



CURRICULUM VITAE

Ali Mallakin, Ph.D.

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CAREER AND AREAS OF SPECIAL INTEREST

My career path and general interests are in the areas of Molecular Biology/Toxicology, Cancer Biology, Pathology and Nanotechnology. My current research is focused on the followings:

- . Study the aberrant expression, deletion and mutation of a tumor suppressor gene (*hDMP1*) and its related targets in human lung and breast cancer. This study provided a new evidence on Dmp1 regulation by E2Fs and suggests the importance of *hDMP1* transcription factor in *Ras-ARF* signaling.
- . Identify the gene loci involved in the pathogenesis of Breast and lung cancer; conducting a genome search of loss of heterozygosity (LOH). Application of gene micro-array to extent our observation of the complicated process of lung carcinogenesis and pattern of gene expression
- . Nanotechnology in cancer research. I am incorporating nanotechnological approaches in my cancer research as a powerful tool in detection and treatment of cancer.

EDUCATION

- 1995 – 2000 Ph.D.; Molecular Biology/Toxicology, Department of Biological Sciences, Faculty of Science, University of Waterloo, ON, Canada
- 1992 – 1994 M.Sc.; Microbial Biotechnology Laboratory, Department of Biological Sciences, Faculty of Science, University of Waterloo, ON, Canada
- 1990 – 1992 Biochemistry & Microbiology, University of Vienna & EÖtvös Lorand University
- 1984 – 1988 B.Sc. (Hons); Dept. of Biological Sciences, National University of Tehran (SBU)
- 1978 – 1984 Junior High (grades 7-9), Senior High (grades 10-12) Secondary Education; Don Bosco School (College)

PROFESSIONAL EXPERIENCE

- 2004 – Present NIH (AACR) Research Scientist (Cancer Biology & Pathology); Wake Forest University Health Sciences, Baptist Medical Centre, Winston-Salem, NC, USA
- 2003 – 2004 Research and Course Lecturer (CUPE); York University, ON, CA
- 2001 – 2003 NIH Senior Research Fellow (PDF); LSUHSC, School of Medicine, New Orleans, LA, USA
- 2000 – 2001 NIH Postdoctoral Fellow (PDF); Children Hospital Medical Center, Cincinnati, OH, USA
- 1994 – 1995 Assistant Manager (Microbial Remediation); Biorem Inc., Waterloo, ON, CA
- 1988 – 1990 Research & Development (Pharmaceutical R&D); VIRA Pharmaceutical Inc.

PROPOSALS WRITTEN FOR FUNDINGS

- . Two pre-proposals (Breast Cancer Center of Excellence Award and Clinical Translational Research Award “CTR”), and one proposal (Concept Award Proposal) have been written for Congressionally Directed Medical Research Programs (CDMRP), 2005. CTR pre-proposal was accepted.
- . Research grant proposal for AACR Astra Zeneca-Cancer Research and Prevention Fellowship in Translational Cancer Research, 2004.

Citizenship: Canadian citizen with residency in USA. Fluent in English, familiar with French and German.

AWARDS, HONOURS & PROFESSIONAL AFFILIATIONS

- . National University (USB) Scholarship
- . University of Waterloo Graduate Scholarship
- . Ontario Graduate Student Scholarship (OGS) Award
- . CNTC (Laurentian Chapter of SETAC) Award, 1996
- . Society of Toxicology and Chemistry (SETAC) Award, 1997
- . Active Member (*Research Scientist*) of AACR (American Association of Cancer Research), 2005
- . Member of NSPIRES (NASA Solicitation & Proposal Integrated Review and Evaluation System), 2005
- . Member of ARVO (The Association for Research in Vision and Ophthalmology)
- . Member of ASME (American Society of Mechanical Engineering), 2005
- . Member of Environmental Mutagen Society
- . Member of Society of Toxicology and Chemistry (SETAC)

TECHNICAL SKILLS AND METHODOLOGY

Molecular/Cancer Biology, Toxicology, Regulations and Licenses:

