

Bioinformatics Institute Publications – 2011

1.	<i>ELSAWY Karim, TWAROCK Reidun, LANE David, VERMA Chandra, CAVES Leo.</i> Characterisation of the ligand receptor encounter complex and its potential for in silico kinetics based drug development. Journal of Chemical Theory and Computation, doi : 10.021/ct200560w
2.	<i>CELIK Turgay, TIAHJADI Tardi.</i> Adaptive Colour Constancy Algorithm Using Discrete Wavelet Transform. Computer Vision and Image Understanding, 2011, doi: 10.1016/j.cviu.2011.12.004
3.	<i>ZHANG Zhong Hong, BHARATHAM Kavitha, CHEE Sharon, MIHALEK Ivana.</i> Cube-DB: detection of functional divergence in human protein families. Nucleic Acids Research, 2012, Vol. 40, doi: 10.1093/nar/gkr1129
4.	<i>LANE David P, ARUMUGAM Madhumalar, LEE Alison P., TAY Boon Hui, VERMA Chandra, BRENNER Sydney, VENKATESH Byrappa.</i> Conservation of all three p53 family members and Mdm2 and Mdm4 in the cartilaginous fish. Cell Cycle, Vol. 10, Issue 24, Dec 15 2011, Pg 4272-4279, PMID: 22107691, http://www.landesbioscience.com/journals/cc/LaneCC10-24.pdf
5.	<i>LUKMAN Suryani, ROBINSON Robert, WALES David, VERMA Chandra.</i> Conformational dynamics of capping protein and interaction partners: simulation studies. Proteins: Structure, Function and Bioinformatics, 2011, Pg 1066 - 1077, doi: 10.1002/prot.24008
6.	<i>JIANG Ying, TAN Chin Yaw, TAN Sze Yu, WONG Miki, CHEN Yi Fan, ZHANG Lei, YAO Kui, GAN Samuel, VERMA Chandra, TAN Yee-Joo.</i> SAW Sensor for Influenza A Virus Detection Enabled with Efficient Surface Functionalization. Sensors and Actuators B: Chemical, 2014, doi:10.1016/j.snb.2014.11.103
7.	<i>BATAGOVA, KUZNETSOV VA, KUROCHKIN I.</i> Identification of nucleotide patterns enriched in secreted RNAs as putative cis-acting elements targeting them to exosome nano-vesicles. Proceedings : BMC Genomics, 2011 http://www.biomedcentral.com/qc/1471-2164/12/S3/S18 , 30 Nov - 2 Dec 2011
8.	<i>TOH Swee Heng, PRATHIPATI P, MOTAKIS E, KEONG KC, YENAMANDARA SP, KUZNETSOV VA.</i> A robust tool for discriminative analysis and feature selection in paired samples impacts the identification of the genes essential for reprogramming lung tissue to adenocarcinoma. Proceedings: BMC Genomics, 2011 http://www.biomedcentral.com/qc/1471-2164/12/S3/S24 , 30 Nov - 2 Dec 2011, PMID:22369099
9.	<i>WONGSURAWAT T, JENJAROENPUN P, KWONG CK, KUZNETSOV V.</i> Quantitative model of R-loop forming structures reveals a novel level of RNA–DNA interactome complexity. Nucleic Acids Research 2012 January; 40(2): e16, doi: 10.1093/nar/gkr1075, PMID: 22121227
10.	<i>DU Tie Hua, PUAH Wee Choo, WASSER Martin.</i> Cell Cycle phase classification in 3D in vivo microscopy of Drosophila embryogenesis. Proceedings : BMC Bioinformatics 2011, 12(Suppl 13):S18, doi: 10.1186/1471-2105-12-S13-S18
