

ERICH HUANG

Biometric Research Branch
Division of Cancer Treatment and Diagnosis
National Cancer Institute, National Institutes of Health
9609 Medical Center Drive Room 5W-626 MSC 9735
Bethesda, MD 20892-9735

erich.huang@nih.gov
<http://linus.nci.nih.gov/~brb/>
(240) 276-6151

RESEARCH AND WORK EXPERIENCE

- 6.2010 –** **Mathematical Statistician**, Biometric Research Branch – Division of Cancer Treatment and Diagnosis, National Cancer Institute, National Institutes of Health
- 9.2005 – 5.2010** **Research Assistant to Professor Christopher Genovese**, Department of Statistics, Carnegie Mellon University
- 9.2004 – 5.2010** **Teaching Assistant: Various Undergraduate and Graduate Statistics Courses**, Department of Statistics, Carnegie Mellon University
- 5.2008 – 8.2008** **Biostatistics Summer Intern**, Early and Business Development, Genentech, Inc.
- 7.2006 – 8.2006** **Summer Course Instructor: Experimental Design for Behavioral and Social Sciences (Stat 36-309)**, Department of Statistics, Carnegie Mellon University
- 7.2005 – 8.2005** **Summer Course Instructor: Statistical Reasoning and Practice (Stat 36-201)**, Department of Statistics, Carnegie Mellon University
- 9.2001 – 12.2001;** **Teaching Assistant: Multidimensional Calculus (Math 164)**,
9.2002 – 5.2004 Department of Mathematics, University of Rochester

EDUCATION

- 5.2010** **Ph. D. in Statistics**, Carnegie Mellon University
Dissertation: *System-Oriented Characterization of the Human Primary Visual Cortex*
Committee: C. Genovese (advisor), R. Kass, C. Shalizi, V. Ventura, E. Merriam
(Center for Neural Sciences, New York University)
- 5.2005** **M. S. in Statistics**, Carnegie Mellon University
- 5.2004** **B. S. in Applied Mathematics with High Distinction and Minor in Music**,
University of Rochester

PUBLICATIONS

Peer-Reviewed
Journal
Publications

Li, H, Zhu, Y, Burnside, ES, **Huang, E**, Drukker, K, Hoadley, KA, Fan, C, Conzen, SD, Zuley, M, Net, JM, Sutton, E, Whitman, GJ, Morris, E, Perou, CM, Ji, Y, Giger, ML (2016). “Quantitative MRI radiomics in the prediction of molecular classifications of breast cancer subtypes in the TCGA/TCIA data set”. *Nature Partner Journals Breast Cancer*, accepted.

Obuchowski, NA, Reeves, AP, **Huang, EP**, Wang, X-F, Buckler, AJ, Kim, HJ, Barnhart, HX, Jackson, EF, Giger, ML, Pennello, G, Toledano, AY, Kalpathy-Cramer, J, Apanasovich, TV, Kinahan, PE, Myers, KJ, Goldgof, DB, Barboriak, DP, Gillies, RJ, Schwartz, LH, Sullivan, DC, for the Quantitative Imaging Biomarkers Alliance (QIBA) Metrology Algorithm Comparison Working Group (2015). “Quantitative imaging biomarkers: A review of statistical methods for computer algorithm comparisons”. *Statistical Methods in Medical Research* 24 (1), pg. 68-106.

Huang, EP, Wang, X-F, Roy Choudhury, K, McShane, LM, Gönen, M, Ye, J, Buckler, AJ, Kinahan, PE, Reeves, AP, Jackson, EF, Guimaraes, AP, Zahlmann, G, for the Quantitative Imaging Biomarkers Alliance (QIBA) Metrology Meta-Analysis Working Group (2015). “Meta-analysis of the technical performance of an imaging procedure: Guidelines and statistical methodology”. *Statistical Methods in Medical Research* 24 (1), pg. 141-174.

Sullivan, DC, Obuchowski, N, Kessler, LG, Raunig, DL, Gatsonis, C, **Huang, EP**, Kondratovich, M, McShane, LM, Reeves, AP, for the Radiological Society of North America Quantitative Imaging Biomarkers Alliance (RSNA-QIBA) Metrology Working Group (2015). “Metrology standards for quantitative imaging biomarkers”. *Radiology* 277 (3), pg. 813-825.