- . Genomic DNA, Total RNA, Protein Isolation, Loss of Heterozygosity Analysis (LOH)
- . Southern, Northern, and Western Blotting, In-vitro Mutagenesis, Plasmid Isolation
- . Work with Transgenic, Knockout Mice and Handling of Laboratory Animals
- . High Performance Liquid Chromatograph (HPLC), Gas Chromatograph (GC/FID), EC
- . Chemical Extraction Techniques and Toxicology Bioassays, Pathology
- . Spectrophotometer and Fluorometer (Chl *a* Fluorescence Technique)
- . Oxygen Electrode (Electron Transport Chain), Laser Capture Microdissection (LCM)
- . PCR (Quantitative, Semi-Qua., Light Cycle PCR), RT-PCR, DNA and RNA Extraction
- . Gene Microarray and Genomic Analysis (Affymatrix, Genespring)
- . Histology, Immunohistochemistry, Different Staining and Tissue Culture Analysis
- . Flow Cytometry, Cytolytic Assays, Scanning Electron Microscopy, Microscopy
- . Slit Lamp Exam (SLE), Ocular Iontophoresis, Pacometer, Ultrasound Microscopy
- . Experience with GLP, cGMP, FDA Regulations (Biomedical)
- . Atomic Force Microscopy (AFM), micro-cantilever sensors

Microbiology:

- . Agarose and Polyacrylamide gel Electrophoresis (SDS-PAGE, Native)
- . Knowledge of General Techniques Use in Microbiology and Virology
- . Isolation of Degrading Bacteria from Contaminants
- . Microbial Degradation of BTEX Compounds
- . Radioisotope Usage (C₁₄, S₃₅, P₃₂), Scintillation Counting
- . Biological Filtration of VOCs by Use of Microorganisms

Computer Skills:

- . Computer: HTML, Unix, and Linux, Windows NT/2000
- . Softwares: Knowledge of Numerous Software Packages, EZ-Chrom Chromatography, Gene Chip, Gemtool, Genespring and Affymatrix including Excel, SigmaPlot, Gaussian, AVS, HTML (Basic)
- . MS office application and its new components

ACTIVE RESEARCH COLLABORATION

- . Have been conducted a research study in computational microscopy and chemical shape modelling in collaboration with [*P. Mezey Home Page*](#).
- . Collaboration with JPL, NASA and Y. Bar-Cohen laboratory to explore an electroactive materials, [*Y. Bar Cohen Home Page*](#).
- . Collaboration with A. Al-Jumaily at Wellesley Campus research center, New Zealand on material science, www.dcrc.info.

LANGUAGES

- . Fluent in **English** (writing and speaking); Familiar with **French** and **German** in the level of technical work and understanding.
- . Member and professional translator of **maxims** for Verba-Volent. Maxims selected from the greatest philosophers, writers and poets of all times, VerbaVolent Home Page.

TEACHING EXPERIENCE

Classroom Teaching

- . Thought Biology, Bio/Chemistry, Physics, Microbiology, Mathematic, Data Management, Human Physiology and Toxicology settings:
 - Beginning, intermediate and advanced students
 - Teaching assistant, 1992-2000 (UFW), Laboratory teaching and tutoring for specific courses such as microbiology, techniques used in microbiology, isolation and identification of bacteria, growth media; Fermentation technologies, wine making, structure of fermentors and bioprocesses, industrial techniques used for identification of bacteria, metabolism and toxicity; Human physiology; Toxicology, statistical analysis, bioassays studies, toxicity tests.

Counselling/training

- . Advised students on complex personal and academic issues: Employment, Housing & landlord concern, Health and medical resources, Exams and class level placement

Curriculum development & Course Evaluation

- . Improved existing curriculum, incorporating more diversity to respond both to needs and interests of students and to knowledge gained from academic research.

PAPER REVIEWED FOR JOURNALS

1. Kleinheinz, G.T. and W.P.St. John. *Reviewed at 1998*. Method comparison for quantification of a complex mixture of VOC's in a biofiltration unit. *ASTM Symposium and Publication on Environmental Risk Assessment & Monitoring*.
2. Marquat, M.E., P.S. Bhattacharjee, X. Zheng, H.E. Kaufman, E.D. Varnell, and J.M. Hill. *Reviewed at 2002*. Ocular reactivation phenotype of HSV-1 strain F(MP)E, a corticosteroid sensitive strain. *Investigation Ophthalmology & Visual Science*.
3. Guiraud, P., D. Villemain, M. Kadri, O. Bordjiba, and R. Steiman. *Reviewed at 2002*. Bioremediation capability of *Absidia fusca* Linnemann towards environmental pollutants. *Chemosphere*.
4. Higaki, S., B.M. Gebhardt, W.J. Lukiw, H.W. Thompson, J.M. Hill. *Reviewed at 2002*. Gene Expression Profiling in the HSV-1 latently infected mice Trigeminal Ganglia following hyperthermic stress. *Investigation Ophthalmology & Visual Science*.
5. Xavier Sentenac, Marie-Jeanne Richard, Régine Steiman, and Pascale Guiraud. *Reviewed at 2004*. Oxidative damage induced in biological macromolecules by UVA-irradiated anthracene. *Free Radical Biology and Medicine*.
6. Ramesh B. Sreeramaneni, Asif Chaudhry, Martin McMahon, Charles J. Sherr, and Kazushi Inoue. *Reviewed at 2004*. Ras-Raf-Arf signaling critically depends on the Dmp1 transcription factor. *Molecular and Cellular Biology*.

