

Tomas Radivoyevitch, PhD
Department of Quantitative Health Sciences
Cleveland Clinic Foundation, Cleveland, OH 44195
office: M3-026, tel: 216-442-5649, e-mail: radivot@ccf.org

Degrees

Medical University of South Carolina	Ph.D. Environmental Risk Assessment	1996
Case Western Reserve University	M.S. Chemistry	1992
Case Western Reserve University	M.S. Systems Engineering	1988
Case Western Reserve University	B.S. Electrical Engineering	1987

Work

Cleveland Clinic Foundation, Department of Quantitative Health Sciences, Cleveland, OH 44195
Associate Staff of Quantitative Health Sciences 3/2014 - Present
Adjunct Staff of Translational Hematology and Oncology 11/2012 - Present
Data analyses with a focus on myelodysplastic syndrome and acute myeloid leukemia.

Case Western Reserve University, Department of Epidemiology and Biostatistics, Cleveland, OH 44106
Adjunct Faculty of Epidemiology and Biostatistics 3/1/2014 - Present
Assistant Professor of Epidemiology and Biostatistics 10/2001 – 2/28/2014
Adjunct Assistant Professor of Electrical Engineering and Computer Science 11/2003 – 2/28/2014
Developed research interests in models of deoxynucleotide metabolism and anti-cancer nucleoside analogs. Taught *Linear Statistical Models*, *Biostatistics of DNA Microarray Data*, *Integrative Cancer Biology*, and *Programming in R*, served as a cancer center biostatistician, and created the R packages *SEERaBomb* (for analyses of Surveillance and Epidemiological End Results data and Japanese A-Bomb survivor data), *ccems* (Combinatorially Complex Equilibrium Model Selection) and *SBMLR* (System Biology Markup Language to R).

University of California, Berkeley, Department of Mathematics, Berkeley, CA 94720
Visiting Assistant Research Mathematician June 2000 - May 2001
Developed radiobiological models based on the theory of dual radiation action and used them to predict dose-response shapes for radiation-induced chronic myeloid leukemia (CML) and radiation-induced *H4-RET* mediated papillary thyroid cancer. This work provided theoretical rationale for a U-shaped CML radiation dose-response.

Medical University of South Carolina, Department of Biometry, Charleston, SC 29425
Research Instructor August 1998 - May 2000; June 2001 – August 2001
Postdoctoral Fellow January 1997- July 1998
Graduate Student August 1993 - December 1996
Research in theoretical radiation biology. Dissertation: “Mathematical Models of Misrejoining DNA Double-Strand Breaks and DNA Fragment Size Distributions.” Courses: biostatistics, cancer biology, toxicology and pathology.

The Ohio State University, Department of Biochemistry, Columbus, OH 43210
Teaching Assistant September 1992 - June 1993
Conducted lectures, supervised experimental laboratories and prepared quizzes for a biology course. Courses taken in immunology, virology, biochemistry, cell biology, enzymology, membranes, gene regulation and physiology.

Case Western Reserve University, Department of Chemistry, Cleveland, OH 44106
Research Assistant June 1991 - August 1992
Investigated the theoretical chemistry of polyimide/metal interfaces using semi-empirical methods. Studied the dissociation of NO₂ using *ab initio* methods. Courses taken in organic-, inorganic- and quantum chemistry.

Bailey Controls Company, Department of Advanced Automation and Control, Wickliffe, OH 44092

Application Engineer February 1989 - May 1991

Developed a large scale simulation of a supercritical power plant, including conventional controls. Validated the model against dynamic response data and used it as a test-bed for the development of advanced controls.

Max Planck Institute for Biophysical Chemistry, Department of Molecular Biology, Göttingen, Germany

Computer Programmer February 1988 - December 1988

Automated fluorometer using an IBM PC. Wrote command interface routines for the TIPS imaging system.

Case Western Reserve University, Department of Systems Engineering, Cleveland, OH 44106

Research/teaching Assistant September 1986 - December 1987

Masters thesis title: "State Tolerance Relations in Deterministic and Stochastic Automata."

