

VLADIMIR VACIC

Columbia University, Department of Computer Science
523 Computer Science Building, 500 W 120th Street, Mailcode: 0401, New York, NY 10027-7003
E-mail: vladimir@cs.columbia.edu, Telephone: (646) 775-6083, Web: <http://www.cs.columbia.edu/~vladimir>

Postdoctoral Research Scientist
Columbia University

2010 -
New York, NY

EDUCATION AND TRAINING

Postdoctoral Fellow Cold Spring Harbor Laboratory	2008-2010 Cold Spring Harbor, NY
Ph.D. Computer Science (Bioinformatics) University of California, Riverside	2008 Riverside, CA
M.S. Computer and Information Sciences (Machine Learning and Data Mining) Temple University	2004 Philadelphia, PA
B.S. Computer Science and Mathematics (double major), <i>Summa Cum Laude</i> University of Bridgeport	2002 Bridgeport, CT

RESEARCH

Intern Personalized Healthcare Group, Siemens Corporate Research	2007 Princeton, NJ
Research Assistant Center for Comp. Biology and Bioinformatics, Indiana University School of Medicine	2004, 2005 Indianapolis, IN

TEACHING

Teaching Assistant Department of Computer Science and Engineering, UC Riverside	2004-2006 Riverside, CA
Teaching Assistant Computer and Information Sciences Department, Temple University	2003-2004 Philadelphia, PA

AWARDS AND DISTINCTIONS

PSB 2008 travel award sponsored by the National Institutes of Health.
Dean's Graduate Fellowship award at the University of California, Riverside (2004-2006).
Academic Excellence Scholarship at the University of Bridgeport (1998-2002).
President's List at the University of Bridgeport for all semesters (1998-2002).
Member of the Phi Kappa Phi and Upsilon Pi Epsilon Honor Societies at University of Bridgeport.