11.	<i>HUSSAIN Syeed, KHAN Akavish, GUL Sheraz, RESMINI Marina, VERMA Chandra S., THOMAS Emrys W., BROCKLEHURST Keith.</i> Identification of Interactions Involved in the Generation of Nucleophilic Reactivity and of Catalytic Competence in the Catalytic Site Cys/His Ion Pair of Papain. Biochemistry 2011, Dec 13, Vol. 50, Issue 49, Pg 10732 - 10742, doi: 10.021/bi201207z, http://www.ncbi.nlm.nih.gov/pubmed/22044167 , PMID : 22044167
12.	<i>DE BAETS Greet, VAN DURME Joost, REUMERS Joke, MAURER-STROH Sebastian, VANHEE Peter, DOPAZO Joaquin, SCHYMKOWITZ Joost, ROUSSEAU Frederic.</i> SNPeffect 4.0: on-line prediction of molecular and structural effects of protein-coding variants. Nucleic Acids Research 2011, Pg 1-5, doi: 10.1093/nar/gkr996, PMID : 22075996
13.	<i>EISENHABER Birgit, SAMMER Michaela, LUA Wai Heng, BENETKA Wolfgang, LIEW Lai Ling, YU Weimiao, LEE Hwee Kuan, KORANDA Manfred, EISENHABER Frank, ADHIKARI Sharmila.</i> Nuclear

	import of a lipid-modified transcription factor: Mobilization of NFAT5 isoform a by osmotic stress. Cell Cycle, Vol 10, Issue 22, Nov 15 2011, Pg 3897 - 3911, PMID : 22071693
14.	KUNZE Markus, NEUBERGER Georg, MAURER-STROH Sebastian, MA Jianmin, ECK Thomas, BRAVERMAN Nancy, SCHMID Johannes, EISENHABER Frank, BERGER Johannes. Structural requirements for the interaction of peroxisomal targeting signal 2 and its receptor PEX7. Journal of Biological Chemistry 2011, doi: 10.1074/jbc.M111.301853, http://www.jbc.org/content/early/2011/11/05/jbc.M111.301853
15.	CHINTA Rambabu, WASSER Martin. Three-Dimensional Segmentation of Nuclei and Mitotic Chromosomes for the Study of Cell Divisions in Live Drosophila Embryos. Cytometry Part A, 2011, doi: 10.1002/cyto.a.21164
16.	HURT Aeron C, LEANG Sook Kwan, SPEERS David J, MAURER-STROH Sebastian. Mutations I117V and I117M and Oseltamivir Sensitivity of Pandemic (H1N1) 2009 Viruses. Emerging Infectious Diseases, http://wwwnc.cdc.gov/eid/pdfs/11-1079-ahead_of_print.pdf
17.	WONG Wing Cheong, MAURER-STROH Sebastian, EISENHABER Frank. Not all transmembrane helices are born equal: Towards the extension of the sequence homology concept to membrane proteins. Biology Direct 2011, Vol. 6, Issue 57, doi:10.1186/1745-6150-6-57, PMID : 22024092
18.	YETGIN Zeki, CELIK Turgay. Efficient progressive downloading over multimedia broadcast multicast service. Computer Networks 2011, doi: 10.1016/j.comnet.20.11.09.017, ISSN 1389-1286
19.	Ong SM, Tan YC, Beretta O, Jiang D, Yeap WH, Tai JJ, Wong WC, Yang H, Schwarz H, Lim KH, Koh PK, Ling KL, Wong SC. Macrophages in Human Colorectal Cancer are Pro-inflammatory and Prime T cells towards an Anti-Tumour Type-1 Inflammatory Response. European Journal of Immunology, 2011 Oct 18, doi: 10.1002/eji.201141825, PMID : 22009685
20.	BLANCO Jorge, PANDEY Rahul, WASSER Martin, UDOLPH Gerald. Orthodenticle is necessary for survival of a cluster of clonally related dopaminergic neurons in the Drosophila larval and adult brain. Neural Development 2011, 6:34, doi:101186/1749-8104-6-34
21.	LIU Yun, LANE David P, VERMA Chandra S. Systematic mutational analysis of an ubiquitin ligase (MDM2)-binding peptide: computational studies. Theoretical Chemistry Accounts 2011, Vol. 130, No. 4-6, Pg 1145-1154, doi: 10.1007/s00214-011-1049-y