Publications

1. Piston, D., Marriot, G., Radivoyevitch, T., Clegg, R. M., Jovin, T. M. and Gratton, E., Wide-band acousto-optic light modulator for frequency domain fluorometry and phosphorimetry. *Rev Sci Instrum* **60**, 2596-2600 (1989).
2. Klippenstein, S. J. and Radivoyevitch, T., A theoretical study of the dissociation of NO₂. *J Chem Phys* **99**, 3644-3653 (1993).
3. Cedervall, B. and Radivoyevitch, T., Methods for analysis of DNA fragment distributions on pulsed field gel electrophoretic gels. *Electrophoresis* **17**, 1080-1086 (1996). [PMID: 8832175](#)
4. Radivoyevitch, T. and Cedervall, B., Mathematical analysis of DNA fragment distribution models used with pulsed-field gel electrophoresis for DNA double-strand break calculations. *Electrophoresis* **17**, 1087-1093 (1996). [PMID: 8832176](#)
5. Radivoyevitch, T., Hoel, D. G., Hahnfeldt, P. J., Rydberg, B. and Sachs, R. K., Recent data obtained by pulsed-field gel electrophoresis suggest two types of double-strand breaks. *Radiat Res* **149**, 52-58 (1998). [PMID 9421154](#)
6. Radivoyevitch, T., Hoel, D. G., Chen, A. M. and Sachs, R. K., Misrejoining of double-strand breaks after X irradiation: relating moderate to very high doses by a Markov model. *Radiat Res* **149**, 59-67 (1998). [PMID: 9421155](#)
7. Radivoyevitch, T., Hoel, D. G., Hahnfeldt, P. and Sachs, R. K., Size distributions of misrejoining DNA fragments in irradiated cells. *Math Biosci* **149**, 107-136 (1998). [PMID: 9621680](#)
8. Radivoyevitch, T., Ramsey, M. J. and Tucker, J. D., Estimation of the target stem-cell population size in chronic myeloid leukemogenesis. *Radiat Environ Biophys* **38**, 201-206 (1999). [PMID: 10525957](#)
9. Radivoyevitch, T. and Hoel, D. G., Modeling the low-LET dose-response of BCR-ABL formation: predicting stem cell numbers from A-bomb data. *Math Biosci* **162**, 85-101 (1999). [PMID: 10616282](#)
10. Radivoyevitch, T. and Hoel, D. G., Biologically-based risk estimation for radiation-induced chronic myeloid leukemia. *Radiat Environ Biophys* **39**, 153-159 (2000). [PMID: 11095145](#)
11. Radivoyevitch, T., Time course solutions of the Sax-Markov binary rejoining/misrejoining model of DNA double-strand breaks. *Radiat Environ Biophys* **39**, 265-273 (2000). [PMID: 11200970](#)
12. Voit, E. O. and Radivoyevitch, T., Biochemical systems analysis of genome-wide expression data. *Bioinformatics* **16**, 1023-1037 (2000). [PMID: 11159314](#)
13. Radivoyevitch, T., Sachs, R. K., Nikiforov, Y. E., Nikiforova, M. N. and Little, M. P., On target cell numbers in radiation-induced H4-RET mediated papillary thyroid cancer. *Radiat Environ Biophys* **40**, 191-197 (2001). [PMID: 11783847](#)
14. Radivoyevitch, T., The death-mutation model of carcinogenesis. *Mathematical and Computer Modeling* **33**, 1219-1226 (2001).
15. Radivoyevitch, T., Sphingoid base metabolism in yeast: Mapping gene expression patterns into qualitative metabolite time course predictions. *Comparative & Functional Genomics* **2**, 289-294 (2001). PMID: 18629242; [PMCID: PMC2448403](#)
16. Radivoyevitch, T., Kozubek, S. and Sachs, R. K., Biologically based risk estimation for radiation-induced CML. Inferences from BCR and ABL geometric distributions. *Radiat Environ Biophys* **40**, 1-9 (2001). [PMID: 11357705](#)
17. Radivoyevitch, T., Kozubek, S. and Sachs, R. K., The risk of chronic myeloid leukemia: can the dose-response curve be U- shaped? *Radiat Res* **157**, 106-109 (2002). [PMID: 11754648](#)

