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Yang Joins CIT and Physiology Faculty

This Fall, the MSU-CIT welcomed Dr. Chengfeng Yang to the MSU faculty. Dr. Yang accepted a joint appointment in the CIT and the Department of Physiology.

Dr. Yang has a diverse training background that spans environmental health, molecular toxicology, pharmacology, and cancer biology. He holds a M.D., Masters of Public Health Degree, and a Ph.D. The first two degrees came from Tongji Medical University in Wuhan, Hubei, China. He earned his M.P.H. in Environmental Health and Toxicology. He went on to complete his Ph.D. in Molecular Toxicology at the National University of Singapore.

Before being recruited to MSU, Dr. Yang completed postdoctoral training in the Department of Environmental Medicine at New York University and the Department of Pharmacology at the University of Pennsylvania. He served as a research associate and then research assistant professor at the University of Pennsylvania before accepting the MSU position.

He said he choose MSU for the rich opportunities for collaborative research that are similar to his own research interests. These interests cover three fields: chemical carcinogenesis, breast cancer biology, and cancer chemoprevention. He noted that his proximity to MSU's breast cancer research groups made his position that much more attractive.

"This position offers me the opportunity to do what I like to do, want to do, and can do," he said.



Dr. Chengfeng Yang holds a joint appointment with the Department of Physiology and the CIT. His research interests include chemical carcinogenesis, breast cancer biology, and cancer chemoprevention.

Dr. Yang plans to study chemical carcinogenesis and cancer biology, focusing on tyrosine kinase signal transduction leading to the development and progression of human cancer. He will also work to identify natural compounds for cancer prevention and therapeutic sensitization.

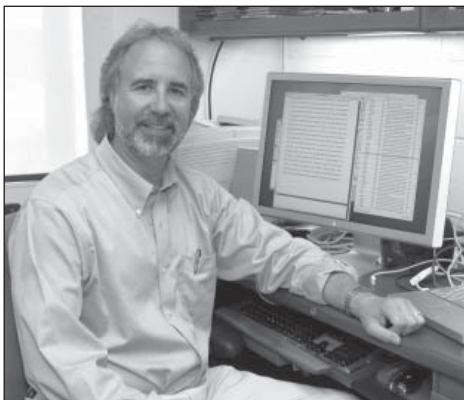
He is now in the process of recruiting a post doctoral trainee and a research associate for his lab.

Dr. Yang came to MSU with his wife, who is a research associate in cell and molecular biology, and daughter, who is a freshman in high school.

His office is located at 4171 Biomedical Physical Sciences with laboratory space just down the hall in 4159.



Message from the Director



A critical aspect of maintaining a vigorous and vibrant research and training program in the academic setting is the recruitment of new, young, mid-career faculty.

During the past several years, the Center for Integrative Toxicology has seen a number of its senior faculty retire or depart MSU including Drs. John Giesy, Emmett Braselton, Jack Throck Watson, and our former director, Dr. Larry Fischer. In light of the departures of these key individuals, the CIT has been actively engaged in the recruitment of new research-intensive faculty.

As highlighted in this issue of the CIT newsletter, I am delighted to report that we have successfully recruited our newest faculty member, Dr. Chengfeng Yang, whose primary appointment is in the Department of Physiology.

Dr. Yang's expertise is in the areas of chemical carcinogenesis and molecular toxicology, areas that greatly complement the existing strengths of our present faculty. To learn more I direct you to the article in this newsletter introducing Dr. Yang.

Thanks go to the CIT search committee for this recruiting effort. Led by Dr. Jay Goodman, Pharmacology and Toxicology, chair, the committee also included Dr. James Pestka, Food Science and

Human Nutrition; Dr. John LaPres, Biochemistry and Molecular Biology; and Dr. Susan Conrad, Microbiology and Molecular Genetics. The committee began their work in the summer of 2006 and brought it to a successful conclusion in one year.

In addition, this year the CIT also recruited three additional faculty members from the MSU ranks: Dr. Laura McCabe, Department of Physiology; Dr. John Goudreau, jointly appointed in the Departments of Neurology and of Pharmacology and Toxicology; and Dr. Hui Li, Department of Crop and Soil Sciences.

