

## **Clinical pharmacologists explore future of pharmaceuticals**

**BY RAY BAWEJA, PH.D., SOPHIA ABRAHAM, PH.D., SANDRA SAUREZ, PH.D., ABIMBOLA ADEBOWALE, PH.D., CHARLES BONAPACE, PHARM.D., SRIKANTH NALLANI, PH.D., PATRICK NWAKAMA, PHARM.D, VENKAT JARUGULA, PH.D., CHANDRA SAHAJWALLA, PH.D., SHIEW MEI HUANG, PH.D., AND LARRY LESKO, PH.D.**

**T**he 14th Science Day sponsored by the Office of Clinical Pharmacology and Biopharmaceutics enthusiastically celebrated the theme of “Molecules to Bits: The Future of Pharmaceuticals” in October.

The keynote address was presented by **Juan Enriquez**, a business leader, author and academic who is recognized as an authority on issues related to the economic and political impacts of life sciences. His lecture focused on the theme of how we generate “wealth and better living” for citizens of this planet and which countries end up being wealthy versus those that stay poor.

During the Renaissance from the 14th to the 17th centuries in Europe, arts and banking flourished. This was followed by the Industrial Revolution. The mid-20th century saw the independence of 61 countries over a span of 13 years, and later in the century it was technologically the era of computers. Currently, we are in the “digital” and “genomic” revolutions.

In each instance, he noted, that whichever country adopted the latest technology, stayed on top. Still, over the course of time, neither any one “country” nor any given “technology” can be taken for granted. Consistently no one country or continent has stayed on top. It is always an evolutionary and turning process on this planet.

The current era is that of genomics. He compared the current infancy of the genomics revolution to that of European navigators who even with “perfect” maps of their time, knew that they had “landed somewhere” but did not know exactly where.

Similarly, with the human genome project, science is setting out to “map” each one of us, and this mapping

will eventually change everything. He congratulated the Agency for taking the lead in this area mentioning that it has a “front row seat” and was complimentary of its national initiative toward developing a guidance.

The podium presentations covered:

- Imaging biomarkers for drug discovery in Parkinson’s disease.
- Applications of exposure-response to optimize benefit-risk ratio for combination therapy.
- Concentration QTc relationship derived endpoint for decision-making.
- Genomics in drug development.
- Semi-mechanistic PD modeling.
- Clinical pharmacology issues for oral inhaled insulin.
- Updates on drug interactions and pharmacogenomics guidances.

Similarly, the posters covered a range of topics, such as:

- Pharmacogenomics information for drug labels.
- Repository of drugs used in pregnancy and lactation.
- Applications of population pharmacokinetics in drug labeling.
- Improving drug development efficiency of drugs for osteoporosis.
- Current opinions on drug-drug interactions studies.
- The President’s Emergency Plan for Aids Relief.

The Commissioned Corps team had a visual presentation in which they highlighted their assistance in the Katrina relief effort both in the state of Louisiana and through their coordination efforts from the Washington area. The finale of the day was the Talent Hour, and features included Middle Eastern dancing, a demonstration of radio broadcasting and folk and country melodies.

Science Day began in 1996 and, over the years, has seen participation of clinical pharmacologists from the Uniformed Services University of Health Sciences, Walter Reed Army Institute of Research, Office of Generic Drugs, CBER, Center for Drug Development Science at Georgetown University, the National Institutes of Health, University of Maryland and the Medical College of Virginia.

**T**o date there have been about 250 scientific presentations, including the seven podium and 26 posters for 2005. Distinguished guest speakers have

shared the latest findings in the field of medicine, clinical pharmacology, optimization of the drug development process, and have included **Drs. Curtis Wright, Carl Bjornsson, David Greenblatt, William Jusko, Bill Evans, Robert Powell, Janice Schwartz, Jay Cohen, Stephen Naylor** and **Kenneth Kaitin**. The main theme of Science Day has been to share and exchange scientific information and ideas among clinical pharmacologists.

*The authors are members of OCPB, and Larry Lesko is the office director.*