UNDERGRADUATE RESEARCH SUPERVISION

- . Supervised Graduate students in the research projects related to Herpes Simplex Virus (HSV-1). Coordinated the procedures of dissections, animal handling and different laboratory analysis (2001-2003).
- . Supervised the research project for degradation study of polycyclic aromatic hydrocarbons (PAHs) by use of *Pseudomonas putida*.. Investigated symbiosis between Canola plant and PGPR (1997-1998).

PUBLICATIONS

Refereed Journal Publications

15. **Mallakin A.**, K. Inoue. 2005. The Arf-inducing transcription factor Dmp1 encodes a transcriptional activator of amphiregulin". Under preparation.
14. **Mallakin A.**, P. Tenaja, L. Matis, M. Willingham, K. Inoue. 2005. Specific expression of Dmp1 in differentiated, non-proliferating cells and its regulation by E2Fs. Submission to *Cancer Research*.
13. **Mallakin A.**, L.W. Kutcher, S.A. McDowell, S.Kong, R. Schuster, A.B. Lentsch, B.J. Aronow, G.D. Leikauf and Susan E. Waltz. 2005. Gene Expression Profiles of Mst1r Deficient Mice During Nickel-Induced Acute Lung Injury. *American Journal of Respiratory Cell and Molecular Biology*. Revised and resubmitted to the journal. Draft is available in PDF format.
12. **Mallakin, A.**, K. Inoue., V.M. Guthold. 2005. In-situ Quantitative Analysis of Tumor Suppressor Protein (hDmp1) Using a Nanomechanical Cantilever Beam. *Vibrations and Acoustics in Bio-mechanical Systems / ASME*. DETC2005-84503.
11. **Mallakin A.**, P.G. Mezey, Z. Zimpel, K.S. Berenhaut, B.M. Greenberg and D.G. Dixon. 2005. Use of Quantitative Structure-activity Relationship to Model the Photoinduced Toxicity of Anthracene and Oxygenated Anthracenes. *QSAR and Combinatorial Science*. Vol 24, (6): 80-89.
10. Myles M.E., C. Alack, P.M. Manino, E.R. Reish, S. Higaki, K. Maruyama, **A. Mallakin**, F.A. Ragan, J.M. Hill. 2003. Nicotine applied by transdermal patch induced HSV-1 ocular shedding in latently infected rabbits. *Journal of Ocular Pharmacology and Therapeutics*. Vol 19(2):121-133.
9. Bhattacharjee P., R. Tran, M.E. Myles, K. Murayama, **A. Mallakin**, D.C. Bloom and J.M. Hill. 2003. Overlapping subdeletions within a 348-bp in the 5' exon of the LAT region that facilitates epinephrine-induced reactivation of HSV-1 in the rabbit ocular model do not further define a functional element. *Virology* Vol 312 (1), 151-158.
8. **Mallakin A.**, S.T. Babu, D.G. Dixon, B.M. Greenberg. 2002. Mechanisms of toxicity of specific photooxidation products of anthracene to higher plants: inhibition of photosynthetic activity and electron transport in *Lemna gibba* L.G-3 (duckweed). *Enviro. Toxicology* Vol 17 (5), 462-471.
7. McDowell S.A., **A. Mallakin**, K. Toney-Early, T. Bruno, H. Melin-Aldana, D.R. Prows, C.J. Bachurski, K. Kaestner, S.J.F. Degen, G.D. Leikauf and S.E. Waltz. 2002. Deletion of the tyrosine kinase domain of Ron/Stk augments the response to nickel-induced acute lung injury. *American Journal of Respiratory Cell and Molecular Biology*. Vol 26 (1), 99-104.
6. **Mallakin A.**, D.G. Dixon and B.M. Greenberg. 2000. Pathway of anthracene modification under simulated solar radiation. *Chemosphere* Vol 40 (12),1435-1441.
5. **Mallakin A.**, B.J. McConkey, G. Miao, B. Mckibben, V. Sniekus, D.G. Dixon and B.M. Greenberg. 1999. Impacts of structural photomodification on the toxicity of environmental contaminants: anthracene photooxidation products. *Ecotoxicolog and Environmental Safety*. Vol 43 (2), 204-212.
4. Greenberg B.M., X.D. Huang, **A. Mallakin**, S.B. Babu, C.A. Duxbury, J.B. Marder. 1997. Inhibition of photosynthesis by polycyclic aromatic hydrocarbon pollutants. *Plant Physiology*. Vol 114 (3), 204-206.

