

Department of: Biochemistry and Molecular Biology

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1. Refereed publications and book chapters

Dr. Alter

J. Nuss, D. Sweeney, and G.M. Alter, 'Reactivity-based Analysis of Domains Structures in Native Replication Protein A', *Biochemistry*, 45, 9804-9818, 2006.

Dr. Berberich

K. Heminger, M. Kadakia, B. Dwarakanth and S.J. Berberich, 'Altered Gene Expression Induced by Ionizing Radiation and Glycolytic Inhibitor 2 deoxyglucose in a Human Glioma Cell Line: Implications for Radio Sensitization', *Cancer Biology & Therapy*, 5, 815-823, 2006.

D. Paull, K. Heminger, and S.J. Berberich, 'Invited Commentary on Tsubochi et.al., *Annals of Thor. Surgery*, 82, 1204, 2006.

Dr. Kadakia

K. Heminger, V. Jain, M. Kadakia, B. Dwarkanath, S.J. Berberich, 'Altered Gene Expression Induced by Ionizing Radiation and Glycolytic Inhibitor 2-deoxy glucose in a Human Glioma Cell Line: Implications for Radio Sensitization.', *Cancer Biol Ther*, 5, 815-823, 2006.

R. Kommagani, T.M. Caserta, M.P. Kadakia, 'Identification of Vitamin D Receptor as a Target of p63', *Oncogene*, 25, 1-7, 2006.

T.M. Caserta, R. Kommagani, Z. Yuan, D. Robbins, C. Mercer, M. Kadakia, 'p63 Overexpression Induces the Expression of Sonic Hedgehog', *Molecular Cancer Research*, 4, 759-768, 2006.

Dr. Leffak

G. Ghosh, M. Ritzi, M. Kemp, A. Schepers, G. Liu, M. Leffak, 'Differential Binding of Replication Proteins Across the Human c myc Replicator.', *Molecular & Cellular Biology*, 26, 5270-5283, 2006.

V. Potaman, M. Pytlos, V. Hashem, J. Bissler, M. Leffak, and R. Sinden, 'DNA Structures and Genetic Instabilities Associated with SCA10 (ATTCT)_n (AGAAT)_n Repeats Suggests a DNA Amplification Model for Repeat Expansion ', *Genetic Instabilities and Neurological Diseases*, 447-460, 2006.

Dr. Liu

S.J. Gray , G. Liu, A.L. Altman, L.E. Small, and E. Fanning, 'Discrete Functional Elements Required for Initiation Activity of the Chinese Hamster Dihydrofolate Reductase Origin Beta at Ectopic chromosomal Sites', *Exp. Cell Res. Epub Sept.* 28, 2006.

M. Ghosh, M. Kemp, G. Liu, M. Ritzi, A. Schepers, and M. Leffak, 'Differential Binding of Replication Proteins Across the Human c-myc Replicator. *Mol Cell Biol.*, 26, 5270-5283, 2006.

Dr. Organisciak

- B.W. Jones, R.E. Marc, C.B. Watt, D.K. Vaughan, D.T. Organisciak, 'Neural Plasticity Revealed by Light-Induced Photoreceptor Lesions.' *Advances in Experimental Medicine and Biology*, Eds. J.G. Hollyfield, R.E. Anderson, M.M. LaVail, Vol. 572 Springer, N.Y., 405-410, 2006.
- D.T. Organisciak, R. Darrow, Xiaorong Gu, L. Barsalou, J. Crabb, 'Genetic, Age and Light Mediated Effects on Crystallin Protein Expression in the Retina', *Photochem. Photobiol.*, 82, 1088-1096, 2006.
- M. Sun, S.C. Finnemann, M. Febbraio, L. Shan, S.P. Annangudi, E.A. Podrez, G. Hoppe, R. Darrow, D.T Organisciak, R.G. Salomon, R.L. Silverstein, S.L. Hazen, 'Light-induced Oxidation of Photoreceptor Outer Segment Phospholipids Generates Ligands for CD36-mediated Phagocytosis by Retinal Pigment Epithelium: A Potential Mechanism for Modulating Outer Segment Phagocytosis Under Oxidant Stress Conditions', *J. Bio. Chem.*, 281, 4222-4230, 2006.
- R. Grewal, D. Organisciak, P. Wong, 'Factors Underlying Circadian Dependent Susceptibility to Light Induced Retinal Damage.' *Advances in Experimental Medicine and Biology*, Eds. J.G. Hollyfield, R.E. Anderson, M.M. LaVail., Vol. 572 Springer, N.Y. , 411-416, 2006.
- T. Duncan, B. Wiggert, N. Wittaker, R. Darrow, D.T. Organisciak, 'Effect of Visible Light on the Retinoids in Normal and P23H-3 Transgenic Rat Retina: Characterization of a Novel Retinoic Acid Derivative Present in P23H-3 Retina', *Photochem. Photobiol.* , 82, 741-745, 2006.
- V. Palamalai, R.Darrow, D.T. Organisciak, M. Miyagi, 'Light-induced Changes in Protein Nitration in Photoreceptor Rod Outer Segments', *Molecular Vision*, 12, 1543-1551, 2006.

Dr. Reo

- B. Kuczynski and N. V. Reo, 'Evidence that Plasmalogen Protects Against Oxidative Stress in the Rat Brain In Vivo', *Neurochemical Research*, 31, 639-656, 2006.
- W. C. Chumlea, C. M. Schubert, N. V. Reo, S. S. Sun and R. M. Siervogel, 'Total Body Water for White Children and Adolescents and Anthropometric Prediction Equations: The Fels Longitudinal Study', *Kidney International*, 68, 2317-2322, 2005.

Dr. Seybold

- P.G. Seybold, 'QSPR Analysis of Solvent Effects on the Decay of the $^1\sigma_g$ State of Molecular Oxygen', *Internet Electronic Journal of Molecular Design* 5, 479-487. 2006.
- P.G. Seybold, M.J. O'Malley, L.B. Kier, and C.K. Cheng, 'Cellular Automata Stimulations of Vapor-Liquid Equilibria', *Australian J. Chem.* 59, 865-868. 2006.

2. Presentations and invited talks

Dr. Alter

- G. Alter, J. Nuss, J. Oberoi, T. Christian, M. Raymer, High Confidence Prediction of the Three Dimensional Structure of Replication Protein A, 8th Annual Midwest DNA Repair Meeting, Indianapolis, IN 6/3/2006 - 6/4/2006 (Poster).
- P. Anterson, L. Mitchell, T. Christian, M. G. Alter, M. Raymer, Protein Structure Probing Through Limited Proteolysis, Ohio Collaborative Conference on Bioinformatics, Athens, OH 6/28/2006 – 6/30/2006 (Poster).
- D. Sweeney, M. Raymer, G. Alter, Automation of Data Extraction in Chemical Reactivity Analysis Experiments, Ohio Collaborative Conference on Bioinformatics, Athens OH 6/28/2006 - 6/30/2006 (Poster).

Presentations

High Confidence Structure Predictions Using M-ran, Ohio Collaborative Conference on Bioinformatics, Athens OH, 6/28/2006 - 6/30/2006.

Protein Structures: Reverse Engineering Molecular Machines, Hiram College, Hiram OH, 10/26/2006.

Dr. Berberich

Presentations

- Altered Gene Expression Induced by Ionizing Radiation and Glycolytic Inhibitor 2 deoxy-glucose in a Human Glioma Cell Line: Implications for Radio Sensitization., 1st International Conference on 2-deoxy-D-glucose, Delhi, India, 11/6/2006 - 11/12/2006.
- Deciphering the MdmX Network: p53, Mdm2 and Beyond, Virginia Commonwealth University- Cancer Center, Richmond, VA, 4/4/2006 - 4/5/2006.
- Deciphering the MdmX Network: p53, Mdm2 and Beyond, MD Anderson Cancer Center, Houston TX, 5/4/2006 - 5/5/2006.
- Deciphering the MdmX Network: p53, Mdm2 and Beyond, BMB Department, Wright State University, Dayton, OH, 6/6/2006 - 6/9/2006.
- The p53 Tumor Suppressor Gene: Mutations are Only Half the Story., Pathology Department, Wright State University, Dayton, OH, 11/1/2006.

Dr. Kadakia

- R. Kommagani, T.M. Caserta, M.P. Kadakia, Regulation of Vitamin D Receptor Pathway by p63 and its Implications on VitaminD3 mediated Differentiation, 13th Workshop on Vitamin D, Victoria, BC Canada 4/8/2006 – 4/12/2006 (Poster).
- T.M. Caserta, R. Kommagani, Z. Yuan, D. Robbins, C.I Mercer, M. Kadakia, p63g induces the expression of Sonic Hedgehog, 13th Annual p53 Workshop, Columbia University 5/20/2006 – 5/24/2006 (Poster).
- S.K. Khokhar, T.M. Caserta, R. Kommagani, M.P. Kadakia, Effect of p63 on p53 Mediated transactivation, 13th Annual p53 Workshop, Columbia University 5/20/2006 – 5/24/2006 (Poster).
- R. Kommagani, T.M. Caserta, M.P. Kadakia, Regulation of Vitamin D Receptor pathway by p63, 13th Annual p53 Workshop, Columbia University 5/20/2006

- 5/24/2006 (Poster).

J.E. Van Nostrand, C.S. Levin, J.M. Slocik, J.D. Hartgerink, N.J. Halas, M.P. Kadakia, and R.R. Naik, Biofunctionalized Nanoshells for Biological Detection, AVS 53rd International Symposium (San Francisco, CA) 11/12/2006 – 11/17/2006 (Platform).

M. Gupta, D.M. Phillips, T.M. Caserta, L.A. Sowards, L.F. Drummy, M.P. Kadakia and R.R. Naik, Micropatterned Silk Films for Cell Growth., Materials Research Society meeting, San Francisco, CA 4/17/2006 – 4/21/2006 (Platform).

Presentations

Role of p63 in Cancer and Development, University of Dayton, University of Dayton, Dept. of Biology, 3/23/2006.

Dr. Leffak

M. Leffak, Cellular Models of DNA Replication-Related Human Disease, Gene Therapy and Molecular Biology, Crete, Greece 9/2/2006 – 9/8/2006 (Platform).

Presentations

Drug Interactions with the c-myc DNA Unwinding Element Binding Protein DUE-B, Laboratory of Clinical Investigation, Drug Discovery Branch, NIH, Washington, D.C., 3/31/2006.

Dr. Organisciak

R.M. Kelln, M.A. Chrenek, R. Darrow, D.T. Organisciak, V. Vasireddy, R. Ayyagari, P. Wong, Cellular Localization of 1363, an Uncharacterized Gene Identified in a Screen for Differentially Expressed Light Induced Retinal Degeneration Genes in the Rat, The Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL 4/30/2006 - 5/4/2006 (Poster).

M. Miyagi, V. Palamalai, R.M. Darrow, D.T. Organisciak, Comparative Proteome Analysis of Light Exposed and Unexposed Photoreceptor Rod Outer Segments, The Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL 04/30/2006 - 05/04/2006 (Poster).

D.T. Organisciak, R.M. Darrow, L.S. Barsalou, B. McDonald, P. Wong, Circadian and Stress Induced Changes in Rod Outer Segment Crystallins, The Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL 04/30/2006 - 05/04/2006 (Poster).

M. Chrenek, A.C. Ziesel, R.M. Darrow, L. Barsalou, D.T. Organisciak, P. Wong, Differential Expression of Cope During Light Induced Retinal Damage in Rats, The Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL 04/30/2006 - 05/04/2006 (Poster).

Presentations

Age Related Vision Loss, Focus on Healthy Aging, Wright State University, Dayton, OH, 10/24/2006.

Dr. Paliy

O. Paliy, N. Kelley-Loughnane, S. Trott, J. Lynch, E. Lester, B. Foy, and J. Frazier, Cell-Like Entity: stable, non-living biological construct, Synthetic Biology v2.0, Berkeley, CA 05/19/2006 - 05/22/2006 (Poster).

Dr. Prochaska

T.L. Cvetkov, L.A. Shroyer, and L. J. Prochaska, Biophysical and biochemical properties of Rhodobacter sphaeroides cytochrome c oxidase in purified phospholipids vesicles, Biophysical Society, Salt Lake City, UT 2/16/2006 – 2/20/2006 (Poster).

T.L. Cvetkov, L.A. Shroyer, and L. J. Prochaska, Biophysical and biochemical properties of Rhodobacter sphaeroides cytochrome c oxidase in purified phospholipids vesicles, Gordon Research Conference on Molecular and Cellular Bioenergetics, Andover, NH 6/17/2006 - 6/21/2006 (Poster).

Presentations

Biophysical and Biochemical Properties of Rhodobacter Sphaeroides Cytochrome C oxidase in Purified Phospholipids Vesicles., Gordon Research Conference on Molecular and Cellular Bioenergetics, Andover, NH, 6/17/2006 - 6/21/2006.

Dr. Reo

D.A. Mahle, N.J. DelRaso, M.L. Raymer, A.E. Neuforth, M.P. Westrick and N.V. Reo, Combined Urine and Plasma Metabolomic Analysis of a naphthylisothiocyanate (ANIT) Liver Toxicity in the Rat., Metabolomics Society Second Scientific Meeting, Boston, MA 6/24/2006 - 6/29/2006 (Poster).

J. Hollyfield, J. Dean, R. Putnam and N.V. Reo, Effects of Oxygen Toxicity on Rat Brain Metabolism: A NMR Study, Central Research Forum, Wright State University 2/9/2006 – 2/9/2006 (Poster).

M. Kent, D. Boverhof, T. Zacharrewski, and N V. Reo, A NMR Metabolomics Analysis of Dioxin-Induced Changes in a Mouse Model, Central Research Forum, Wright State University 2/9/2006 – 2/9/2006 (Poster).

D.A. Mahle, N.J. DelRaso, S.C. Gustafson, C.L. Leakeas, M.P. Westrick, A.E. Neuforth and N.V. Reo, Comparison of Plasma and Urine Samples from ANIT-Exposed F344 Rats Using NMR Spectroscopy, Central Research Forum, Wright State University 2/9/2006 – 2/9/2006 (Poster).

M. Kent, N.V. Reo, G.L. Jahns, V. DelRaso, D. Boverhof, L. Burgoon, D. Jump and T. Zacharewski, Metabolomic Analysis of Lipid and Aqueous Liver Extracts in TCDD-Treated Mice, Empowering Environmental health Sciences Research with New Technologies, A Conference on Omic Applications in the Environment Health Sciences, Chapel Hill, NC 12/4/2006 – 12/6/2006 (Platform).

Presentations

NMR Studies of Tissue Phospholipid Metabolism in Toxicology, Department of Environmental Health, University of Cincinnati, 5/31/2006. Tissue Phospholipid Metabolism, Department of Pharmacology and Toxicology, Wright State University, 5/24/2006.

3. Invitations to participate or chair symposia

Dr. Alter

Ohio Collaborative Conference on Bioinformatics (OCCBIO), Reactivity Based Prediction of a Multi-domain Protein, Replication Protein A, 6/28/2006 - 6/30/2006, Athens OH. (Session Chair)

4. Editorial board memberships

None

5. Granting Agency Study Section Memberships

Dr. Alter

American Heart Association

National Science Foundation

Dr. Berberich

National Science Foundation

National Cancer Institute (NIH)-Jan 06: Cancer Molecular Pathobiology Study Section

National Cancer Institute (NIH)-Oct 06: Cancer Molecular Pathobiology Study Section

Targeted Protein Assessment- Mdm2

WSU Research Challenge

Dr. Kadakia

Air Force Office of Scientific Research

Breast Cancer Campaign

Dr. Leffak

Israel Cancer Research Foundation

Dr. Paietta

National Science Foundation

Dr. Prochaska

American Chemical Society-Petroleum Research Fund

American Heart Association Ohio Valley/Southern Affiliate

6. Offices held in National professional organizations

Dr. Kadakia

Associate member in the American Association of Cancer Researchers

Dr. Organisciak

Academy of Medicine Board of Trustees (1998-2008)

Board of Governors Ohio BRTT project on Age Related Macular Degeneration appointed (2005-2008)

Board of Trustees Sinclair Community College Biotechnology Program (2003-)

Guest Editorial Board Member, Investigative Ophthalmology and Visual Science

Trustee Biochemistry and Molecular Biology, Association for Research in Vision and Ophthalmology (ARVO) elected 2002-2007 (Vice President 2006-2007)

Dr. Prochaska

Board of Directors, American Heart Association, Miami Valley, Dayton

Chair of American Heart Association Ohio Valley-Southern Consortium, Peer Review Study Section on Molecular Biology

Secretary/Treasurer Sigma Xi- WSU Chapter

Treasurer of Bioenergetics subgroup of the Biophysical Society-elected position 2005-2007

Dr. Alter

Consultantships; Intrexon Corp., Roanoke, VA

Dr. Paliy

Consultantships; Sergey Gazenko, NovaLogix, Inc.

7. Special events, symposia or colloquia

Winter Quarter 2006:

Dr. Kathrin Engisch, Dept. of Neuroscience, Cell Biology and Physiology, Wright State University

Dr. Dawn Chandler, Department of Pediatrics, The Ohio State University School of Medicine and Public Health

Dr. Elsa Flores, Department of Molecular and Cellular Oncology, The University of Texas M.D. Anderson Cancer Center

Dr. Timothy Cope, Dept. Of Neuroscience, Cell Biology and Physiology, Wright State University

Dr. John Rowe, Department of Biology, University of Dayton

Dr. Frank Soennichsen, Department of Physiology and Biophysics, Case Western Reserve University

Dr. Richard Sinden, Center for Genome Research, Institute of Biosciences and Technology, Texas A&M University

Spring Quarter 2006:

Dr. George Thomas, GRI-Genome Science, University of Cincinnati

Dr. Laszlo Csonka, Department of Biological Sciences, Purdue University

Dr. Julian Cambroner, Dept. of Neuroscience, Cell Biology and Physiology, Wright State University

Dr. Anja-Katrin Bielinsky, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota Medical School

Dr. Han-Fei Ding, Department of Biochemistry and Cancer Biology, Medical University of Ohio

Dr. Andrew Herr, Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati

Dr. Daniel T. Organisciak, Department of Biochemistry and Molecular Biology, Wright State University

Dr. Steve Berberich, Department of Biochemistry and Molecular Biology, Wright State University

Fall Quarter 2006:

Dr. Amy Davidson, Department of Chemistry, Purdue University

Dr. Hua Lu, Department of Biochemistry and Molecular Biology, Oregon Health and

Sciences University

Dr. Paul R. Andreassen, Department of Pediatrics, Cincinnati Children's Hospital
Medical Center

Dr. Yue Zou, Department of Biochemistry and Molecular Biology, East Tennessee State
University

Dr. John Kopchick, Department of Biomedical Sciences, Ohio University

Dr. Timothy Zacharewski, Department of Biochemistry and Molecular Biology,
Michigan State University

8. Faculty who were awarded professional development leave

None

9. Faculty, staff or students who were given awards locally, nationally or internationally

Cheryl K. Little received the President's Award for Excellence in Leadership.

Dr. Nicholas Reo received the SOM Student's Teaching Award.

10. Outreach programs

Dr. Organisciak participated in Mini-Med. School at Wright State University,
Dayton, OH, "Age Related Vision Loss, Focus on Healthy Aging," 10/24/2006.

11. Student clubs and activities

none

12. Undergraduate honors students

none

13. Off campus or special interest courses

None

14. Graduate students

Dr. Alter

Twinkle Christian, M.S., "Use of Chemical and Enzymatic Modifications to Aid in the Analysis of Protein Three Dimensional Structures", working in California.

Dr. Leffak

Michael Kemp, Ph.D., "Regulation of DNA Replication Initiation By Histone Acetylation and the DNA Unwinding Element Binding Protein Due-B", Univ. of North Carolina, Chapel Hill.

Dr. Paliy

Kruthi Murthy, M.S. (M&I student), "Phenotypic Characterization of Escherichia coli Strains Isolated from Human Intestinal & Urinary Tracts"