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National Center for Toxicological Research
"Taking Public Health Risks Seriously"

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NCTR Quarter Page

NCTR Hosts Toxicoinformatics Workshop

On Wednesday, December 4, 2002, NCTR hosted an interactive one-day workshop at the Jefferson Laboratory campus. One hundred fifteen (115) scientists from government, research institutes, industry, and academia, with a strong interest in toxicoinformatics for microarray experiments, came together to better understand the 'practical' issues that are critical for successful application of microarrays in the toxicological sciences. Presentations focused on microarray study design, data normalization and statistical analysis, microarray database, and toxico-genomics infrastructure. Participants were uniformly complimentary of the workshop and requested that this become an annual event. Dr. Weida Tong, Director, NCTR Center for Toxicoinformatics co-hosted the workshop with Dr. Tim Zacharewski, Michigan State University.

Drs. He, Delongchamp, Quackenbush and Walker participate in a panel discussion

Mr. Pete Attwood "the Mayor", NCTR's Deputy Director for Management, is retiring January 3, 2003, after 39 years of government service!

SOT Meeting October 11

By Deborah Hansen, Ph.D.

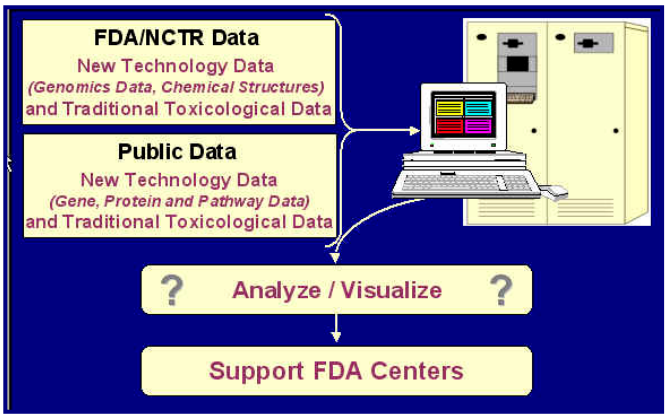
The Society of Toxicology (SOT) is a not-for-profit organization of 5,200 scientists from academic institutions, government, and industry representing the great variety of professionals who practice toxicology in the U.S. and abroad. It is dedicated to supporting the creation of sound scientific information that reduces uncertainties in assessing risks to human health and the environment. One of its goals is to identify and address the critical gaps in toxicology research and education with innovative basic and applied science.

The South Central Chapter met Friday, October 11, 2002, at NCTR. One hundred (100) toxicologists from Arkansas, Louisiana, and Mississippi registered for the meeting. Dr. Jack Vanden Heuvel from Pennsylvania State University presented an excellent talk on the "Regulation of gene expression by peroxisome proliferator-activated receptors." The remaining sessions continued with outstanding presentations from graduate students and 40 poster sessions (with nearly one-half of the presentations made by graduate students).

Center for Toxicoinformatics

Did you know that structural and functional genomic technologies produce *thousands* of data points from a single experiment?

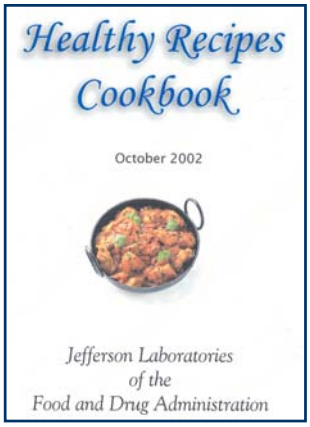
NCTR's Center for Toxicoinformatics is providing effective software systems and analysis capabilities to address the challenges of managing and integrating data from new technologies (such as genomics and proteomics) with traditional toxicological data, and analyzing and visualizing these data to formulate new regulatory standards.



NCTR Health Fair and Fitness Day

By Vicky Ross-Barsh

"Let's Get Physical" was the theme for the Jefferson Labs' Fitness Day held October 24, 2002. The goal was for every employee to participate in at least one physical activity for a minimum of 15 minutes during the day and have that be the beginning of an exercise program for life. The idea for the fitness day came from President Bush's *Healthier US Initiative* which is based on the premise that *every little bit of effort counts.* The kick off for the day's activities was a walk around the perimeter of the campus – approximately 1¼ miles. Throughout the day employees participated in a variety of activities including walking, jogging, basketball, volleyball, and bocce. Employees submitted their favorite healthy recipes, which were compiled into a cookbook for employees. Several offices enjoyed potluck luncheons that focused on 'eating healthy'.



Recent Publications

NCTR conducts research designed to protect the public's health. Results from some of these research projects have recently been accepted for publication in nationally recognized scientific journals.

Chen, J.J., "Simultaneous Non-inferiority Test of Sensitivity and Specificity for Two Diagnostic Procedures in the Presence of a Gold Standard," *Biometrical Journal*

Chen, J.J., "Statistical Analysis for Developmental and Reproductive Toxicologists," *Developmental and Reproductive Toxicology, A Practical Approach*

Chen, Y., "Normalization Methods for Analysis of Microarray Gene Expression Data," *Journal of Biopharmaceutical Statistics*

Dobrovolsky, V.N., "Mice Deficient for Cytosolic Thymidine Kinase Gene Develop Sclerosis of Glomeruli," *Molecular Genetics and Metabolism*

Dong, S., "Effect of Organic Solvents and Biologically Relevant Ions on the Light-induced DNA Cleavage by PAHs," *International Journal of Molecular Sciences*

Ferguson, S.A., "A Longitudinal Study of Short- and Long-term Activity Levels in Male and Female Spontaneously Hypertensive, Wistar-Kyoto and Sprague-Dawley Rats," *Behavioral Neuroscience*

Ferguson, S.A., "Early Behavioral Development in the Spontaneously Hypertensive Rat: A Comparison with the Wistar-Kyoto and the Sprague-Dawley Strain," *Behavioral Neuroscience*

Howard, P., "Comparison of the Toxicity of Seven Fumonisin Derivatives in a 28-day Feeding Study with Female $B_6C_3F_1$ Mice," *Toxicology and Applied Pharmacology*

Moore, M., "Mouse Lymphoma Thymidine Kinase Locus Gene Mutation Assay: Follow-up International Workshop on Genotoxicity Test Procedures," *Environmental and Molecular Mutagenesis*

Slattery, S.D., "Development of a Microplate Assay for the Detection of Single Plaque-forming Units of Bacteriophage phiX174 in Crude Lysates," *Environmental and Molecular Mutagenesis - Short Communication*

Xu, Z., "Sex-selective Hippocampal Cell Damage after Adolescent Nicotine Administration: Effects on Neurospecific Proteins," *Nicotine & Tobacco Research*

CONTACT INFORMATION:

The NCTR Quarter Page is published four times a year by the Division of Planning at the National Center for Toxicological Research.

FOR MORE INFORMATION ABOUT NCTR CONTACT DR. DAN CASCIANO, NCTR DIRECTOR AT DCASCIANO@NCTR.FDA.GOV OR [870] 543-7517.

DHHS/FDA/NCTR
3900 NCTR Drive
Jefferson, AR 72079
ADDRESS CORRECTION REQUESTED