18. Kaminski, B. A., Kadereit, S., Miller, R. E., Leahy, P., Stein, K. R., Topa, D. A., Radivoyevitch, T., Veigl, M. L. and Laughlin, M. J., Reduced expression of NFAT-associated genes in UCB versus adult CD4+ T lymphocytes during primary stimulation. *Blood* **102**, 4608-4617 (2003). [PMID: 12946996](#)
19. Taverna, P., Hwang, H. S., Schupp, J. E., Radivoyevitch, T., Session, N. N., Reddy, G., Zarling, D. A. and Kinsella, T. J., Inhibition of base excision repair potentiates iododeoxyuridine-induced cytotoxicity and radiosensitization. *Cancer Res* **63**, 838-846 (2003). [PMID: 12591735](#)
20. Cooper, B. W., Veal, G. J., Radivoyevitch, T., Tilby, M. J., Meyerson, H. J., Lazarus, H. M., Koc, O. N., Creger, R. J., Pearson, G., Nowell, G. M., Gosky, D., Ingalls, S. T., Hoppel, C. L. and Gerson, S. L., A phase I and pharmacodynamic study of fludarabine, carboplatin, and topotecan in patients with relapsed, refractory, or high-risk acute leukemia. *Clin Cancer Res* **10**, 6830-6839 (2004). [PMID: 15501959](#)
21. Radivoyevitch, T., A two-way interface between limited Systems Biology Markup Language and R. *BMC Bioinformatics* **5**, 190 (2004). PMID: 155850559; [PMCID: PMC539231](#)
22. Radivoyevitch, T., Taverna, P., Schupp, J. E. and Kinsella, T. J., The Linear-Quadratic Log-Survival Radiation Dose Response Model: Confidence Ellipses, Drug-Drug Interactions and Brachytherapeutic Gains. *Medical Hypotheses and Research* **1**, 23-28 (2004).
23. Cooney, M. M., Radivoyevitch, T., Dowlati, A., Overmoyer, B., Levitan, N., Robertson, K., Levine, S. L., DeCaro, K., Buchter, C., Taylor, A., Stambler, B. S. and Remick, S. C., Cardiovascular safety profile of combretastatin a4 phosphate in a single-dose phase I study in patients with advanced cancer. *Clin Cancer Res* **10**, 96-100 (2004). [PMID: 14723357](#)
24. Dowlati, A., Robertson, K., Radivoyevitch, T., Waas, J., Ziats, N. P., Hartman, P., Abdul-Karim, F. W., Wasman, J. K., Jesberger, J., Lewin, J., McCrae, K., Ivy, P. and Remick, S. C., Novel Phase I Dose De-escalation Design Trial to Determine the Biological Modulatory Dose of the Antiangiogenic Agent SU5416. *Clin Cancer Res* **11**, 7938-7944 (2005). [PMID: 16278419](#)
25. Radivoyevitch, T., Folate system correlations in DNA microarray data. *BMC Cancer* **5**, 95 (2005). PMID: 16080796; [PMCID: PMC1198223](#)
26. Cooper, B. W., Radivoyevitch, T., Overmoyer, B. A., Shenk, R. R., Pham, H. T., Samuels, J. R., Parry, M. P. and Silverman, P., Phase II study of dose-dense sequential doxorubicin and docetaxel for patients with advanced operable and inoperable breast cancer. *Breast Cancer Res Treat*, 1-8 (2005). [PMID: 16344915](#)
27. Korytko, T., Radivoyevitch, T., Colussi, V., Wessels, B. W., Pillai, K., Maciunas, R. J. and Einstein, D. B., 12 Gy gamma knife radiosurgical volume is a predictor for radiation necrosis in non-AVM intracranial tumors. *Int J Radiat Oncol Biol Phys* (2005). [PMID: 16226848](#)
28. Seo, Y., Yan, T., Schupp, J. E., Radivoyevitch, T. and Kinsella, T. J., Schedule-dependent drug effects of oral 5-iodo-2-pyrimidinone-2'-deoxyribose as an in vivo radiosensitizer in U251 human glioblastoma xenografts. *Clin Cancer Res* **11**, 7499-7507 (2005). [PMID: 16243824](#)
29. Radivoyevitch, T., Loparo, K. A., Jackson, R. C. and Sedwick, W. D., On systems and control approaches to therapeutic gain. *BMC Cancer* **6**, 104 (2006). PMID: 16638124; [PMCID: PMC1484487](#)
30. Seo, Y., Yan, T., Schupp, J. E., Yamane, K., Radivoyevitch, T. and Kinsella, T. J., The Interaction between Two Radiosensitizers: 5-Iododeoxyuridine and Caffeine. *Cancer Res* **66**, 490-498 (2006). [PMID: 16397265](#)
31. Overmoyer, B., Fu, P., Hoppel, C., Radivoyevitch, T., Shenk, R., Persons, M., Silverman, P., Robertson, K., Ziats, N. P., Wasman, J. K., Abdul-Karim, F. W., Jesberger, J. A., Duerk, J., Hartman, P., Hanks, S., Lewin, J., Dowlati, A., McCrae, K., Ivy, P. and Remick, S. C., Inflammatory breast cancer as a model disease to study tumor angiogenesis: results of a phase IB trial of combination SU5416 and doxorubicin. *Clin Cancer Res* **13**, 5862-5868 (2007). [PMID: 17908980](#)
32. Azizi, F., Wan, Q., Radivoyevitch, T., Dealwis, C. and Mastrangelo, C. H., A Combinatorial Multicomponent Plug Mixer for Systems Chemistry. *Micro Total Anal Syst*, 1904-1906 (2008). PMID: 20414459; [PMCID: PMC2857516](#)
33. Radivoyevitch, T., Equilibrium model selection: dTTP induced R1 dimerization. *BMC Syst Biol* **2**, 15 (2008). PMID: 18248678; [PMCID: PMC2268910](#)
34. Radivoyevitch, T., Mass action models versus the Hill model: An analysis of tetrameric human thymidine kinase 1 positive cooperativity. *Biol Direct* **4**, 49 (2009). PMID: 20003201; [PMCID: PMC2799445](#)
35. Radivoyevitch, T., Automated mass action model space generation and analysis methods for two-reactant combinatorially complex equilibria: An analysis of ATP-induced ribonucleotide reductase R1 hexamerization data. *Biol Direct* **4**, 50 (2009). PMID: 20003203; [PMCID: PMC2799446](#)