Dr. McCabe's research interests are focused on identifying mechanisms regulating bone formation by osteoblasts. Her laboratory employs a wide variety of approaches including the examination of transcription factor activity and intracellular signaling pathway activation. She also utilizes stem cell lineage selection, apoptosis, metabolism, as well as immune system contributions utilizing cell culture systems, animal models, and human imaging, to study mechanisms regulating bone formation.

Dr. Goudreau's research is concerned with neuroprotective treatments of Parkinson's disease with a major emphasis on the mechanisms responsible for the degeneration of nigrostriatal dopamine neurons. More recently, Dr. Goudreau's laboratory has

also begun to consider environmental factors that may contribute to the etiology of Parkinson's disease.

Both Dr. Goudreau and Dr. McCabe are well-established research faculty with a track record of extramural support from the National Institutes of Health.

Dr. Hui Li's research focuses on environmental soil chemistry, with an emphasis on investigating the environmental physicochemical processes and ecological impacts of organic contaminants containing complex structures, and applying these basic findings to minimize negative impacts on the environment.

He studies the environmental fate, transport and effects of emerging contaminants associated with animal manures, composts and biosolids, to develop agricultural practices that reduce any negative effects on land and water. Dr. Li, who was appointed to MSU in 2005, is a co-investigator in the MSU Superfund Basic Research Program, administered through the CIT.

We are delighted to welcome all four of these faculty to the CIT and look forward to opportunities for research collaborations and their involvement in the training of students in toxicology.

Norbert Kaminski



The MSU-CIT has developed a logo for communications.

Dioxin: International Policy Implications and Impact

The MSU-CIT Superfund Program held a one-day conference on September 19, 2007 to review and exchange ideas concerning dioxin and dioxin-like compounds. The proceedings are being made available on the CIT website at <http://www.cit.msu.edu>.

Hosted by the Research Translation Core of the MSU Superfund Program, the event was jointly sponsored by the MSU-CIT and the Superfund Basic Research Program. National and international experts gave keynote presentations to over 100 scientists from academia, government, and industry.

The workshop focused on reviewing the findings and conclusions reached by a National Academy of Science (NAS) committee charged with reviewing the U.S. Environmental Protection Agency (EPA) reassessment of dioxin as well as the World Health Organization (WHO) Committee on Toxic Equivalency Factors for dioxin-like compounds. Accordingly, the speakers included key internationally recognized dioxin experts who represented the NAS, WHO, and EPA.

Presenters included Dr. David Eaton of the University of Washington, the chairperson of the NAS committee that reviewed the EPA's reassessment of dioxin and dioxin-like compounds; Dr. Martin Van den Berg of Utrecht University, the scientific organizer of the 1997 and 2005 WHO's expert meetings on the toxic equivalency factors for dioxin-like compounds; and Dr. Chiharu Tohyama of Tokyo University, who co-chaired the 2005 WHO expert meeting.

In addition, Dr. Michael DeVito of the U.S. EPA spoke. Dr. David Garabrant of the University of Michigan completed the presentations with case study results on the relationship between elevated dioxin levels in Midland, Michigan to the dioxin levels in the area's residents.

Ian Gray, MSU's Vice President for Research and Graduate Studies, gave welcoming comments, noting a tremendous need for an international dimension to toxicology. "We have to engage



The international policy implications and potential impact of the NAS and WHO on dioxin and dioxin-like compounds formed the purpose for the conference. All the presenters gathered at the conclusion for a panel discussion and question and answer session.

in a global context to deal with some of the problems that initially were germane to Michigan," he said.

The following topics were presented:

David Eaton, Ph.D.,
University of Washington
"NAS/NRC Report: Health Risks from Dioxin and Related Compounds"

Dr. Eaton served as chair of the National Academy of Science Committee that reviewed the Environmental Protection Agency's reassessment of dioxin and dioxin-like compounds.

Martin Van den Berg, Ph.D.,
Utrecht University
"The 2005 Re-evaluation of Toxic Equivalency Factors for Dioxin-like Compounds and Some Views from a European Perspective"

Dr. Van den Berg was the chairperson of the World Health Organization's Committee on Toxic Equivalency Factors for Dioxin-Like Compounds.

Chiharu Tohyama, Ph.D.,
The University of Tokyo
"Dioxins: Science, Public Perception and Risk Assessment/Management in Japan"

Dr. Tohyama worked as a director of the Environmental Health Sciences Division at the National Institute for Environmental Studies and serves as a member of expert committees on dioxins and environmental disrupting

chemicals for National and municipal governments in Japan.