3. **Mallakin A.**, and O.P. Ward. 1996. Degradation of BTEX compounds in liquid media and peat biofilters. *Journal of Industrial Microbiology*. Vol 16 (5), 309-318.
2. Rahnama A.M., **A. Mallakin**. 1994. Characteristics and amino acid sequence of manganese peroxidase from cultures of *Agaricus bisporus* grown on rice and wheat straw. *Bioresour Technol*. 82 (5):277-282.
1. Rahnama A.M., **A. Mallakin**. 1993. Investigation of fungal bioprocessing for production of thermoplastic composites. *Biotechnol*. Vol (10), 223-226.

Non-refereed Publications (Conference Abstracts & Platforms)

34. **Mallakin A.**, Oktay Kaplan, Mark Willingham, Kazushi Inoue. Specific Expression of the *Dmpl* tumor suppressor in differentiated, non-proliferating cells. American Association of Cancer Research Annual Meeting. Anaheim, CA, April, 2005.
33. **Mallakin A.** Using Nanotechnology to Advance Cancer Diagnosis and Prevention as a Result of Space Missions. NASA Strategic Roadmap. Washington DC. December, 2004.
32. Bhattacharjee P.S., M.N. Nguyen, A. Azcuy, K. Maruyama, M.E. Myles, **A. Mallakin**, B. Gebhardt, G. Murdoch, M.J. Ball, J.M. Hill. Analysis of trigeminal ganglia and brain: infectious and genetic origin of possible risk factors for Alzheimer's disease. 15th Annual Retreat of Neuroscience Center of Excellence, LSUHSC, New Orleans, LA, USA, 1st March, 2003.
31. Maruyama K., B.M. Gebhardt, P.S. Bhattacharjee, **A. Mallakin**, M.E. Myles, A.M. Azcuy, M. Nguyen, Jan McColm, Y. Shimomura, J.M. Hill. Spread of HSV-1 Expressing Enhanced Green Fluorescent Protein following Anterior Chamber Inoculation in BALB/c mice. ARVO, Fort Lauderdale, FL, USA, 2003.
30. **Mallakin A.**, Y. Bar-Cohen, E. Smela, and J. Madden. Use of Dynamically Enhanced Electroactive Optic (DEEP) in Image Quality and Restoration of Sight in Patients. 7th WorldWide ElectroActive Polymer (WW-EAP) Newsletter, Vol. 4, No. 1, 2002.
29. Hill J.M., S. Higaki, W.J. Lukiw, B.M. Gebhardt, M.E. Myles, H.W. Thompson, **A. Mallakin**, K. Maruyama, P.S. Bhattacharjee, N.G. Bazan, and H.E. Kaufman. Gene Expression Analysis by Microarrays in HSV-1 Latent Trigeminal Ganglia (TG) Follow Treatment with Two Different Types of Inducers of Viral Reactivation. Herpes Workshop, Australia, July 20-25, 2002.
28. Myles M.E., C. Alack, P. Manino, E. Reish, S. Higaki, K. Maruyama, **A. Mallakin**, F. A. Ragan, J. M. Hill. Nicotine Applied by Transdermal Patch Induced HSV-1 Ocular Shedding in Latently Infected Rabbits. ARVO, Fort Lauderdale, FL, USA, Volume 43, May 5-10, 2002.
27. **Mallakin A.**, M. E. Myles, S. Higaki, K. Maruyama, N. M. Sawtell, R. L. Thompson, J. M. Hill. HSV-1 LAT Null Mutant has Low In Vivo Reactivation Frequency with an Increased Corneal Virulence in the Rabbit Eye Model. ARVO, Fort Lauderdale, FL, USA, Volume 43, May 5-10, 2002.
26. **Mallakin A.**, S.A. McDowell, K. Tony-Early, S.F. Waltz, G. Leikauf, S.F. Degen. Induced acute lung injury & inflammation in lungs of experimental model inhaling nickel sulfate: different gene expression & histopathology study. #011, page 6 of the 11th SETAC Europe Annual Meeting, Madrid, Spain, May 6-10, 2001.

25. **Mallakin A.**, S.A. McDowell, K. Toney-Earley, S.F. Degen, G.D. Leikauf, S.F. Waltz. Gene Expression Pattern Profiling During Acute Lung Injury in Mice Lacking the Tyrosine Kinase Domain of the Receptor Ron. University of Cincinnati and Procter & Gamble Pharmaceuticals. First Joint Scientific Colloquium, Cincinnati, Ohio, USA, March 30, 2001.
24. Greenberg B.M., D.G. Dixon, P. Mezey, T.S. Babu, C.L. Duxbury, **A. Mallakin**, and B.J. McConkey. The role of chemical modification in modeling the fate and toxicity of environmental contaminants. QSAR 98, Baltimore, Maryland, 1998.
23. Greenberg B.M., D.G. Dixon, P. Mezey, T.S. Babu, C.L. Duxbury, X.-D. Huang, Y. El-Alawi, **A. Mallakin**, C.A. Marwood, and B.J. McConkey. Structural photomodification dramatically changes the environmental fate and toxicity of PAHs. Society of Environmental Toxicology and Chemistry (SETAC), 19th SETAC North America Annual Meeting, Charlotte, North Carolina, USA, November 15-20, 1998.
22. Greenberg B.M., C. Marwood, T.S. Babu, C.L. Duxbury, X.-D. Huang, and **A. Mallakin**. Direct and indirect effects of UV radiation on plants and phytoplankton: PAH photoinduced toxicity and UVA/UVB damage. 19th SETAC North America Annual Meeting, Charlotte, NC, USA, November 15-20, 1998.
21. Greenberg B.M., T.S. Babu, C.L. Duxbury, **A. Mallakin**, J.B. Marder, C. Marwood, and K. Solomon. Investigating into the biochemical mechanisms of toxicity: use of photosynthesis as a bioindicator of toxicity. Eight Symposium on Environmental Toxicology and Risk Assessment. ASTM, Atlanta, Georgia, April, 1998.
20. **Mallakin A.**, S.T. Babu, Z. Zimpel, B.J. McConkey, P.G. Mezey, G.D. Dixon and B.M. Greenberg. Impact of Anthracene Derivatives on the Aquatic Higher Plant *Lemna gibba*; Photosynthesis Activity and Molecular Shape Modelling. Canadian Society of Plant Physiology (CSPP/SCPV), Toronto, Canada, CSPP/SCPV, Vol 42, No 1, P33, December 12-13, 1998.
19. **Mallakin A.**, S.T. Babu, Z. Zimpel, B.J. McConkey, P.G. Mezey, G.D. Dixon and B.M. Greenberg. Impact of Anthracene Derivatives on Photosynthetic Activity and Molecular Shape Modelling. Society of Environmental Toxicology and Chemistry (SETAC), #PHA174, page 287, 19th SETAC North America Annual Meeting, Charlotte, North Carolina, USA, November 15-20, 1998.
18. Greenberg B.M., T.S. Babu, C.L. Duxbury, Y. El-Alawi, **A. Mallakin**, B.J. McConkey, C. Marwood, K. Solomon, D.G. Dixon, and P.G. Mezey. Use of mitochondrial, photosynthetic and molecular endpoints for risk assessment of PAHs and PAH/metal mixtures. Canadian Network of Toxicology Centre (CNTC), Mississauga, Ontario, Canada, Vol 31, No 9, March 23-25, 1998.
17. Babu S.T., S. Tripuranthakam, **A. Mallakin** and B.M. Greenberg. Toxicity of the Polycyclic Aromatic Hydrocarbons, 1, 2-Dihydroxyanthraquinone and Copper on the Aquatic Plant, *Lemna gibba*. Canadian Network of Toxicology Centre (CNTC), Mississauga, Ontario, Canada, Vol 31, No 9, March 23-25, 1998.
16. **Mallakin A.**, S.T. Babu, B.J. McConkey, G. Miao, V. Sniekus, P.G. Mezey, D.G. Dixon and B.M. Greenberg. Nature of Toxicity and Impact of Anthracene Derivatives to the Aquatic Higher Plant *Lemna gibba*. Canadian Network of Toxicology Centre (CNTC). Mississauga, Ontario, Canada, Vol 31, No 9, March 23-25, 1998.
15. Greenberg, B.M., T.S. Babu, C.A. Duxbury, X-D. Huang, **A. Mallakin**, J.B. Marder, C.A. Marwood and K.R. Solomon. Mechanistic and whole organism bioindicator validation: Photosynthesis as an indicator of contaminant impact. SETAC Annual Meeting, San Francisco, CA, Nov. 16-20, 1997.