36. Feng, I. J. and Radivoyevitch, T., SNP-SNP interactions between the dNTP supply and mismatch DNA repair systems in breast cancer *Ohio Collaborative Conference on Bioinformatics 2009* (2009). PMID: 21566726; [PMCID: PMC2091819](#)
37. Radivoyevitch, T., How to use the computing environment R to analyze ATP-induced ribonucleotide reductase R1 hexamerization data. *Nucleosides Nucleotides Nucleic Acids* **29**, 427-432 (2010). PMID: 20544531; [PMCID: PMC2886286](#)
38. Kunos, C. A., Radivoyevitch, T., Pink, J., Chiu, S. M., Stefan, T., Jacobberger, J. and Kinsella, T. J., Ribonucleotide Reductase Inhibition Enhances Chemoradiosensitivity of Human Cervical Cancers. *Radiat Res* (2010). PMID: 20954859; [PMCID: PMC3529744](#)
39. Kunos, C. A., Colussi, V. C., Pink, J., Radivoyevitch, T. and Oleinick, N. L., Radiosensitization of human cervical cancer cells by inhibiting ribonucleotide reductase: enhanced radiation response at low-dose rates. *International journal of radiation oncology, biology, physics* **80**, 1198-1204 (2011). PMID: 21470790; [PMCID: PMC3118909](#)
40. Kunos, C. A., Ferris, G., Pyatka, N., Pink, J. and Radivoyevitch, T., Deoxynucleoside salvage facilitates DNA repair during ribonucleotide reductase blockade in human cervical cancers. *Radiation Research* **176**, 425-433 (2011). PMID: 21756082; [PMCID: PMC3191339](#)
41. Manilich, E. A., Kiran, R. P., Radivoyevitch, T., Lavery, I., Fazio, V. W. and Remzi, F. H., A novel data-driven prognostic model for staging of colorectal cancer. *J Am Coll Surg* **213**, 579-588, 588 e571-572 (2011). [PMID: 21925905](#)
42. Ng, K. P., Ebrahim, Q., Negrotto, S., Mahfouz, R. Z., Link, K. A., Hu, Z., Gu, X., Advani, A., Kalaycio, M., Sobecks, R., Sekeres, M., Copelan, E., Radivoyevitch, T., Maciejewski, J., Mulloy, J. C. and Sauntharajah, Y., p53 independent epigenetic-differentiation treatment in xenotransplant models of acute myeloid leukemia. *Leukemia* **25**, 1739-1750 (2011). PMID: 21701495; [PMCID: PMC3668642](#)
43. Radivoyevitch, T., Munch-Petersen, B., Wang, L. and Eriksson, S., A mathematical model of human thymidine kinase 2 activity. *Nucleosides Nucleotides Nucleic Acids* **30**, 203-209 (2011). PMID: 21491329; [PMCID: PMC3097248](#)
44. Manilich, E. A., OzsoyoGlu, Z. M., Trubachev, V. and Radivoyevitch, T., Classification of Large Microarray Datasets Using Fast Random Forest Construction. *J Bioinform Comput Biol* **9**, 251-267 (2011). [PMID: 21523931](#)
45. Kunos, C., Radivoyevitch, T., Abdul-Karim, F. W. and Faulhaber, P., 18F-Fluoro-2-Deoxy-d-Glucose Positron Emission Tomography Standard Uptake Value Ratio as an Indicator of Cervical Cancer Chemoradiation Therapeutic Response. *International journal of gynecological cancer* **21**, 1117-1123 (2011). [PMID: 21792015](#)
46. Kunos, C. A., Radivoyevitch, T., Ingalls, S. T. and Hoppel, C. L., Management of 3-aminopyridine-2-carboxaldehyde thiosemicarbazone-induced methemoglobinemia. *Future oncology* **8**, 145-150 (2012). PMID: 22335579; [PMCID: PMC3292053](#)
47. Sauntharajah, Y., Triozzi, P., Rini, B., Singh, A., Radivoyevitch, T., Sekeres, M., Advani, A., Tiu, R., Reu, F., Kalaycio, M., Copelan, E., Hsi, E., Lichtin, A. and Bolwell, B., p53-Independent, Normal Stem Cell Sparing Epigenetic Differentiation Therapy for Myeloid and Other Malignancies. *Seminars in oncology* **39**, 97-108 (2012). PMID: 22289496; [PMCID: PMC3655437](#)
48. Radivoyevitch, T. and Kunos, C. A., On model ensemble analyses of nonmonotonic data. *Nucleosides, nucleotides & nucleic acids* **31**, 147-156 (2012). PMID: 22303993; [PMCID: PMC3307047](#)
49. Kunos, C., Radivoyevitch, T., Abdul-Karim, F. W., Fanning, J., Abulafia, O., Bonebrake, A. J. and Usha, L., Ribonucleotide reductase inhibition restores platinum-sensitivity in platinum-resistant ovarian cancer: a Gynecologic Oncology Group study. *Journal of translational medicine* **10**, 79 (2012). PMID: 22541066; [PMCID: PMC3403898](#)
50. Radivoyevitch, T., Hlatky, L., Landaw, J. and Sachs, R. K., Quantitative modeling of chronic myeloid leukemia: insights from radiobiology. *Blood* **119**, 4363-4371 (2012). PMID: 22353999; [PMCID: PMC3362357](#)
51. Kunos, C. A., Debernardo, R., Radivoyevitch, T., Fabien, J., Dobbins, D. C., Zhang, Y. and Brindle, J., Hematological toxicity after robotic stereotactic body radiosurgery for treatment of metastatic gynecologic malignancies. *International journal of radiation oncology, biology, physics* **84**, e35-41 (2012). [PMID: 22543208](#)

52. Radivoyevitch, T., Sauntharajah, Y., Pink, J., Ferris, G., Lent, I., Jackson, M., Junk, D. and Kunos, C. A., dNTP Supply Gene Expression Patterns after P53 Loss. *Cancers (Basel)* **4**, 1212-1224 (2012). PMID: 23205301; [PMCID: PMC3509543](#)
53. Kunos, C. A., Radivoyevitch, T., Kresak, A., Dawson, D., Jacobberger, J., Yang, B. and Abdul-Karim, F. W., Elevated ribonucleotide reductase levels associate with suppressed radiochemotherapy response in human cervical cancers. *International journal of gynecological cancer* **22**, 1463-1469 (2012). PMID: 23051959; [PMCID: PMC3481180](#)
54. Mahfouz, R. Z., Jankowska, A., Ebrahim, Q., Gu, X., Visconte, V., Tabarroki, A., Terse, P., Covey, J., Chan, K., Ling, Y., Engelke, K. J., Sekeres, M. A., Tiu, R., Maciejewski, J., Radivoyevitch, T. and Sauntharajah, Y., Increased CDA expression/activity in males contributes to decreased cytidine analog half-life and likely contributes to worse outcomes with 5-azacytidine or decitabine therapy. *Clinical cancer research* **19**, 938-948 (2013). PMID: 23287564; [PMCID: PMC3577958](#)
55. Kunos, C. A., Radivoyevitch, T., Waggoner, S., Debernardo, R., Zanotti, K., Resnick, K., Fusco, N., Adams, R., Redline, R., Faulhaber, P. and Dowlati, A., Radiochemotherapy plus 3-aminopyridine-2-carboxaldehyde thiosemicarbazone (3-AP, NSC #663249) in advanced-stage cervical and vaginal cancers. *Gynecol Oncol* (2013). [PMID: 23603372](#)
56. Jackson RC, Radivoyevitch T (2013). Modelling c-Abl signalling in activated neutrophils: the anti-inflammatory effect of seliciclib. *7, 4 Biodiscovery* (2013).
57. Radivoyevitch, T., Li, H., and Sachs, R.K. (in press). Genesis and Treatment of Hematological Neoplasms: Stochastic Mathematical Models. In *A Systems Biology Approach to Blood* (S. J. Corey, M. Kimmel and J. N. Leonard, Editors), Springer.
58. Radivoyevitch T, Sauntharajah Y. Sex Difference in Myelodysplastic Syndrome Survival and Balance in Randomized Clinical Trials. *J Clin Oncol.* 32(1):60-1 (2014). [PMID: 24248691](#)
59. Radivoyevitch T, Jankovic GM, Tiu RV, Sauntharajah Y, Jackson RC, Hlatky LR, Gale RP, Sachs RK. Sex differences in the incidence of chronic myeloid leukemia. *Radiat Environ Biophys.* 53(1):55-63 (2014) [PMID: 24337217](#)
60. Solinas P, Fujioka H, Radivoyevitch T, Tandler B, Hoppel CL. Aging effects on oxidative phosphorylation in rat adrenocortical mitochondria. *Mech Ageing Dev.* 138C:10-14, 2014. [PMID: 24486556](#)
61. Gu X, Hu Z, Ebrahim Q, Crabb JS, Mahfouz R, Radivoyevitch T, Crabb JW, Sauntharajah Y. Runx1 Regulation of Pu.1 Corepressor/Coactivator Exchange Identifies Specific Molecular Targets for Leukemia Differentiation Therapy. *J Biol Chem.* (2014) [PMID: 24695740](#)

Abstracts/Posters

1. T. Radivoyevitch and D. G. Hoel, *Biologically Based Risk Estimation for Radiation-Induced Chronic Myeloid Leukemia*, presented at the **ICRR meeting** in Dublin (1999) and at the **DOE Low Dose Workshop** in Washington DC (1999).
2. T. Radivoyevitch, S. Kozubek and R.K. Sachs, *Net Lifetime Risk of Chronic Myeloid Leukemia: Can it have a "U" Shaped Low Dose Response?* Presented at the **DOE Low Dose Workshop** in Washington DC (2001).
3. Timothy Korytko, Tomas Radivoyevitch, Barry Wessels, Kunjan Pillai, Robert Maciunas, and Douglas Einstein, *12 Gy Gamma Knife Radiosurgical Volume Is A Predictor For Radiation Necrosis In Non-Avm Intracrainial Tumors*. Presented at the **Society for Neuro-Oncology Meeting** (2004).
4. T. Radivoyevitch, A two-way interface between systems biology markup language and R. **ICBP Meeting**, May 2005, Berkeley CA
5. T. Radivoyevitch, Rational Polynomial Representation of Ribonucleotide Reductase Activity. **ICBP Meeting**, May 2005, Berkeley CA; software demo given at **ICBP Meeting** in Washington DC (November 2005)
6. T. Radivoyevitch. Ribonucleotide Reductase: Models of R1 Subunit Oligomerization. **Symposium on Enzymes in Deoxyribonucleotide Synthesis**, Sãnga-Sãby, Stockholm, June 10-12, 2007.
7. T. Radivoyevitch. Equilibrium Model Selection. Research ShowCase 2008, April 15, 2008.
8. T. Radivoyevitch. *Automated model generation and selection methods for combinatorially complex biochemical equilibriums*. AACR, Denver 4/09 and Purine and Pyrimidine Society Meeting, Sweden, 6/22/09.

9. B. T. Hill, A. M.B. Collie, T. Radivoyevitch, E. D. Hsi, and J. Sweetenham, *Cell of Origin Determination in Diffuse Large B-Cell Lymphoma: Performance of Immunohistochemical (IHC) Algorithms and Ability to Predict Outcome*, ASH 2011
10. Y. Sauntharajah, RZ Mahfouz, R Englehaupt, J. Juersivich, L. Durkin, T. Radivoyevitch, K. Cooper, M Afable, R Dean, AS. Advani, M Kalaycio, R Sobecks, EA. Copelan, ED. Hsi, JP Maciejewski, and MA Sekeres, *A Proof of Principle Clinical Trial in Myelodysplastic Syndromes of Non-Cytotoxic Differentiation Therapy with Decitabine*, ASH 2011
11. AMB Collie, J Nolling, J Lin, BT Hill, T Radivoyevitch, L Kong, and ED Hsi, *Molecular Subtype Characterization of Formalin-Fixed, Paraffin-Embedded Diffuse Large B-Cell Lymphoma Samples on the Iceplex (R) System*. ASH 2012
12. R Mahfouz, E. Rickki, JA Juersivich, K Cooper, L Durkin, T Radivoyevitch, RV Tiu, FJ Reu, RM Dean, R Sobecks, M Kalaycio, EA Copelan, A Advani, ED Hsi, MA Sekeres, JP Maciejewski and Y Sauntharajah *Non-Cytotoxic Differentiation Therapy Based On Mechanism of Disease Produces Complete Remission in Myelodysplastic Syndromes (MDS) with High Risk Cytogenetics* ASH 2012
13. S Thota, P Lakin, H Husseinzadeh, H Makishima, BP Przychodzen, B Dienes, KM Guinta, N Hosono, T Radivoyevitch, MA. Sekeres, Y Sauntharajah, and JP Maciejewski, *Somatic Mutational Screen For Improved Prediction Of The Outcomes Of Epigenetic Therapy In MDS* ASH 2013

Invited Lectures

1. *The Risk of Chronic Myeloid Leukemia DOE Low Dose Workshop* in Washington DC (2001).
2. *Biologically Based Risk Estimation for Radiation-Induced Chronic Myeloid Leukemia* (2001) presented at the Medical University of South Carolina (January) and at Case Western Reserve University (June). This talk is available with audio from http://epbi-radivot.cwru.edu/ICB/CMLrisk_files/frame.htm.
3. *Biochemical system analyses of DNA microarray data*, Case Western Reserve University (October 2001)
4. *Biochemical system analyses of BCR-ABL childhood ALL*, CWRU (Feb. 2003 for EECS; Apr 2003 for EPBI)
5. *A two-way interface between systems biology markup language and R* CWRU, (Apr 2005 for EPBI)
6. *Case Integrative Cancer Biology Program*, Case Comprehensive Cancer Center Retreat, Geneva, OH (6/2005)
7. *Two integrative cancer biology approaches to therapeutic gain*, ICSB 2005 workshop, Harvard (Oct. 2005)
8. *Integrative Cancer Biology, ICBP workshop* in Washington DC (11/05), and at CWRU's Case Comprehensive Cancer Center (1/06), Anatomy (2/06) and Biomedical Engineering Department (3/06)
9. *Nucleotide Metabolism Based Systems Cancer Biology*, Chalmers, Göteborg, Sweden (6/8/07)
10. *Models of Ribonucleotide Reductase R1 Subunit Oligomerization* (6/11/07) Sångå Sångå, Stockholm, symposium *Enzymes in Deoxyribonucleotide Synthesis*.
11. *Nucleotide Metabolism Based Systems Cancer Biology*, Fred Hutchinson Cancer Center, Seattle (9/7/07)
12. *Equilibrium Model Selection*. Statistics Symposium, Ohio State University, (5/15/08), UseR 2008, Dortmund (8/12/2008), and CWRU Statistics (9/9/08) and Epidemiology and Biostatistics (10/7/08) seminars.
13. *Automated model generation and selection methods for combinatorially complex biochemical equilibria*. U. of Miami (3/27/09), UseR 2009, Rennes (7/9/09), DSC 2009, Copenhagen (7/14/09).
14. *Modeling Combinatorially Complex Ribonucleotide Reductase* City of Hope (5/13/10).
15. *Mathematical Models of dNTP Supply*, Case Comprehensive Cancer Center (9/16/10).
16. *dNTP Supply Gene Expression Patterns in Microarrays after P53 Loss*, Philadelphia, 11/4/11
17. *Epidemiology of CML*, Cleveland Clinic THOR 4/17/12 and CWRU Department of Epidemiology 4/18/12
18. *Integrated quantitative modeling of radiation-induced chronic myeloid leukemia (CML)*, 5th International Radiation Systems Biology Workshop, Oxford, 9/5/12.
19. *Quantitative Cancer Research* 12/17/13, Cleveland Clinic, Department of Quantitative Health Sciences

Teaching

EPBI 432	Introductory Statistics II (Linear Models)	S2002, S2003 (~30 students each year)
EPBI 473	Biomath of DNA Microarray Data	F2002, F2003, F2004 (~5 students each year)
EPBI 473	Integrative Cancer Biology	F2005 (http://epbi-radivot.cwru.edu/ICB/)
EPBI 415	Advanced Programming with R	S2010-13 (http://epbi-radivot.cwru.edu/EPBI415/)
EPBI 473	Integrative Cancer Biology	F2010 (http://epbi-radivot.cwru.edu/EPBI473/)

Mentoring

Academic Advisor: Mary E. Slaughter, Di Wu, Vinay Bhandaru, Jingting Yu, Xiaozhen Han, Paul Lakin,
Research Advisor: Di Wu, I-Jung Feng

Dissertation/thesis committees: Robert C. Kalayjian, Gary Falk, Carolyn Onyango, Mireya Diaz, Ariadni Papan, Elena Manilich, Junheng Ma, Sanath Wijerathna

Software Development

Created R packages ccems (Combinatorially Complex Equilibrium Model Selection), SBMLR (an interface between Systems Biology Markup Language and R), and SEERaBomb.

Conferences Organized

Organized, chaired and prepared supplementary material (<http://epbi-radivot.cwru.edu/ICSB2005/>) for the Integrative Cancer Biology Workshop at the International Conference on Systems Biology held at Harvard Medical School on October 23rd, 2005, see <http://csbi.mit.edu/icsb-2005>. Organized a Systems Cancer Biology Symposium at Case (1/20/2006) with invited speakers John J. Tyson, Robert C. Jackson and Herbert M. Sauro.

