Curriculum Vitae

Eric Y. Chuang (莊曜宇), Sc.D

Graduate Institute of Biomedical Electronics and Bioinformatics
Department of Electrical Engineering
National Taiwan University
Tel: (O) +886-2-3366-3660, Fax: +886-2-3366-3682
E-mail: chuangey@cc.ee.ntu.edu.tw

PERSONAL DATA
Married with two sons

BIRTH
1964, Taipei, Taiwan

EDUCATION
1991-1997
Sc.D. Cancer Biology
Harvard University, School of Public Health, Boston, MA

1990-1991
M.S. Biology
Illinois Institute of Technology, Chicago, IL

1982-1986
B.S. Biology
Tunghai University, Taichung, Taiwan

HONORS & AWARDS
On-the-Spot Award, US Department of Health and Human Services, Public Health Service, 2001

Travel Award (top 5-ranked winner), 11th International Congress of Radiation Research, Dublin, Ireland, 1999

Postdoctoral National Research Service Award, US Department of Health and Human Services, 1997

Student Travel Award, 27th Annual Meeting of the Environmental Mutagen Society, Victoria, British Columbia, Canada, 1996

Student Travel Award, 43rd Annual Meeting of the Radiation Research Society, San Jose, California, 1995

ASSOCIATION MEMBERSHIPS
Radiation Research Society (USA)

PROFESSIONAL EXPERIENCE
2006-present
Associate Professor, Graduate Institute of Biomedical Electronics and Bioinformatics, National Taiwan University, Taipei, Taiwan

2005-present
Principal Investigator, Bioinformatics and Biostatistics Core, Center for Genomic Medicine, National Taiwan University, Taipei, Taiwan

2004-present
Associate Professor, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

2004-present
Faculty Affiliate, Department of Environmental & Radiological Health Sciences, Colorado State University, Fort Collins, CO

2000-2004
Head, Microarray Laboratory, Radiation Oncology Sciences Program, National Cancer Institute, Gaithersburg, MD

1998-2000
CRTA Fellow, Radiation Biology Branch, National Cancer Institute, Bethesda, MD

1997-1998
Postdoctoral Research Fellow, Department of Cancer Cell Biology, Harvard University, School of Public Health, Boston, MA

1991-1997
Graduate study research, Laboratory of Radiobiology, Harvard University, Boston, MA

1986-1988
Research Assistant, Cell Biology Laboratory, Academia Sinica, Institute of Zoology, Taipei, Taiwan

TEACHING EXPERIENCE
2004-present
Associate Professor, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

2001-2002
Trainer, Microarray Training Class, Advanced Technology Center, National Cancer Institute, Gaithersburg, MD

1990-1991
Teaching Assistant, Biochemistry Laboratory Course, Illinois Institute of Technology, Chicago, IL

GRANTS & CONTRACTS
Department of Energy, Low Dose Radiation Research Program, Grant#DE-FG02-03ER63635, Molecular Characterization of the Roles of SOD Genes in Mammalian Cellular Response to Low Dose Radiation, Project period: 10/2003 – 09/2006

Department of Army, Microarray Service Contract for Molecular Characterization of Sleep Deprivation Research Project, 2004

THESES
Chuang, Y. (1997) Studies on the mechanisms leading to loss of heterozygosity at the homologous alleles of the thymidine kinase locus in human lymphoblast cell lines. Unpublished Doctoral Dissertation, Harvard University.

Chuang, Y. (1991) Characterization of growth and hemoglobin production in recombinant *Escherichia coli* containing the *Vitreoscilla* hemoglobin gene. Unpublished Master Thesis, Illinois Institute of Technology.

PUBLICATIONS
1. S. Liu, B. Ogretman, **Y. Chuang** and B. C. Stark (1992) Selection and characterization of alpha-amylase-overproducing recombinant Escherichia coli containing the bacterial hemoglobin gene. *Appl. Microbiol. Biotechnol.* 38, 239-242.

2. **Y. Chuang**, W.C. Chen and H.L. Liber (1996) A DNA cross-linking agent (MMC) induces systematic differences in toxicity and mutagenicity in two closely related human lymphoblast cell lines. *Environ. Mol. Mutagen.* 27 (Suppl. 27), 13.

3. **Y. Chuang** and H.L. Liber (1996) Effects of cell cycle position on ionizing radiation mutagenesis. I. Quantitative assays of two genetic loci in a human lymphoblastoid cell line. *Radiat. Res.* 146, 494-500.

4. **Y. Chuang** and H.L. Liber (1997) Mutational spectra at the thymidine kinase locus of spontaneously-arising and mitomycin C (MMC)-induced mutants in two closely related human lymphoblast cell lines. *Environ. Mol. Mutagen.* 29 (Suppl. 28), 9.

5. **Y. Chuang**, Q. Chen and H.L. Liber (1998) The construction of a p53-null cell line from human lymphoblast cells for mutagenesis studies. *Environ. Mol. Mutagen.* 31 (Suppl. 29), 65.

6. **Y. E. Chuang**, Qi Chen and H. L. Liber (1999) Radiation-induced mutations at the autosomal thymidine kinase locus are not elevated in p53-null cells. *Cancer Res.* 59, 3073-3076.

7. **Y. E. Chuang**, Y. Chen, C. V. Gadisetti, J. Cook, D. Coffin, M. Tsai, W. DeGraff, H. Yan, S. Zhao, A. Russo, E. T. Liu and J. B. Mitchell (2002) Gene Expression After Treatment with

Hydrogen Peroxide, Menadione, or t-Butyl Hydroperoxide in Breast Cancer Cells. *Cancer Res.* 62, 6246-6254.

8. M. Samuni*, **E. Y. Chuang***, M. C. Krishna, W. Stein, W. DeGraff, A. Russo, J. B. Mitchell (2003) Semiquinone Radical Intermediate in Catecholic Estrogen-Mediated Cytotoxicity and Mutagenesis: Chemoprevention Strategies with Antioxidants. *PNAS* 100, 5390-5395 ("*"co-first authors).

9. H. Ge, **Y. E. Chuang**, S. Zhao, J. J. Temenak and W. Ching (2003) Genomic Studies of Rickettsia Prowazekii Virulent vs. Avirulent Strains. *Ann. NY Acad. Sci.* 990, 671-677.

10. H. Su, N. Hu, J. Shih, Y. Hu, Q.-H. Wang, **E. Y. Chuang**, M. J. Roth, C. Wang, A. M. Goldstein, T. Ding, S. M. Dawsey, C. Giffen, M. R. Emmert-Buck, P. R. Taylor (2003) Gene Expression Analysis of Esophageal Squamous Cell Carcinoma Reveals Consistent Molecular Profiles Related to a Family History of Upper Gastrointestinal Cancer. *Cancer Res.* 63, 3872-3876.

11. H. Ge, **Y. E. Chuang**, S. Zhao, M. Tong, M.-H. Tsai, J. J. Temenak A. L. Richards and W.-M. Ching (2004) Comparative Genomics of Rickettsia prowazekii Madrid E and Breinl Strains. *J. Bacteriol.* 186, 556-565.

12. E. M. Goley, S. J. Anderson, C. Menard, **E. Chuang**, X. Lu, P. J. Tofilon, and K. Camphausen (2004) Microarray Analysis in Clinical Oncology: Pre-Clinical Optimization Using Needle Core Biopsies from Xenograft Tumors. *BMC Cancer* 19, 4:20.

13. X. Lu, W. E. Burgan, M. A. Cerra, **E. Y. Chuang**, M.-H. Tsai, P. J. Tofilon, and K. Camphausen (2004) Transcriptional Signature of Flavopiridol-induced Tumor Cell Death. *Mol. Cancer Ther.* 3, 861-872.

