men’s basketball team to play Washington University Bears

The Tsinghua University men’s basketball team will be playing in the 2010 Lopata Classic Basketball Tournament at Washington University Dec. 3, 2010, at 8 p.m. CST. The Lopata Classic, hosted annually by Washington University, features basketball teams from around the United States. This year provides the first-ever, in-season meeting between an international team and a Division III university. The game will be streamed live at http://www.stretchinternet.com/wustlschedule.html.
Dancer Poonam Sheevam performs at Washington University’s Edison Theatre with Dances of India, the oldest Indian dance company in Missouri. Asha Prem, the artistic director of the company, is also an adjunct instructor at the university. Songs of Scheherezad, the organization’s 33rd anniversary performance, took place Oct. 8-9 at Edison Theatre. The company also sponsors the St. Louis Dance Festival Showcase, now in its 11th year. For more information, visit www.dancesofindiastlouis.org.
International Alumni Club Contacts

Hong Kong
Mr. Vincent Lee, LA04
9/F Tower 3A Grand Court
12 Homantin Hill Road
Kowloon, Hong Kong
W: (852) 2-971-8372

India
Mr. Gurpreet Singh, GB54
20-A Aurangzeb Road
New Delhi 110028
India
H: (91) 11-301-3892
Mr. Deepak C. Kantawala, SI63
23 Ashoknagar Society/10th Rd.
J.V.P.D. Scheme
Bombay 400 049
India

Indonesia
Dr. Hardiv Harris Situmeang, SI93
Kompleks Pin Senayan No. 48
Jakarta 12210
Indonesia
H: (62) 21-549-0979

Japan
Dr. Koichi Fujii, HS62
Chairman: Japan
Tokyo Medical & Surgical Clinic
Mori Building 22
3-4-30 Shiba Koen, Minato-Ku
Tokyo 105 Japan
W: (81) 33-436-3028
Dr. Satoru Takenouchi, GM67
Vice Chairman: Western Japan
1-1 Higashino-Cho
Murasakino Kita-Ku
Kyoto 603 Japan
W: (81) 75-431-8476
Mr. Shinichiro Watari, LA72, GA76
Secretary-General: Japan
Cornes & Co. Ltd.
Ryukakusan Bldg.
2-5-12 Higashi Kanda
Chiyoda-Ku, Tokyo 100 Japan
W: (81) 33-582-1-1660

Malaysia
Mr. Arman B. Abdullah, TI79, GB82, SI82
AZA Enterprise
145, Jalan Batu Gellca
68100 Kuala Lumpur
Wilayah Persekutuan, Malaysia
H: (60) 3-689-7667

People’s Republic of China
Kyle Hill, GB05
99 Pucheng Road Yanlind Garden Building 8, Apartment 801
Shanghai 200120
W: (81) 33-436-3028
Dr. Jun Zou, GR93
208/1 Soi, 56 Ladprao Road
Bangkok 10310
Thailand
H: (66) 2-539-1292

Philippines
Stef Sano, EN98, SI03
Unit 605 Sterten Pl.
116 Maginhawa St.
Quezon City, Manila 1101
Philippines
H: (63) 288-5258

South Korea
Dr. Ja Song, GB62, GB67
Chairman: South Korea
Yonsei University
134 Shinchon-Dong
Seoul, 120-749
Korea
W: (82) 2-393-3330
Mr. Seung Hong, GB85
Secretary: South Korea
No. 41 Lane 185 Sec. 1
Shiou-Ming/Wen-Shan Dist.
Taipei 116
Taiwan
rebecca.pluxo@gmail.com
Dr. Larry Chiang, SI73, SI75
6F, No. 6, Alley 61
Lane 116, Lergun 2nd Road
Tachih, Taipei 104
Taiwan
ltchiang888@yahoo.com
Dr. Yunglin David Ma, GM09
#2 Lane 36, Alley 2nd Road
Bangkok 10310
Thailand
yunglinma@gmail.com
(88) 691-850-5817

Taiwan
Ms. Rebecca Chang, BU97, GB03, LW03
No. 41 Lane 185 Sec. 1
Shiou-Ming/Wen-Shan Dist.
Taipei 116
Taiwan
msrebecca_pluxo@gmail.com
Dr. Larry Chiang, SI73, SI75
6F, No. 6, Alley 61
Lane 116, Lergun 2nd Road
Tachih, Taipei 104
Taiwan
ltchiang888@yahoo.com
Dr. Yunglin David Ma, GM09
#2 Lane 36, Alley 2nd Road
Bangkok 10310
Thailand
yunglinma@gmail.com
(88) 691-850-5817

Washington University Alumni Clubs offer alumni and parents of current and former students a way to stay connected with the university. For more information on the clubs in Asia, visit http://aisweb.wustl.edu/alumni/internationalrelations.nsf or contact:

Tamilynn Holder
Director, International Alumni and Development Programs
Washington University in St. Louis
Campus Box 1060
7425 Forsyth Blvd.
St. Louis, MO 63105, USA
telephone: 1-314-935-4548
fax: 1-314-935-9614
e-mail: tami_holder@wustl.edu

The Alumni and Parents Admission Program (APAP) involves alumni and parents of undergraduates in recruiting, selecting and enrolling students at Washington University. APAP members interview applicants, staff college fairs and host receptions for admitted students. For information, contact:

Michelle Gravel
Director, Alumni and Parents Admission Program, and Associate Director, Undergraduate Admissions
Washington University in St. Louis
One Brookings Drive
St. Louis, MO 63130-4899, USA
telephone: 1-314-935-4893
e-mail: apap@wustl.edu

Alumni, parents and friends of the university often help identify students who would benefit from a Washington University education. Refer names and addresses of talented prospective students to:

Julie Shimabukuro
Director, Undergraduate Admissions
Washington University in St. Louis
Campus Box 1089
One Brookings Drive
St. Louis, MO 63130-4899, USA
telephone: 1-314-935-4893
e-mail: JShimabukuro@wustl.edu

Contacts

Your Washington University Contacts

Washington University Alumni Clubs offer alumni and parents of current and former students a way to stay connected with the university. For more information on the clubs in Asia, visit http://aisweb.wustl.edu/alumni/internationalrelations.nsf or contact: