

## **Stuart M. Brown**

Research Associate Professor of Cell Biology, NYU School of Medicine

### **Education**

BS: University of Michigan, Ann Arbor, MI, 1983 Botany

PhD: Cornell University, Ithaca, NY, 1992 Molecular Biology

### **Professional Experience:**

1993-94 **Postdoctoral Fellow**, University of Manitoba, Winnipeg, Canada

1995-96 **Postdoctoral Fellow**, USDA Plant Genetic Resources Unit, Griffin, GA

1996 – 2000 **Research Assistant Professor**, Dept. of Cell Biology, NYU School of Medicine, NY, NY

2000-present **Associate Professor**, Dept. of Cell Biology, NYU School of Medicine, NY, NY

2000-2008 **Director**, Research Computing Resource, NYU School of Medicine, NY, NY

### **Teaching**

**Bioinformatics** (Course Director), 1997-2009, NYU School of Medicine, NY, NY

The course, for Ph.D students, is an in depth introduction to sequence analysis software including local and internet resources to analyze DNA and protein sequences. Annually, approximately 15 students register for this course and other students, faculty, and staff audit the lectures or study the course notes and exercises on the RCR website.

**Bioinformatics** (Course Director), 2003-2009, Fordham University, Dept. of Computer Science; 3-credit course in Bioinformatics for computer science majors.

**Medical Genomics** (Course Director) 2000-2004; NYU School of Medicine, NY, NY.

This course was developed for the Master Scholars Program within the medical school curriculum to provide medical students with an understanding of the impacts that new developments in DNA technologies will have on the practice of clinical medicine.

**Genetic Epidemiology** (Lecturer) 2007-2009, NYU School of Medicine, NY, NY

3-credit course for the Masters in Global Public Health program.

### **Grant Support (current)**

**U54 RR024386-01A1** (B. Cronstein) 7/01/2009 – 6/30/2014

NIH/NCRR NYU-HHC Clinical Translation Science Award

Direct Costs: \$4,779,886 Total Costs: \$6,134,329

Major goal: The purpose of this proposal is to establish a Clinical and Translational Science Institute (CTSI) at NYU that will increase collaboration among clinical, translational and basic scientists to better determine the relevance and applicability of scientific advances to clinical problems

Role: Director of Bioinformatics Core 30% FTE

**UH2CA140233** (Pei) 05/01/2009 – 03/30/2010

Funding agency: NIH/NCI

Direct costs: \$658,583

Title: Foregut microbiome in development of esophageal adenocarcinoma

Major goal: The major goal of this project is to demonstrate that there is a change in the foregut microbiome at various stages of reflux disorder developing toward esophageal adenocarcinoma.

Role: co-investigator 20% FTE

UH2 AR057506-01 (Blaser) 5/7/09-4/30/10

Funding agency: NIH

Title: Evaluation of the cutaneous microbiome in psoriasis

Direct costs: \$401,446

Role: co-investigator 18% FTE

D43 TW007884-01 Carlton (PI) 06/1/07-05/31/12

NIH/Fogarty International Center

Promotion of Plasmodium Research and Training in India.

Direct costs: \$624,675

Role: Trainer

R01 DE13937-04A2 Caufield (PI) 02/15/08 – 12/31/12

NIH/NIDCR Microbial Diversity and Genetic Characterization of Cariogenic Biofilms

Direct costs: \$242,500

Role: co-investigator 5% FTE

#### Other Responsibilities

NSF SBIR biological informatics grant review panelist, 2003.

NSF III-FO-SM Data Mining & Bioinformatics panel, 2008.

NIH Challenge Grant Reviewer, 2009

Director, Research Computing Resource (RCR), 1996–2008 research.

Director, NYU GCRC Bioinformatics Core (20% FTE 2004-2009)

Director, NYU NIEHS Bioinformatics Core (5% FTE 2004-2009)

American Medical Development Corporation (AMDeC) Bioinformatics Scientific Advisory Committee, 2001-2006.

AMDeC Microarray Resource Center, Committee Chair for microarray database technology, 2002-2007.

WHO Bioinformatics and Functional Genomics Scientific Advisory Committee (2003).