14. Greenberg, B.M., D.G. Dixon, P. Mezey, V. Snieckus, T.S. Babu, C.L. Duxbury, Y.S. El-Alawi, **A. Mallakin**, B.J. McConkey and G. Miao. The role of chemical photomodification in the toxicity of organic contaminants. SETAC Annual Meeting, San Francisco, CA., Nov. 16-20, 1997.
13. Greenberg, B.M., D.G. Dixon, P. Mezey, V. Sniekus, T.S. Babu, C.L. Duxbury, Y.S. El-Alawi, **A. Mallakin**, B.J. McConkey, and G. Miao, Environmental chemical modification in contaminant risk assessment. Aquatic Toxicity Workshop, Niagara Falls, ONT, Oct. 19-21, 1997.
12. Greenberg, B.M., T.S. Babu, C.A. Duxbury, X. -D. Huang, **A. Mallakin**, J.B. Marder, C.A. Marwood, and K.R. Solomon. What can be learned from investigations into the biochemical mechanisms of toxicity? Adventures in photosynthesis. Aquatic Toxicity Workshop, Niagara Falls, Ont., Oct. 19-22, 1997.
11. **Mallakin A.**, S.T. Babu, B.J. McConkey, B. Miao, V. Sniekus, P.G. Mezey, D.G. Dixon and B.M. Greenberg. Photoinduced Toxicity of Specific Photooxidation Products of Oxygenated Anthracene to *Lemna gibba* L.G-3 (duckweed). SETAC, #PWP031, page 273, 18th SETAC North America Annual Meeting, San Francisco, CA, USA, November 16-21, 1997.
10. Greenberg, B., X.D. Huang, **A. Mallakin**, S.B. Babu, C.A. Duxbury, J.B. Marder. Inhibition of photosynthesis by polycyclic aromatic hydrocarbon pollutants. American Society of Plant Biologist. August 5, 1997.
9. Babu S.T., **A. Mallakin** and B.M. Greenberg. Mechanism and Nature of Toxicity of Anthracene and its Photoproducts on the Aquatic Higher Plant *Lemna gibba*. Seventh Symposium on Environmental Toxicology and Risk Assessment. St. Louis, Missouri, Vol 21, April 7-9, 1997.
8. **Mallakin A.**, S.T. Babu, B.J. McConkey, G. Miao, V. Sniekus, P. Mezey, D.G. Dixon, and B.M. Greenberg. Specific Photooxidation Products of PAHs: Impact of Oxygenated Anthracene and Phenanthrene. Seventh Symposium on Environmental Toxicology and Risk Assessment. St. Louis, Missouri, Vol 21, April 7-9, 1997.
7. Babu T.S., **A. Mallakin**, and B.M Greenberg. Toxicity of Photooxidized Products of Anthracene to the Photosynthesis Apparatus in the Aquatic Higher Plant *Lemna gibba*. Canadian Network of Toxicology Centre (CNTC), Mississauga, Ontario, Canada, Vol 6, ASTM STP 1317, Page 60042, March 23-25, 1997.
6. **Mallakin A.**, S.T. Babu, B.J. McConkey, G. Miao, V. Sniekus, D.G. Dixon, and B.M. Greenberg. Photoinduced Toxicity of Oxygenated Anthracene Derivatives to *Lemna gibba* (L.G.3). Canadian Network of Toxicology Centre (CNTC), Mississauga, ON, CA, Vol 6, ASTM STP 1317, page 60042, March 23-25, 1997.
5. Dixon D.G., N. Bols, B. Greenberg, H. Boermans, K. Solomon, P. Mezey, C. Duxbury, J. Bestari, Z. Zimpel, N. Karrow, B.J. McConkey and **A. Mallakin**, J. Whyte, A. Chan and L. Heikkila. Establishing the Relative Toxic Potencies of PAHs and PAH Mixtures in Fish Cell and *Lemna* Bioassays and the Utility of These Potencies in Assessing the Toxic Impact of Creosote to Fish. Canadian Network of Toxicology Centre (CNTC), Mississauga, Ontario, Canada, Vol 6, ASTM STP 1317, page 60042, March 23-25, 1997.
4. **Mallakin A.**, S.T. Babu, B.J. McConkey, G. Miao, V. Sniekus, D.G. Dixon, and B.M. Greenberg. Induced Toxicity of 12 Anthracene Derivatives to *Lemna gibba* L.G-3 (duckweed). SETAC, #PO251, page 167, 17th SETAC North America Annual Meeting, Washington D.C., USA, November 17-21, 1996.
3. **Mallakin A.**, B. Mckibben, V. Sniekus, D.G. Dixon, and B.M. Greenberg. Toxicity of 14 Photooxidized Anthracene Derivatives to *Lemna gibba* L.G-3. Canadian Network of Toxicology Centre (CNTC), Mississauga, ON, CA, Vol 34, No 3, April 30-May 1, 1996.

2. **Mallakin A.**, and O.P. Ward. Biodegradation of BTEX Compounds with Mixed Culture of Bacteria, Radio-labelled and Scanning Electron Microscope Study. Canadian Society of Microbiology, Vancouver, British Columbia, Canada, Vol 5, No 4, June 12-17, 1994.
1. **Mallakin A.**, and O.P. Ward. Biodegradation of Toluene and Ethylbenzene with Mixed Culture of Bacteria. 3rd Annual Symposium on Ground Water and Soil Remediation, Quebec City, Quebec, Canada, Vol 14, No 9, September 8-10, 1993.

SPEAKER AND SEMINAR PRESENTATION

11. Location: The 2005 ASME International Design Engineering Technical Conferences & Computers and Information In Engineering Conference ,Long Beach, CA
Date: September 26, 2005
Title: In-situ Quantitative Analysis of Tumor Suppressor Protein (hDmp1) Using a Nanomechanical Cantilever Beam
10. Location: NASA Capability Roadmap, Washington, DC
Date: November 30, 2004
Title: Using Nanotechnology to Advance Cancer Diagnosis and Prevention as a Result of Space Missions.
9. Location: National Eye Institute, NIH, Laboratory of Retinal Cell and Molecular Biology, Bethesda, Maryland, USA
Date: October 8, 2003
Title: The use of gene microarray technology in study of ocular viral pathogenesis (HSV).
8. LSUHSC, School of Medicine, Department of Ophthalmology, New Orleans, LA, USA
Date: February 15, 2002
Title: Use of Gene Expression profiling to validate models of genetic regulatory networks.
7. Location: UCLA Schools of Medicine and Public Health, Environmental Health and Radiation Oncology, Los Angeles, CA, USA
Date: July 27, 2001
Title: Use of computation microscopy and genomic expression data to validate models of genetic regulatory networks.
6. Children's Hospital Medical Center, Pulmonary Medicine, Allergy, Clinical Immunology, Cincinnati, Ohio, USA
Date: July 16, 2001
Title: Quantitative monitoring of gene expression reveals acquisition of specific cytotoxic activity in absence of tyrosine kinase domain of the receptor Ron.
5. Location: University Hospitals Ireland Cancer Center, Case Western Reserve University, Cleveland, OH, USA
Date: July 5, 2001
Title: Global Analysis of Gene Expression Reveals Distinct Mechanism Regulating Cytotoxicity Mediated By Ron Signaling.

4. Location: Children's Hospital Medical Centre, Division of developmental Biology, Cincinnati, OH, USA

Date: March 17, 2000

Title: Impacts of Structural Modification: Inhibition of Metabolic Activity and Electron Transport Chain by Anthracene Photooxidation Product.

3. Location: Centre for Environmental Research UFT, Department of Bioorganic Chemistry, Bremen, Germany

Date: November 17, 1999

Title: Polycyclic Aromatic Hydrocarbons: Use of QSAR Model and Study the Formation, Metabolism and Measurement

2. Location: University of Michigan, Department of Dermatology, Ann Arbor, Michigan, USA

Date: October 22, 1999

Title: Importance of Radical Caution in Aromatic Hydrocarbon's Carcinogenicity and Toxicity.

1. Location: National Eye Institute NEI, NIH, Ophthalmic Molecular Genetics, Washington DC, USA

Date: September 9, 1999

Title: Long-term Effects of a Single Dose of Ultraviolet-B on Biological Model.

ACTIVITIES

- . Eagle Scout, 1980 (Don Bosco College); Painting, Photography
- . Swimming, running, skiing (Alpine & Nordic), Mountain and Rock climbing.