PUBLICATIONS

1. **Vacic V**, Iakoucheva LM. **Disease mutations in disordered regions - exception to the rule?** *Mol Biosyst.* 8(1):27-32. (2012)
2. Malhotra D, McCarthy S, Michaelson JJ, **Vacic V**, Burdick KE, Yoon S, Cichon S, Corvin A, Gary S, Gershon ES, Gill M, Karayiorgou M, Kelsoe JR, Krastoshevsky O, Krause V, Leibenluft E, Levy DL, Makarov V, Bhandari A, Malhotra AK, McMahon FJ, Nöthen MM, Potash JB, Rietschel M, Schulze TG, Sebat J. **High frequencies of *de novo* CNVs in bipolar disorder and schizophrenia.** *Neuron.* 72(6):951-63. (2011)
3. **Vacic V**, McCarthy SE, Malhotra D, Murray F, Cho HH, Peoples A, Makarov V, Yoon S, Bhandari A, Corominas R, Iakoucheva LM, Krastoshevsky O, Krause V, Larach Walters V, Welsh DK, Craig D, Kelsoe JR, Gershon ES, Leal SM, Dell Aquila M, Morris DW, Gill M, Corvin A, Insel PA, McClellan J, King MC, Karayiorgou M, Levy DL, DeLisi LE, Sebat J. **Duplications of the neuropeptide receptor VIPR2 confer significant risk for schizophrenia.** *Nature*, 471(7339):499-503. (2011)
4. Radivojac P, **Vacic V**, Haynes C, Cocklin RR, Mohan A, Heyen JW, Goebel MG, Iakoucheva LM. **Identification, analysis and prediction of protein ubiquitination sites.** *Proteins*, 78(2):365-380. (2010)
5. **Vacic V**, Iakoucheva LM, Lonardi S, Radivojac P. **Graphlet kernels for prediction of functional residues in protein structures.** *J Comput Biol*, 17(1):55-72. (2010)
6. Bogunovic D, O'Neill DW, Belitskaya-Levy I, **Vacic V**, Yu Y-L, Adams S, Darvishian F, Berman R, Shapiro R, Pavlick AC, Lonardi S, Zavadil J, Osman I, Bhardwaj N. **Immune profile and mitotic index of metastatic melanoma lesions enhance clinical staging in predicting patient survival.** *Proc Natl Acad Sci USA*, 106(48):20429-34. (2009)
7. McCarthy S, Makarov V, Kirov G, Addington A, McClellan J, Yoon S, Perkins D, Dickel DE, Kusenda M, Krastoshevsky O, Krause V, Kumar RA, Grozeva D, Malhotra D, Walsh T, Zackai EH, Kaplan P, Ganesh J, Krantz ID, Spinner NB, Roccanova P, Bhandari A, Pavon K, Lakshmi B, Leotta A, Kendall J, Lee Y, **Vacic V**, Gary S, Iakoucheva LM, Crow TJ, Christian SL, Lieberman J, Stroup S, Lehtimäki T, Puura K, Haldeman-Englert C, Pearl J, Goodell M, Willour VL, DeRosse P, Steele J, Kassem L, Wolff J, Chitkara N, McMahon F, Malhotra AK, Potash JB, Schulze T, Nöthen MM, Cichon S, Rietschel M, Leibenluft E, Kustanovich V, Lajonchere CM, Sutcliffe JS, Skuse D, Gill M, Gallagher L, Mendell NR, Wellcome Trust Case Control Consortium, Craddock N, Owen MJ, O'Donovan MC, Shaikh TH, Susser E, DeLisi LE, Sullivan PF, Deutsch CK, Rapoport J, Levy DL, King MC, Sebat J. **Microduplications of 16p11.2 are associated with schizophrenia.** *Nat Genet*, 41:1223-7. (2009)
8. Dunker AK, Oldfield CJ, Meng J, Romero P, Yang JY, Chen JW, **Vacic V**, Obradovic Z, Uversky VN. **The unfoldomics decade: an update on intrinsically disordered proteins.** *BMC Genomics*, 9(S2):S1. (2008)
9. Jin H, **Vacic V**, Girke T, Lonardi S, Zhu J-K. **Small RNAs and the regulation of cis-natural antisense transcripts in Arabidopsis.** *BMC Mol Biol*, 9:6. (2008)
10. **Vacic V**, Jin H, Zhu J-K, Lonardi S. **A probabilistic method for small RNA flowgram matching.** *Pac Symp Biocomput*, 13:75-86. (2008)
11. Fu Z, Chen X, **Vacic V**, Nan P, Zhong Y, Jiang T. **MSOAR: A high-throughput ortholog assignment system based on genome rearrangement.** *J Comput Biol*, 14(9):1160-75. (2007)
12. **Vacic V**, Uversky VN, Dunker AK, Lonardi S. **Composition Profiler: a tool for discovery and visualization of amino acid composition differences.** *BMC Bioinformatics*, 8:211. (2007)
13. **Vacic V**, Oldfield CJ, Mohan A, Radivojac P, Cortese MS, Uversky VN, Dunker AK. **Characterization of molecular recognition features, MoRFs, and their binding partners.** *J Proteome Res*, 6(6):2351-66. (2007)
14. Sickmeier M, Hamilton J, LeGall T, **Vacic V**, Uversky VN, Cortese MS, Tompa P, Obradovic Z, Dunker AK. **DisProt: the database of disordered proteins.** *Nucleic Acids Res*, 35:D786-93. (2007)
15. Mohan A, Oldfield CJ, Radivojac P, **Vacic V**, Cortese MS, Dunker AK, Uversky VN. **Analysis of Molecular Recognition Features (MoRFs).** *J Mol Biol*, 362(5):1043-59. (2006)

16. **Vacic V**, Iakoucheva LM, Radivojac P. **Two Sample Logo: a graphical representation of the differences between two sets of sequence alignments.** *Bioinformatics*, 22(12):1536-7. (2006)
17. Fu Z, Chen X, **Vacic V**, Nan P, Zhong Y, Jiang T. **A parsimony approach to genome-wide ortholog assignment.** *RECOMB'06*, Venice, Italy. (2006)
18. Vucetic S, Obradovic Z, **Vacic V**, Radivojac P, Peng K, Iakoucheva LM, Cortese MS, Lawson JD, Brown CJ, Sikes JG, Newton CD, Dunker AK. **DisProt: a database of protein disorder.** *Bioinformatics*, 21(1): 137-40. (2005)

POSTERS

- * **Vacic V**, Dewal N, LaFramboise T, Freedman ML, Pe'er I. Strategies for analyzing allele specificity in ChIP-seq data. *ICHG/ASHG*, Montreal, Canada. (2011)
- * Sebat J, McCarthy S, **Vacic V**, Burdick KE, Cichon S, Corvin A, Gary S, Gershon ES, Karayiorgou M, Kelsoe JR, Krastoshevsky O, Krause V, Leibenluft E, Levy DL, Malhotra A, McMahon F, Michaelson J, Potash J, Reitschel J, Schulz T, Malhotra D. De novo copy number variants confer risk for early onset bipolar disorder and schizophrenia. *ICHG/ASHG*, Montreal, Canada. (2011)
- * **Vacic V**, Kenny EE, Gusev A, Peter I, Cho G, Atzmon G, Ostrer H, Bressman SB, Ozelius L, Pe'er I. Admixture in Ashkenazi Jewish cohorts and implications for association studies. *ASHG*, Washington, DC. (2010)
- * **Vacic V**, McCarthy SE, Yoon S, Malhotra D, Makarov V, Iossifov I, Iakoucheva L, Sebat J. Estimating significance of CNV-pathway associations in schizophrenia. *RECOMB Systems Biology*, Cambridge, MA. (2009)
- * Kusenda M, **Vacic V**, Yoon S, Wigler M, Sebat J. The effect of chr16p11.2 microdeletions and microduplications on gene expression in Autism Spectrum Disorders and Schizophrenia. *ASHG*, Honolulu, HI. (2009)
- * Bogunovic D, O'Neill D, Belitskaya-Levy I, **Vacic V**, Adams S, Darvishian F, Pavlick A, Zavadil J, Osman I, Bhardwaj N. Use of gene expression profile and mitotic index of metastatic melanoma lesions as an adjunct to TNM staging in predicting patient survival. *ASCO*, Orlando, FL. (2009)
- * Kusenda M, Yoon S, **Vacic V**, Wigler M, Sebat J. The effect of chr16p11.2 microdeletions and microduplications on gene expression in Autism Spectrum Disorders. *ASHG*, Philadelphia, PA. (2008)
- * **Vacic V**, Oldfield CJ, Mohan A, Radivojac P, Cortese MS, Uversky VN, Dunker AK. Analysis of molecular recognition feature complexes. *Biophysical Society Annual Meeting*, Baltimore, MD. (2007)
- * Dunker AK, Mohan A, **Vacic V**, Radivojac P, Oldfield CJ, Cortese MS, Uversky VN. Molecular Recognition Features, MoRFs. *Biophysical Society Annual Meeting*, Salt Lake City, UT. (2006)

SERVICES

- * Program committee member for the International Workshop on Data Mining in Bioinformatics - BIODDD (2011), IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP) - Bioinformatics Track (2009, 2010, 2012).
- * Reviewer for (*journals*) *Nucleic Acids Research*, *Molecular Biology and Evolution*, *Bioinformatics*, *BMC Structural Biology*, *Pattern Recognition*, *PLoS One*, *Algorithms for Molecular Biology*, *Molecules*, *IEEE Communications Letters*; (*conferences*) *Intelligent Systems for Molecular Biology (ISMB)*, *Pacific Symposium on Bio-computing (PSB)*, *Computational Systems Bioinformatics (CSB)*, *Workshop on Algorithms in Bioinformatics (WABI)*, *IEEE International Conference on Data Mining (ICDM)*, *SIAM Data Mining (SDM)*, *Combinatorial Pattern Matching (CPM)*, *IEEE International Conference on Tools with Artificial Intelligence*.
- * President of the Upsilon Pi Epsilon (Honor Society for the Computing Sciences) Bridgeport Delta Chapter at the University of Bridgeport (2001-2002).