Michael DeVito, Ph.D.,
U.S. Environmental Protection Agency
"Dose Response Relationships for Dioxins: Implications for Public Health"

Dr. DeVito is the Chief of the Pharmacokinetics Branch in the Experimental Toxicology Division of the National Health & Environmental Effects Research Laboratory of the Office of Research and Development at the US Environmental Protection Agency.

David Garabrant, M.D., M.P.H.,
University of Michigan
"Biomonitoring Results from the University of Michigan Dioxin Exposure Study"

Dr. Garabrant directed a two-year study to determine whether the elevated levels of dioxins in the soil in the city of Midland, and in the Tittabawassee River flood plain between Midland and Saginaw, have also caused elevated levels of dioxins in residents' bodies.

To view video recordings of the presentations, go to <http://www.cit.msu.edu>.

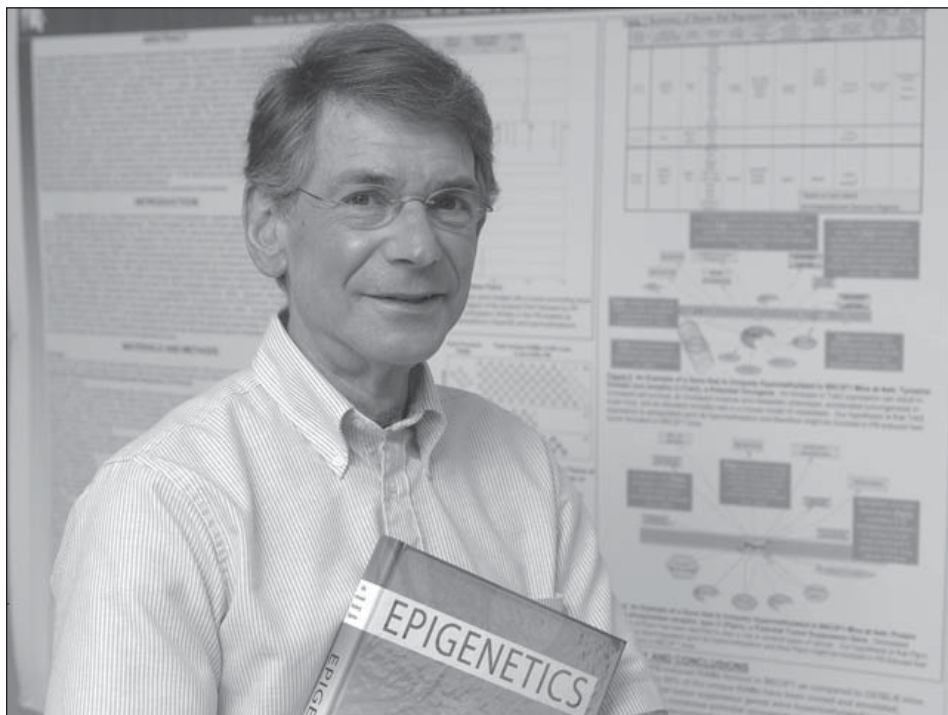
Each speaker's slides are also available at the site.

Goodman Honored by Toxicology Forum

Dr. Jay I. Goodman, MSU-CIT faculty affiliate and professor of pharmacology and toxicology was the 2007 recipient of the George H. Scott Memorial Award from The Toxicology Forum, a leading international toxicology organization.

The award honors an individual in the field of toxicology who has demonstrat-

ed an outstanding role in developing and applying the science of toxicology. He was recognized as a past president of the Society of Toxicology. In addition, his dedication as a mentor and teacher was cited, noting that many of his graduate students have gone on to prominent roles in academic and corporate toxicology.



Dr. Jay Goodman received the 2007 George Scott Memorial Award, a top honor from The Toxicology Forum, one of the leading international toxicology organizations.

ed an outstanding role in developing and applying the science of toxicology. The George H. Scott Memorial Award is named after an early member of the Board of Directors of the organization. Members of The Toxicology Forum are responsible for Goodman's nomination.