14. A. Rosenwald, **E. Y. Chuang**, R. E. Davis, A. Wiestner, A. A. Alizadeh, D. C. Arthur, J. B. Mitchell, G. E. Marti, D. H. Fowler, W. H. Wilson, and L. M. Staudt (2004) Fludarabine Treatment of Chronic Lymphocytic Leukemia Patients Induces a p53-Dependent Gene Expression Response. *Blood* 104, 1428-1434.

15. L. E. Dodd, E. L. Korn, L. M. McShane, G. V. Chandramouli, **E. Y. Chuang** (2004) Correction Log Ratios for Signal Saturation in cDNA Microarrays. *Bioinformatics* 20, 2685-2693.

16. A. Loercher, T. L. Lee, J. L. Ricker, A. Howard, J. Geoghegen, Z. Chen, J. Sunwoo, **E. Y. Chuang**, J. B. Mitchell, A. S. Baldwin, Jr., and C. Van Waes. (2004) Nuclear factor-kB is an Important Modulator of the Altered Gene Expression Profile and Malignant Phenotype in Squamous Cell Carcinoma. *Cancer Res.* 64, 6511-6523.

17. D. Gius, H. Cui, C. M. Bradbury, J. Cook, D. K. Smart, S. Zhao, L. Young, S. A. Brandenburg, Y. Hu, K. S. Bisht, A. S. Ho, D. Mattson, L. Sun, P. J. Munson, **E. Y. Chuang**, J. B. Mitchell, A. P. Feinberg. (2004) Distinct Effects on Gene Expression of Chemical and Genetic Manipulation of the Cancer Epigenome Revealed by a Multimodality Approach. *Cancer Cell* 6, 361-371.

18. M. Lu, J. Suen, C. Frias, R. Pfeiffer, M.-H. Tsai, **E. Chuang**, and S. L. Zeichner. (2004) Dissection of the Kaposi's Sarcoma-associated Herpesvirus GeneExpression Program Using the Viral DNA Replication Inhibitor Cidofovir. *J. Virol.* 78, 13637-13652.

19. M. Samuni, U. Kasid, **E. Y. Chuang**, S. Suy, W. DeGraff, M. C. Krishna, A. Russo, J. B. Mitchell. (2005) Effects of Hypoxia on Radiation-Responsive Stress-Activated Protein Kinase, p53, and Caspase 3 Signals in TK6 Human Lymphoblastoid Cells. *Cancer Res.* 65, 579-586.

20. M.-H. Tsai, H. Yan, G. V. R. Chandramouli, S. Zhao, D. Coffin, C. N. Coleman, J. B. Mitchell, and **E. Y. Chuang.** (2005) Evaluation of Hybridization Conditions for Spotted Oligonucleotide Based DNA Microarrays. *Mol. Biotechnol.* 29, 221-224.

21. K. K. Tsai, **E. Y. Chuang**, J. B. Little, and Z.-M. Yuan. (2005) Cellular Mechanisms for Low-Dose Radiation-Induced Perturbation of the Breast Tissue Microenvironment. *Cancer Res.* 65, 6734-6744.

22. J. R. Stuart, H. Kawai, K. K. Tsai, **E. Y. Chuang**, and Z.-M. Yuan. (2005) c-Abl Regulates Early Growth Response (EGR1) in Response to Oxidative Stress. *Oncogene* 24, 8085-8092.

23. A. A Jazaeri, C. S. Awtrey, G. V. Chandramouli, **Y. E. Chuang**, J. Khan, C. Sotiriou, O. Aprelikova, C. J. Yee, K. K Zorn, M. J. Birrer, J. C. Barrett, J. Boyd. (2005) Gene expression profiles associated with response to chemotherapy in epithelial ovarian cancers. *Clin Cancer Res.* 11, 6300-6310.