#### Honors and Awards:

USDA National Needs Fellowship in Plant Molecular Biology, 1985-1989

NSERC Postdoctoral Fellowship in Plant Molecular Biology, 1993-1994

Dean's Citation for Excellence in Medical Education, NYU School of Medicine, 1999

Burroughs Wellcome Fund visiting Professor in Microbiological Sciences at North Carolina Central University, 2002.

#### Invited Presentations

WHO Regional Bioinformatics course, Bangkok, Thailand, October, 2003.

Bioinformatics Short Course, University of Puerto Rico, 2003, 2004, 2005.

American Society for Microbiology, Annual Biomedical Research Conference for Minority Students (ABRCMS).Nov, 2002.

Bioinformatics Short Course, MARC/RISE Program, CUNY, 2001, 2002-2004.  
ASM Undergraduate Microbiology Education Conference, Univ. of Utah, May, 2002.  
Bioinformatics Short Course, North Carolina Central University, 2002.  
Short Course: Using the Wisconsin Package (GCG) for DNA and Protein Sequence Analysis, Cold Spring Harbor Laboratory, March, 2000.  
Computational Biology Short Course, Univ. of Miami School of Medicine, Jan, 2000.  
National Biotechnology Information Facility workshop: Bioinformatics and Advanced Molecular Biology Techniques, City College NY, Jan, 2000.  
National Biotechnology Information Facility workshop: Merging Biology and Computer Science, North Carolina Central University, Durham, NC, Oct. 1999.  
National Biotechnology Information Facility workshop: Bioinformatics Tools on the Internet, Tusgege Univ, Tuskegee, AL, Nov. 1998.

### **Publications**

- Brown SM.** Medical Genomics (2<sup>nd</sup> edition). Wiley-Liss, Inc., Hoboken, NJ. 400 pp. (2008).
- Brown SM.** Essentials of Medical Genomics. John Wiley & Sons, Inc., Hoboken, NJ. 274 pp. (2003).
- Brown SM,** ed. BioComputing: Computer Tools for Biologists. Eaton Publishing Co., Natick, MA, 535 pp. (2003).
- Brown SM.** Bioinformatics: A Biologists Guide to Biocomputing and the Internet. Eaton Publishing Co., Natick, MA, 188 pp. (2000).
- Chan MK, Ocampo-Hafalla MT, Vartanian V, Jaruga P, Kirkali G, Koenig KL, **Brown S**, Lloyd RS, Dizdaroglu M, Teebor GW. Targeted deletion of the genes encoding NTH1 and NEIL1 DNA N-glycosylases reveals the existence of novel carcinogenic oxidative damage to DNA. DNA Repair (Amst). 2009 Apr 3. [Epub ahead of print]
- Raju B, Hoshino Y, Belitskaya-Lévy I, Dawson R, Ress S, Gold JA, Condos R, Pine R, **Brown S**, Nolan A, Rom WN, Weiden MD. Gene expression profiles of bronchoalveolar cells in pulmonary TB. Tuberculosis (Edinb). 2008 Jan;88(1):39-51.
- Barry AE, Leliwa-Sytek A, Tavul L, Imrie H, Migot-Nabias F, **Brown SM**, McVean GA, Day KP. Population genomics of the immune evasion (var) genes of Plasmodium falciparum. PLoS Pathog. 2007 Mar;3(3):e34.
- Kuriakosea MA, Chenb WT, Hea ZM, Sikoraa AG, Zhangb P, Zhangb ZY, Qiub WL, Hsuc DF, McMunn-Coffranc C, **Brown SM** , Elangoe EM, Delacure MD, Chen FA. Selection and validation of differentially expressed genes in head and neck cancer. CMLS, Cell. Mol. Life Sci. 61:1372–1383 (2004).
- Raju B, Hoshino Y, Kuwabara K, Belitskaya I, Prabhakar S, Canova A, Gold JA, Condos R, Pine RI, **Brown SM**, Rom WN, and Weiden MD. Aerosolized Gamma Interferon (IFN- $\gamma$ ) Induces Expression of the Genes Encoding the IFN- $\gamma$ -Inducible 10-Kilodalton Protein but not Inducible Nitric Oxide Synthase in the Lung during Tuberculosis. Infection and Immunity, 72: 1275–1283 (2004).
- Brown SM.** Bioinformatics becomes respectable. BioTechniques 34:1124-27 (2003).
- Santori FR, **Brown SM**, Vukmanovic S. Genomics-based identification of self-ligands with T cell receptor-specific biological activity. Immunol Rev. 190:146-60. Review. (2002).
- Santori FR, **Brown SM**, Lu Y, Neubert TA, Vukmanovic S. Cutting edge: positive selection induced by a self-peptide with TCR antagonist activity. J Immunol.

- 167:6092-5 (2001).
- Santori FR, Kieper WC, **Brown SM**, Lu Y, Neubert TA, Johnson KL, Naylor S, Vukmanovic S, Hogquist KA, Jameson SC. Rare, structurally homologous self-peptides promote thymocyte positive selection. *Immunity*. 17:131-42 (2002).
- Matuschewski K, Ross J, **Brown SM**, Kaiser K, Nussenzweig V, Kappe SH. Infectivity-associated changes in the transcriptional repertoire of the malaria parasite sporozoite stage. *J Biol Chem*. 277:41948-53 (2002).
- Kappe SH, Gardner MJ, **Brown SM**, Ross J, Matuschewski K, Ribeiro J, Adams JH, Quackenbush J, Cho J, Carucci DJ, Hoffman SL, and Nussenzweig V. Exploring the transcriptome of the malaria sporozoite stage. *PNAS* 98: 9895-9900, (2001).
- Boorstein RJ, Cummings A Jr, Marenstein DR, Chan MK, Ma Y, Neubert TA, **Brown SM**, Teebor GW. Definitive identification of mammalian 5-hydroxymethyluracil DNA N-glycosylase activity as SMUG1. *J Biol Chem*. 276:41991-7. (2001).
- Brown SM** Be Alert: Free sequence alerting services. *BioTechniques*, 29: 1210-1212 (2000).
- Brown SM** Get your bioinformatics on the Web. *BioTechniques*, 28: 244-246 (2000).
- Brown SM** Phylogenetics on the web. *BioTechniques*, 27: 1146-1148 (1999).
- Brown SM** Snapping up SNPs. *BioTechniques*, 26: 1090-1092 (1999).
- Brown SM** Dealing with Genome Project data. *BioTechniques*, 26: 266-268 (1999).
- Brown SM** Analyzing protein families and domains on the web. *BioTechniques*, 25: 596-598 (1998).
- Brown SM** Advanced similarity searches on the web: Gapped BLAST, PSI-BLAST, FASTA 3.0 and INCA. *BioTechniques*, 25: 214-216 (1998).
- Brown SM** Sequence alignment on the web. *BioTechniques*, 24: 944-946 (1998).
- Brown SM** Searching ESTs. *BioTechniques*, 24: 604-606 (1998).
- Brown SM** Sequence similarity searches on the world wide web. *BioTechniques*, 24: 248-250 (1998)
- Brown SM** Biologists and mathematicians: bridging the chasm. *Trends in Genetics*, 13:173-174 (1997).
- Brown SM**, Szewc-McFadden AK, and Kresovich S. Development and application of simple sequence repeat (SSR) loci for plant genome analysis. *in* *Methods of Plant Genome Analysis: Their Merits and Pitfalls*. CRC Press, Boca Raton, FL, P.P. Jauhar, ed. (1995).
- Brown SM**, Hopkins MR, Wang TY, Kresovich S., Duncan RR, Senior ML, Gonzalez-Candelas F. Multiple methods for the identification of polymorphic simple sequence repeats (SSRs) in sorghum. **Theor. Appl. Genet.** 92:1-9 (1996).
- Brown SM** and Kresovich S. The use of molecular markers in plant germplasm conservation. *in* *Genome Mapping in Plants*. R.G. Landes Co., Austin, TX, A. H. Paterson ed. (1996).
- Satyanarayana T, Mitchell SE, Reddy DVR, **Brown SM**, Kresovich S., Jarret R, Naidu RA, and Demski JW. Peanut bud necrosis tospovirus S RNA: Complete nucleotide sequence, genome organization and homology to other tospoviruses. *Archives of Virology* 141:85-98 (1996).
- Culley D, **Brown SM**, Parsons MA, Hadwiger LA, Fristensky BW. Cloning and Sequencing of Disease- Resistance Response Gene DRR49a (Ypr10.PS.1; pI49) from

*Pisum sativum*. J. Pl. Physiol. 109:722 (1995).