Goodman was cited for being an outstanding and exceptional leader in the field of toxicology for the past three decades. He was lauded as a major contributor to the areas of mechanistic toxicology and carcinogenesis, noting that his research in methylation and epigenetic/nongenotoxic carcinogenesis is highly cited making him a frequent invited speaker at national

Criteria for nominations include consistent production of high-impact research; contribution of significant scientific knowledge in a toxicological discipline; publication of a body of work in high-quality journals that reflects excellence in toxicology; recognition among peers with positions on review panels, advisory bodies and editorial boards, and with professorships and lectureships; development of technological or methodological innovations that have moved the field of toxicology forward; and a past recipient of departmental, national, or international awards

Goodman was presented with the award at the 2007 Annual Summer

Meeting held at the Given Institute in Aspen, Colorado.

The Toxicology Forum promotes and encourages open dialogue among government agencies, industry, academia, policymakers and public interest groups concerned with public health and policy issues.

Ewart Named CVM Associate Dean

Dr. Chris Brown, who became MSU's College of Veterinary Medicine dean in September 2006, has named CIT-faculty affiliate Dr. Susan Ewart as the associate dean for research and graduate studies in the college.

Ewart has been the acting associate dean of research and graduate studies twice – once from November 1, 2004 to October 30, 2005, and most recently starting on June 1, 2006. She is an associate professor of large-animal clinical sciences who is also affiliated with the National Food Safety & Toxicology Center. Ewart has an active research program working to identify the genes that predispose people and animals to allergic asthma.

She earned a D.V.M. from MSU in 1987 and a Ph.D. from the Johns Hopkins School of Public Health in 1994. She is also a diplomate of the American College of Veterinary Internal Medicine.

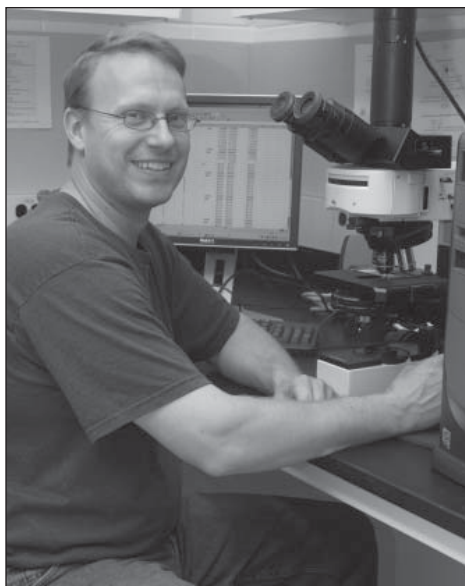


Ewart will facilitate the research mission of the college, oversee the establishment of a college pre-awards office, and identify new ways to maximize the impact of available resources.

Upcoming and Recent Events

Research Eve, Nov. 29

The 2007 CIT Annual Research Evening will take place on Thursday, November 29, 2007 at the MSU Kellogg Center.



Environmental and Integrative Toxicological Sciences Trainee John Buchweitz will present “Characterizing the Role of the Cannabinoid Receptors CB1 and CB2 in Immune Responses to Influenza A/PR8” at the CIT’s Annual Research Eve, November 29, 2007.

The event will feature a poster session for Environmental and Integrative Toxicological Sciences (EITS) trainees. A dinner is included in the event.

In addition, three trainees will give oral presentations of their work:

- Hee Kyong Bae, a food science and human nutrition doctoral student working in the lab of Dr. James Pestka. She is completing the toxicology track of the EITS program.

- Rashad Simmons, a chemistry doctoral student working in the lab of Dr. Victoria McGuffin. He is completing the environmental track of the EITS program. His talk is titled “Comparison of Hydrocarbon and Perfluorinated

Surfactants in Facilitating Transport of Environmental Contaminants.”

- John Buchweitz, (see photo at left) a pharmacology and toxicology doctoral student working in the lab of Dr. Norbert Kaminski. He is completing the toxicology track of the EITS program.

More information will be available on the CIT web site at <http://www.cit.msu.edu>.

Distinguished Scholars in Toxicology Lecture Series

Each year the Center for Integrative Toxicology partners with an affiliated department to sponsor speakers distinguished in an area of toxicology. This year, the Biochemistry and Molecular Biology program will host the program, bringing the following scholars to MSU.

Dr. Tim Ryan heads the Functional Genomics Group at Eli Lilly. Under Ryan’s leadership, toxicologists at Eli Lilly are increasingly using microarrays and gene expression databases earlier in drug development to positively impact stages of the pipeline that typically have not benefited from toxicity studies.