TEACHING PHILOSOPHY

The following concepts have been evolved as the corner stones of my teaching philosophy:

A teaching philosophy, with no fundamental base and solidarity, might potentially drift into impractical visions. Also the statement of philosophy should be well articulated and noble enough to be connected to teacher's daily practice. Ultimately, as my professional experiences accumulates, I try to make the link between teaching philosophy and classroom activities clearer.

Teaching and learning are inquiries and that teachers at every level should be dedicated to the scholarship of the field. I believe that an effective teacher must have a good understanding of the subject matter being taught as well as of the underlying pedagogical theory. I believe that it is a teacher's responsibility to stay current in a field, engaging in research and participating in classes, conferences and workshops that can improve his/her skills. A teacher must be able to make good selections about what to teach and how to organize the material. At the same time it is important to stay abreast of current theory and research in the field of teaching and pedagogy. A teacher must know what to teach as well as what is the best way to teach it. Well-defined and well-practiced methods of teaching are essential to creating and maintaining a campus culture supportive of teaching. Teaching is a scholarly activity when it is purposeful, reflective, documented, and shared in an evaluative forum. I believe that in order to be effective, teachers must know their students. They must be aware of what students know when they come into the classroom as well as how to add into that knowledge and build on it. I view teaching as a process of encouraging students to make connections between their experiences and the subject matter. In any course, teachers should attempt to guide students through subject matter and new discoveries. Students take these insights, explanations, and skills.

Teachers and scholars should be facilitators; teachers should enable students to become responsible for their own learning. I do recognize that individuals learn in different ways. Teachers should be able to vary teaching styles and should expect students to participate in a mixture of lecture, discussion, and group activities. Technology is important in the classroom since it is a vehicle for instruction and can be an invaluable tool for addressing different learning styles. Students gain experience with rapidly evolving technology, but I believe that technology must be used as a means of accomplishing more, to allow for better and improved learning and teaching and should not be used as a end point and main goal.

Writing is one of the most important skills that a person can develop during his/her academic education. Being an effective writer can allow a person to develop his or her ideas and can allow him or her to communicate those ideas to others. Writing skills developed in the beginning of a college career can enable the person to be successful for the rest of his/her career and can also help students later in their professional career (personally I had multilingual education).

I believe that effective teaching skills can be developed. Teacher training and instructional development must be viewed as primary responsibilities. Teachers must have knowledge of what skills make a teacher effective and what they have to do to craft those skills. Those skills must be honed, and they must be personalized. Being an effective teacher is a difficult task, but a teacher who accepts teaching as a challenge and as a responsibility will also find that it can provide rewards that are well worth the effort. Also university administrators are responsible for guiding the teachers and scholar's professional growth and achievement, having an overview of work at the university, and managing diverse teachers to achieve the university's mission. Yet, faculties help shape the university with their own ambitions, values, philosophies, attitudes, and ethical beliefs. Administrators may ask me to relate my individual teaching ideologies to the university's mission statement. Why I am at this campus? Why my presence is good for them and good for this institution. I would be responsible for building a relationship with students. Teachers must respect students; they must believe that all students are capable, that students have something to contribute, and that students may bring new insights to a subject or raise questions about a subject that have not yet been considered. Teachers should be accessible to all students, making sure that

they talk to individual students during class and that they are available to students after class during office hours.

Often, those who write statements of teaching philosophy find themselves moving beyond just trying hard and having good intentions to actively defining themselves as teachers and deliberately pursuing teaching goals. A faculty that actively discusses its teaching pedagogy, methodologies, and strategies develops values, principles, and practices that are shared and enriched by dialogue. Although these interactions create a degree of consensus among faculty, they can also stimulate innovation among some faculty members. Once an institution defines how teachers are to share their teaching philosophies and approaches, administrators can also better support and reward the efforts of the faculty.

Finally success in achieving teaching goals is measured in a variety of ways. It can mean communicating well to students how to succeed in a course; making a difference in the lives of students; receiving and maintaining accreditation; or meeting expectations of growth and change. The basic assumption of teaching is that students will be different after the interaction. We may consider beyond facts, what should students gain from courses (e.g., thinking skills, attitudes, values, technical skills, etc.)? Faculty might start with a general description of the most important learning goals and then give some examples from specific courses. If syllabi or exams are included in the portfolio, faculty can refer the reader to the appropriate sections for more detail.

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