24. M.-H. Tsai, X. Chen, G. V. R. Chandramouli, Y. Chen, H. Yan, S. Zhao, P. Keng, H. L. Liber, C. N. Coleman, J. B. Mitchell, and **E. Y. Chuang.** (2006) Transcriptional Responses to Ionizing Radiation Reveal that p53R2 Protects Against Radiation-induced Mutagenesis in Human Lymphoblastoid Cells. *Oncogene* 25, 622-632.

25. **E. Y. Chuang**, X. Chen, M.-H. Tsai, H. Yan, C.-Y. Li, J. B. Mitchell, H. Nagasawa, P. F. Wilson, Y. Peng, M. M. Fitzek, J. S. Bedford, and J. B. Little. (2006) Abnormal Gene Expression Profiles in Unaffected Parents of Patients with Hereditary Type Retinoblastoma. *Cancer Res*. 66, 3428-3433.

26. W. Zhao*, **E. Y. Chuang***, M. Mishra, R. Awwad, K. Bisht, L. Sun, P. Nguyen, J. D. Pennington, T. J. C. Wang, C. M. Bradbury, L. Huang, Z. Chen, G. Bar-Sela, M. E. C. Robbins, and D. Gius. (2006) Distinct Effects of Ionizing Radiation on In vivo Murine Kidney and Brain Normal Tissue Gene Expression. *Clin Cancer Res*. 12, 3823-3830. ("*" co-first authors)

27. J. A. Cook, **E. Y. Chuang**, M.-H. Tsai, D. Coffin1, W. DeGraff1, A. L. Sowers, and J. B. Mitchell. (2006) Radiation-Induced Changes in Gene Expression Profiles for the SCC VII Tumor Cells Grown In Vitro and In Vivo. *Antioxidants & Redox Signaling* 8, 1263-1272.

28. Z. Guo, M.-H. Tsai, Y.-H. Shiao, X. Lv, D. Gius, J. B. Little, J. B. Mitchell and **E. Y. Chuang**. (2006) DNA (cytosine-5)-methyltransferase 1 as a mediator of mutant p53-determined $p16^{ink4A}$ down-regulation. (submitted to *Cancer Res.*)

SYMPOSIUM PRESENTATIONS

"Cell cycle effects on X-ray mutagenesis at the thymidine kinase locus in a human lymphoblastoid cell line" 43rd Annual Meeting of the Radiation Research Society, San Jose, California, 1995

"Profiling oxidative stress-induced gene expression using cDNA microarrays" 2nd Annual Symposium of the John B. Little Center for Radiation Sciences & Environmental Health, Harvard University, 1999

"Microarray, the technology" 92nd Annual Meeting of the American Association for Cancer Research, New Orleans, Louisiana, 2001

"Overview of gene array platforms" Gene Expression Profiling Technologies Workshop, The Jackson Laboratory, Bar Harbor, Maine, 2001

"Patterns of gene expression following ionizing radiation in vivo" 2001 International Symposium of Radiation Research, Taipei, Taiwan, 2001

"Microarray Technologies at the US National Cancer Institute" 2001 International Forum on Shanghai Biopharm Industry Development, Shanghai, China, 2001

"DNA Microarray Technology for functional genomics" 2002 Summer Institute on Bioinformatics, Taipei, Taiwan, 2002

"Gene expression profiles revealed p53R2 play a role in radiation-induced mutagenesis" 34th Annual Meeting of the European Environmental Mutagen Society, Maastricht, the Netherlands, 2004

"Transcriptional Responses to Ionizing Radiation Reveal that p53R2 Protects Against Radiation-induced Mutagenesis in Human Lymphoblastoid Cells" 1st Asian Congress of Radiation Research, Hiroshima, Japan, 2005

ORGANIZATIONS

President (1992-1993), Harvard Republic of China (Taiwan) Student Club, Harvard University

Board of Director (1998), Monte Jade Science and Technology Association of New England

REFERENCES

Available upon request