Ryan will lecture on “Leveraging gene expression data in pharmacology and toxicology: Functional genomics in drug discovery” on **Thursday, December 13, 2007** at 12:30 p.m. in 101 Biochemistry Building.

Dr. Joel Pounds is a senior staff scientist in Cell Biology & Biochemistry, Biological Sciences Division and Science Advisor to the Environmental Biomarkers Initiative at the Pacific Northwest National Laboratory in Richland, Washington. His research is focused on the cellular and molecular toxicity of lead and other metals, metal-metal interaction, and mathematical modeling of the response to metal mixtures.

His presentation will take place on **Thursday, February 14, 2007** at 12:30 p.m. in 101 Biochemistry Building.

Funding for the lecture series is being provided by the MSU Graduate School. More information on the lectures, including a series brochure, will be available on the MSU-CIT website at <http://www.cit.msu.edu>.

AhR Expert Lectured

An internationally recognized expert in risk assessment for the aryl hydrocarbon receptor (AhR), Dr. Stephen Safe, recently lectured and met with MSU-CIT faculty and trainees.

Dr. Safe, a distinguished professor of Veterinary Physiology and Pharmacology, gave a seminar on “Selective AhR Modulators: Opportunities for Cancer Chemotherapy and Problems for Risk Assessment.”

Following his lecture, Environmental and Integrative Toxicological Sciences trainees had an informal question and answer session with Dr. Safe over lunch.

He also met individually with faculty leaders in the MSU-CIT. His visit was co-sponsored by Dow Chemical Company and by the Research Translation Core of the MSU Superfund Program, administered by the CIT.



Dr. Stephen Safe (center, left) lunched with EITS Students and answered questions following his lecture on AhR modulators. Safe’s visit was co-sponsored by the Dow Chemical Company and the Research Translation Core of the MSU Superfund Program.

Trainee News

Graduate School Educational Enhancement Awards

In partnership with the MSU Graduate School, the MSU-CIT recently provided educational funding from the CIT Graduate School Dean Educational Enhancement Award program to several trainees.

Environmental and Integrative Toxicological Sciences trainee **Faye Aquino** utilized her award to attend the 12th Risk Assessment Summer School sponsored by the International Union of Toxicology, held in Hoeri, Germany (photo below).

Aquino learned about the program from fellow EITS trainee Chidozie Amuzie, who had previously participated. Among the faculty was Dr. Elaine Faustman, an MSU doctoral graduate, and past recipient of the Distinguished Alumnus Award from the Department of Pharmacology and Toxicology.

The Risk Assessment Summer School provided specialized training and educational experiences in chemical risk assessment to better understand the data evaluation process.

"It was a very intensive program, but the learning gained was immense and the friendships developed were and will be very much valued," Aquino said.

Aquino, who is a student in Resource Development, is studying the dietary risk assessment of pesticides in fruits and vegetables. Her MSU faculty advisors are Drs. Daniel Bronstein, Karen Chou, Robert Hollingworth, and Mike Hamm. She came to MSU from the Philippines with a background in agricultural chemistry and environmental science. She expects to complete her doctoral program in the spring of 2008.

Three other students received financial assistance from the award program to attend Gordon Research Conferences this summer: **Chidozie Amuzie** and **Hee Kyong Bae**, both Food Safety and Human Nutrition students and both working in Dr. James Pestka's lab, and **Xiaomin Deng**, a Biochemistry and Molecular Biology student, working in Dr. Bob Roth's lab.

The Graduate School Funding is also providing Fall 2007 stipends for two EITS students:

Laura Harris, Cell and Molecular Biology, will conduct investigations in the lab of Dr. Laura McCabe, in the general area of gene therapy.

Bryan Mets, a first year trainee in Biochemistry and Molecular Biology, is presently conducting research laboratory rotations prior to selecting a mentor and laboratory.

EITS Research Showcased at Student Event

Three Environmental and Integrative Toxicological Sciences students presented research posters at a graduate student poster session sponsored by MSU's Quantitative Biology and Modeling Initiative.

The event was focused on interdisciplinary research opportunities and numerous incoming MSU graduate students from seven departments were in attendance.