Shinagare, AB, Vikram, R, Jaffe, C, Akin, O, Kirby, J, **Huang, E**, Freymann, J, Sainani, N, Sadow, CA, Bathala, TK, Rubin, D, Oto, A, Heller, MT, Surabhi, VR, Katabathina, V, Silverman, SG (2015). “Radiogenomics of clear cell renal cell carcinoma: Preliminary findings of the Cancer Genome Atlas-Renal Cell Carcinoma (TCGA-RCC) Research Group”. *Abdominal Imaging* 40 (6), pg. 1684-1692.

Polley, MC, Polley, EC, **Huang, EP**, Freidlin, B., and Simon, R. “Two-stage adaptive cutoff (TACO) design for building and validating a prognostic biomarker signature” (2014). *Statistics in Medicine* 33 (29), pg. 5097-5110.

Huang, E. P., Fridlyand, J., Lewin-Koh, N., Yue, P., Shi, X., Dornan, D., and Burington, B. (2010). “Statistical techniques to construct assays for identifying likely responders to a treatment under evaluation from cell line genomic data”. *Biomed Central Cancer* 10 (586).

Submitted

Huang, EP, Lin, FI, Shankar, LK. “Beyond correlations: Demonstrating utility of advanced imaging in oncology treatment and clinical trial design”.

Lin, FI, **Huang, EP**, Shankar, LK. “Beyond correlations, sensitivities, and specificities: Case examples of the evaluation of advanced imaging in oncology clinical trials”.

PRESENTATIONS

- 5.13.2014** **Poster:** “Validating human-made tumor characterizations based on diagnostic images for prognosis and disease management decision in the clinic”. *Third Annual The Cancer Genome Atlas (TCGA) Symposium*, Bethesda, MD.
- 11.29.2011** **Poster:** “A novel statistical method for lossless compression of diagnostic imaging features”. *Radiological Society of North America Annual Meeting*, Chicago, IL.
- 4.6.2010** **Poster:** “Statistical methods for a system-oriented characterization of the human primary visual cortex”. *Annual Banquet of the American Statistical Association*, Pittsburgh, PA.
- 10.28.2009** **Invited Seminar:** “System-oriented characterization of the human primary visual cortex”. *Biometric Research Branch Seminar Series, National Cancer Institute*, Rockville, MD.
- 3.31.2009** **Poster:** “Simultaneous estimation of response fields and impulse response functions”. *Annual Banquet of the American Statistical Association*, Pittsburgh, PA.
- 8.15.2008** **Invited Seminar:** “Translating cell line data into clinical information”. *Oncology Biostatistics Forum, Genentech, Inc.*, South San Francisco, CA.
- 6.17.2008** **Invited Seminar:** “A region-growing likelihood-based approach to fMRI data analysis”. *Early and Business Development Seminar, Genentech, Inc.*, South San Francisco, CA.

PROFESSIONAL ACTIVITIES

- Committees**
- Response Evaluation Criteria in Solid Tumors (RECIST) Committee (Member, 2012 –)
 - National Cancer Institute Clinical Imaging Steering Committee (Member, 2010 –)
 - American College of Radiology Imaging Network (ACRIN) Data Safety and Monitoring Committee (Ex-Officio Member, 2010 –)
- Referee Service**
- Journal of Neuro-Oncology*
 - Statistics in Biopharmaceutical Research*

HONORS AND AWARDS

- 2006** Overall instructor rating of 5/5 from students of Experimental Design for Behavioral and Social Sciences
- 2004** National Science Foundation VIGRE Fellowship: full tuition plus \$1800 per month stipend for each semester of graduate school
Inducted into Phi Beta Kappa
Graduated Magna Cum Laude from University of Rochester (final GPA: 3.90/4.00)
- 2003** Inducted into Golden Key National Honor Society

TECHNICAL SKILLS

Statistical Software	R/S-plus, Matlab, SPSS, Minitab
Programming	C, HTML, UNIX Shell Scripting
Document Preparation	L ^A T _E X, Microsoft Office, OpenOffice
Operating Systems	UNIX/LINUX, Microsoft Windows, Mac OS X