Peer Review Experience

Manuscript Reviews

Served as a referee for: *Biology Direct* (while serving editorial board), *Blood*, *Cancer Research*, *Electrophoresis*, *Nucleosides, Nucleotides and Nucleic Acids*, *Mathematical Biosciences*, *Journal of Theoretical Biology*, *Radiation & Environmental Biophysics*, *Radiation Research*, *Journal of Biological Chemistry*, *PLoS Computational Biology*, *Cytometry Part A*, *Bioinformatics*, *BMC Bioinformatics*, and *Theoretical Biology and Medical Modeling*.

Grant Reviews: NCI-I Study Section 10/2007-2011, NASA "Radiation Carcinogenesis" NSCOR Panel 8/2004. Reviewed a radiation biology grant for the *Ministry of Education of the Czech Republic* in 2000.

Grant Funding

Ongoing

Title: Contribution of GCR exposure to hematopoietic stem cell dysfunction and oncogenesis

Source: NASA, NNJ13ZSA001N;

PI: S. Gerson; **Amount:** \$ \$906,011 (total Direct Costs)

Duration: 3/01/2014-2/28/2017; **TR Role:** 7.5% effort (Biostatistician)

Title: Improving HbF induction by inhibiting epigenetic target enzymes

Source: Subcontract from Univ Michigan U54HL117658-01

PIs: Sauntharajah, Engel, DeSimone (MPI); **Amount:** \$203,997 (Annual Direct Costs)

Duration: 08/15/2013 - 05/31/2018; **TR Role:** 5% effort (Biostatistician)

Title: Optimizing decitabine regimen + formulation for non-dna damaging dnmt1 depletion

Source: National Institutes of Health 5R01 CA138858-03

PI: Y. Sauntharajah; **Amount:** \$319,326 (Annual Direct Costs)

Duration: 7/01/2009-6/30/2014; **TR Role:** 10% effort (Biostatistician)

Completed

Title: Intercellular interactions modulate carcinogenesis course: a dynamics study

Source: Subcontract from UC Berkeley award U54CA149233

PI: R. K. Sachs; **Amount:** \$203,997 (Annual Direct Costs)

Duration: 5/01/2012-2/28/2013; **TR Role:** 20% effort (Biomathematician)

Title: Biochemical Systems Analyses of IdUrd in MMR-/+ Cells
Source: National Institutes of Health K25 CA 104791-05
PI: T. Radivoyevitch; **Amount:** \$133,875 (Annual Direct Costs)
Duration: 2/02/2005-1/31/2011; **TR Role:** 90% effort

Title: Complex Systems & Control of MMR-Deficient Cells
Source: National Institutes of Health 1P20 CA112963-01
PI: T. J. Kinsella; **Amount:** \$290,193 (Annual Direct Costs)
Duration: 09/30/04-01/31/05; **TR Role:** 75% effort

Title: DNA Metabolizing Enzyme Targeted Therapy/Phase I Trials of Anticancer Agents
Source: National Institutes of Health 5U01 CA62502-10
PI: S.C. Remick; **Amount:** \$311,050 (Annual Direct Costs)
Duration: 03/01/1994-01/31/2008; **TR Role:** Statistician, 10% effort

Title: Cancer Center Support Grant
Source: National Institutes of Health P30 CA43703-13
PI: J. K.V. Willson; **Amount:** \$2,483,930 (Annual Direct Costs)
Duration: 8/1/2001-9/30/2004; **TR Role:** Statistician, 40% effort

Title: Biochemical System Modeling in the Treatment of Childhood Leukemia
Source: American Cancer Society: Institutional Research Grant #IRG-91-022-10
PI: T. Radivoyevitch; **Amount:** \$20,000 (Annual Direct Costs)
Duration: 12/1/2002-11/31/2003; **TR Role:** 25% effort

Title: Chromatin Geometry and Intrachange Proximity Effects
Source: NIH R01 GM57245-03; **PI:** R.K. Sachs; **Amount:** \$180,000 (Annual Direct Costs)
Duration: 06/01/2000 - 04/30/2001 **TR Role:** 100% effort

Title: Radiation Leukemogenesis: Applying Basic Science to Epidemiological Estimates of Low Dose Risks
Source: Department of Energy DE-FG02-99ER62728; **PI:** D.G. Hoel; **Amount:** \$75,000 (Annual Direct Costs)
Duration: 11/01/1998 - 02/7/2000 **TR Role:** 100% effort