Representing the EITS program with posters were **Dorothy Tappenden**, a Biochemistry and Molecular Biology student working in the lab of Dr. John LaPres; **Josh Kwekel**, a Biochemistry and Molecular Biology student working in the lab of Dr. Tim Zacharewski; and **Stephan Carey**, a Comparative Medicine and Integrative Biology student working in the lab of Dr. Jack Harkema.

Carey and Kwekel had received CIT Graduate School Dean Educational Enhancement Awards to conduct their research over the past academic year. Tappenden and Kwekel had received travel awards to present their work at the 2007 Society of Toxicology annual meeting while Carey received funding to participate in the annual meeting of the American Thoracic Society.

EITS continued, next page



EITS student Faye Aquino (front row, third from left) received funding from the CIT Graduate School Dean Educational Enhancement Award program to attend Risk Assessment Summer School in Hoeri, Germany this September. MSU Doctoral Alumna Elaine Faustman (second row, third from left) was one of the faculty for the program.

Recent Publications

Beckett KJ, Yamini B, **Bursian SJ**. The Effects of 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) on Mink (*Mustela vison*) Reproduction and Kit Survivability and Growth. *Arch Environ Contam Toxicol*. 2007 Aug 3; [Epub ahead of print]

Li X, Fleis RI, Shubitowski DM, Ramadas RA, **Ewart SL**. Fine mapping of murine asthma quantitative trait loci and analyses of *Ptgs1* and *Mrc1* as positional candidate genes. *DNA Seq*. 2007 Jun;18(3):190-5.

Shaw PJ, Hopfensperger MJ, **Ganey PE, Roth RA**. Lipopolysaccharide and trovafloxacin coexposure in mice causes idiosyncrasy-like liver injury dependent on tumor necrosis factor-alpha. *Toxicol Sci*. 2007 Nov; 100(1):259-66.

Tukov FF, Luyendyk JP, **Ganey PE, Roth RA**. The Role of Tumor Necrosis Factor alpha in Lipopolysaccharide/Ranitidine-induced Inflammatory Liver Injury. *Toxicol Sci*. 2007 Nov;100(1):267-80.

Deng X, Luyendyk JP, Zou W, Lu J, Malle E, **Ganey PE, Roth RA**. Neutrophil interaction with the hemostatic system contributes to liver injury in rats cotreated with lipopolysaccharide and ranitidine. *J Pharmacol Exp Ther*. 2007 Aug; 322(2):852-61.

Thomas J, Haseman JK, **Goodman JJ**, Ward JM, Loughran TP Jr, Spencer PJ. A review of large granular lymphocytic leukemia in Fischer 344 rats as an initial step toward evaluating the implication of the endpoint to human cancer risk assessment. *Toxicol Sci*. 2007 Sep;99(1):3-19.

Behrouz B, Drolet RE, Sayed ZA, Lookingland KJ, **Goudreau JL**. Unique responses to mitochondrial complex I inhibition in tuberoinfundibular dopamine neurons may impart resistance to toxic insult. *Neuroscience*. 2007 Jul 13;147(3):592-8.

Wagner JG, Jiang Q, **Harkema JR**, Illek B, Patel DD, Ames BN, Peden DB. Ozone enhancement of lower airway allergic inflammation is prevented by gamma-tocopherol. *Free Radic Biol Med*. 2007 Oct 15;43(8):1176-88.

Rodriguez TE, Falkowski NR, **Harkema JR**, Huffnagle GB. Analysis of the Role of Neutrophils in Preventing and Resolving Acute Fungal Sinusitis. *Infect Immun*. 2007 Sep 17; [Epub ahead of print]

Buchweitz JP, Karmaus PW, **Harkema JR**, Williams KJ, **Kaminski NE**. Modulation Of Airway Responses To Influenza A/PR/8/34 By Delta-9-Tetrahydrocannabinol In C57BL/6 Mice. *J Pharmacol*

Exp Ther. 2007 Nov;323(2):675-83.

Miller R, **Kaneene JB**, Schmitt SM, Lusch DP, Fitzgerald SD. Spatial analysis of *Mycobacterium bovis* infection in white-tailed deer (*Odocoileus virginianus*) in Michigan, USA. *Prev Vet Med*. 2007 Nov 15;82(1-2):111-22.

Rose LV, Arthur AE, Hong SY, Chanda A, **Linz JE**. The initiation and pattern of spread of histone H4 acetylation parallel the order of transcriptional activation of genes in the aflatoxin cluster. *Mol Microbiol*. 2007 Oct 5; [Epub ahead of print]

Rose LV, Beaudry RM, Arthur AE, Calvo AM, **Linz JE**. *Aspergillus Volatiles Regulate Aflatoxin Synthesis and Asexual Sporulation in Aspergillus parasiticus*. *Appl Environ Microbiol*. 2007 Sep 21; [Epub ahead of print]

Parsons MJ, **Long DT**, Yohn SS, Giesy JP. Spatial and temporal trends of mercury loadings to Michigan inland lakes. *Environ Sci Technol*. 2007 Aug 15;41(16):5634-40.

Li X, Hupp AM, **McGuffin VL**. The thermodynamic and kinetic basis of liquid chromatography. *Adv Chromatogr*. 2007;45:1-88.

Gray JS, **Pestka JJ**. Transcriptional regulation of deoxynivalenol-induced IL-8 expression in human monocytes. *Toxicol Sci*. 2007 Oct;99(2):502-11.

Xue L, **Pestka JJ**, Li M, Firestone GL, Bjeldanes LF. 3,3'-Diindolylmethane stimulates murine immune function in vitro and in vivo. *J Nutr Biochem*. 2007 Aug 16; [Epub ahead of print]

Holcombe SJ, Derksen FJ, **Robinson NE**. Electromyographic activity of the palatinus and palatopharyngeus muscles in exercising horses. *Equine Vet J*. 2007 Sep;39(5):451-5.

Derksen FJ, Williams KJ, **Uhal BD**, Slocombe RF, de Feijter-Rupp H, Eberhart S, Berney C, **Robinson NE**. Pulmonary response to airway instillation of autologous blood in horses. *Equine Vet J*. 2007 Jul;39(4):334-9.

Rosenman KD. Clean as a Whistle, But What about that Wheeze? *Am J Respir Crit Care Med*. 2007 Oct 15;176(8):731-2.

Dai Y, Proshlyakov DA, Zak JK, **Swain GM**. Optically Transparent Diamond Electrode for Use in IR Transmission Spectroelectrochemical Measurements. *Anal Chem*. 2007 Oct 1;79(19):7526-7533.

Park J, Galligan JJ, Fink GD, **Swain GM**. Differences in Sympathetic Neuroeffector Transmission to Rat Mesenteric Arteries and Veins as Probed by In Vitro Continuous Amperometry and Video Imaging. *J Physiol*. 2007 Nov 1;584(Pt 3):819-34.

Hansen AA, Herbert RA, Mikkelsen K, Jensen LL, Kristoffersen T, **Tiedje JM**, Lomstein BA, Finster KW. Viability, diversity and composition of the bacterial community in a high Arctic permafrost soil from Spitsbergen, Northern Norway. *Environ Microbiol*. 2007 Nov;9(11):2870-84.

Konstantinidis KT, **Tiedje JM**. Prokaryotic taxonomy and phylogeny in the genomic era: advancements and challenges ahead. *Curr Opin Microbiol*. 2007 Oct 6; [Epub ahead of print]

Smith DJ, Park J, **Tiedje JM**, Mohn WW. A large gene cluster in Burkholderia xenovorans encoding abietane diterpenoid catabolism. *J Bacteriol*. 2007 Sep;189(17):6195-204.

Yang C, Klein EA, Assoian RK, Kazanietz MG. Heregulin promotes breast cancer cell proliferation via Rac/Erk-dependent induction of cyclin D1 and p21cip1. *Biochem. J.* (in press) 2007.

EITS, continued from page 6

Dr. Robert Roth, EITS graduate program director, noted that the CIT was pleased to be able to defray the costs for these trainees to be involved in these meetings.

"The QBMI program was a great opportunity to showcase here on campus some of our trainees work and to let new MSU students know about our interdisciplinary research opportunities," Roth said.



EITS trainee Stephan Carey, DVM.

Over 6.5 million in New Funding Accepted

Faculty affiliated with the CIT had the following new grants and contracts totaling \$6,578,997 accepted in first year funding by the MSU Board of Trustees at their June and September 2007 meetings. In addition to the grants and contracts listed here, another \$9,575,804 was accepted in renewals, continuations or supplemental funding for existing research projects headed by CIT affiliates.

Steven Bursian received \$183,300 from Entrix, Inc. for Assessment of Furan Toxicity in Developing Avian Species; Bursian and Matthew Zwiernik received \$941,958 from Dow Chemical Company for "Mink Ruran Exposure Study."

Susan Ewart received \$14,652 from the David Hide Asthma and Allergy Research Center for "Epidemiology of Asthma: Risk and Prognosis in a Cohort From Birth to Adolescence."

John Goudreau, Seong Yu and Keith Lookingland received \$499,481 from the U.S. Department of the Army for "Environmental Neurotoxin Exposure-Induced Nuclear-Mitochondrial Cascade Mechanisms of Neurodegeneration"; Goudreau, Glen Ackerman and Alla Sikorskii received \$40,770 from the National Institutes of Health for "Michigan State University Parkinson Disease Clinical Center"; and Goudreau received \$19,551 from the University of Rochester for "Randomized, Double-Blind, Active (Pramipexole 0;5 MG TID) and Placebo Controlled Efficacy Study of Pramipexole Given," \$16,663 and

\$25,881 from Teva Neuroscience Inc. for "A Multicenter, Double-Blind, Randomized Start, Placebo-Controlled, Parallel-Group Study to Assess Rasagiline," and \$14,000 from Solvay Pharmaceuticals, Inc. for "A Multicenter, Randomized, Double-Blind, Placebo-Controlled Parallel Group Study of SLV308 as Adjunct Therapy to."

Jack Harkema received \$23,397 from the Electric Power Research Institute for "ICAPS: MSU Planning Project," \$46,621 from Vinyl Acetate Council for "Microscopic Examination of Neoplastic and Nonneoplastic Lesions in Nasal Airways of Rodents Exposed to Vinyl Acetate," \$24,891 from the Environmental Protection Agency for "Mechanistic Indicators of Childhood Asthma (MICA)," and \$3,703 from the University of Rochester for research.

Robert Hollingworth, Satoru Miyazaki, Wayne Jiang, and Zhongxiao Chen received \$1,450,000 from the U.S. Department of Agriculture for "Interregional Research Project No. 4 Minor Crop Pest Management Program for the North Central Region."

John Kaneene, Daniel Grooms, Carole Ann Bolin, Steven Bolin and Christopher Wolf received \$123,819 from the USDA Animal and Plant Health Inspection Service for "Michigan John's Disease Control Program."

Hui Li, Brian Teppen, and James Tiedje received \$367,000 from the U.S. Department of Agriculture for "Geochemical Controls on the Expression of Bacterial Antibiotic Resistance in Soil Minerals."

Laura McCabe and Vincent Young received \$429,000 from the Crohn's and Colitis Foundation for "Mechanisms of IBD Suppression of Skeletal Growth and Mineral Density."

Nigel Paneth received \$75,500 from the National Institutes of Health for "Oxygen and Phototherapy in the Perinatal Period Risk of Acute Lymphocytic Leukemia"; Paneth, Kenneth Frank, Madeleine Honig Lenski, and Mohammad Rahbar received \$250,000 from the Michigan Department of Education for "Conductive Educational Evaluation Program for Children with Cerebral Palsy"; and Paneth and Herbert Davies received \$351,912 from the National Institutes of Health for "Training Program in Perinatal Epidemiology."

N. Edward Robinson received \$18,055 from Stirling Products Ltd. for "Dose Range Finding Study of R-Albuterol (R-Salbutamol) in Horses with Heaves (RAO)."

Kenneth Rosenman received \$28,087 from the Michigan Department of Community Health for "Sudden Cardiac Death Review."

Robert Roth, Patrica Ganey, and John LaPres received \$278,580 from the National Institutes of Health for "Neutrophils and Hepatotoxicity."

James Tiedje and Terence Marsh received \$395,536 from the U.S. Department of Energy for "Metagenomics-Enabled Understanding of the Functions and Activities of Microbial Communities at ERSF Field Research"; Tiedje received \$350,000 from the U.S. Department of Energy for "Integrated Genome-Based Studies of Shewanella Ecology."

Thomas Voice and David Long received \$144,500 from the Fogarty International Center for "Training and Research in Environmental Health in the Balkans"; Voice, VV Tarabara, and Merlin Bruening received \$462,140 from the National Science Foundation for "U.S.A.-Ukraine-France-Russia Partnership New Generation Synthetic Membranes: Nanotechnology for Drinking Water Safety."

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