22.	LEE M Y, RACINE V, JAGADPRAMANA P, SUN L, YU W, DU T, SPENCER-DENE B, RUBIN N, LE L, NDIAYE D, BELLUSCI S, KRATOCHWIL K, VELTMAAT J M. Ectodermal Influx and Cell Hypertrophy Provide Early Growth for All Murine Mammary Rudiments, and Are Differentially Regulated among Them by Gli3. PLoS ONE Oct 2011, Vol. 6, Issue 10, doi:10.1371/journal.pone.0026242
23.	TANG Z, ZHANG L, CHEEMA A, RESSOM HW. A new method for alignment of C-MALDI-TOF data. Proceedings : Proteome Science 2011, 9(Suppl 1):S10 doi:10.1186/1477-5956-9-S1-S10
24.	THI T, CHENG L, ZHANG J, WANG L, SATOH S. Integrating Local Action Elements for Action Analysis. Computer Vision and Image Understanding (CVIU), Vol.116, No.3, pp.378-395, 2012
25.	Benjamin Toh, Xiaojie Wang, Jo Keeble, Wen-Jing Sim, Karen Khoo, Wing-Cheong Wong, Masahi Kato, Armelle Prevost-Blondel, Jean-Paul Thiery, Jean-Pierre Abastado. Mesenchymal transition and dissemination of cancer cells is driven by myeloid-derived suppressor cells infiltrating the primary tumor. PLoS Biology, Sept 2011, Vol. 9, Issue 9, PMID: 21980263
26.	Kavitha Bharatham, Zong Hong Zhang, Ivana Mihalek. Determinants, discriminants, conserved residues - a heuristic approach to detection of functional divergence in protein families. PLoS ONE, Sept 2011, Vol. 6, Issue 9, PMID: 21931701
27.	CHENG , YE N, YU W, CHEAH A. Discriminative Cellular Segmentation of Microscopic Cellular Images. Medical Image Computing and Computer Assisted Intervention (MICCAI) 14(1) Pg 637-

	44 (2011), 18-22 Sept, Toronto
28.	GONG M, CHENG L. Incorporating Estimated Motion in Real-time Background Subtraction . 18th IEEE International Conference on Image Processing (ICIP), 11 to 14 Sept 2011, Belgium
29.	BROWN Christopher J, DASTIDAR Shubhra J, QUAH Soo Tng, LIM Annie, CHIA Brian, VERMA Chandra S. C-terminal substitution of MDM2 interacting peptides modulates binding affinity by distinctive mechanisms . PLoS One, Aug 2011, Vol. 6, Issue 8, doi:10.1371/journal.pone.0024122, PMID : 219004608
30.	David P. Lane, Christopher John Brown, Chandra Verma, Chit Fang Cheok. New insights into p53 Based Theory . Discovery Medicine, Vol. 12, No. 63, Pg 107-117, Aug 2011, PMID: 21878188
31.	Toh DS, Murray M, Pern Tan K, Mulay V, Grewal T, Lee EJ, Zhou F. Functional analysis of pharmacogenetic variants of human organic cation/carnitine transporter 2 (hOCTN2) identified in Singaporean populations . Biochemical Pharmacology, Vol. 82, Issue 11, 1 Dec 2011, Pg 1692-1699, doi: 10.1016/j.bcp.2011.08.008, PMID : 21864509
32.	Katayama T, Wilkinson MD, Vos R, Kawashima T, Kawashima S, Nakao M, Yamamoto Y, Chun HW, Yamaguchi A, Kawano S, Aerts J, Aoki-Kinoshita KF, Arakawa K, Aranda B, Bonnal RJ, Fernández JM, Fujisawa T, Gordon PM, Goto N, Haider S, Harris T, Hatakeyama T, Ho I, Itoh M, Kasprzyk A, Kido N, Kim YJ, Kinjo AR, Konishi F, Kovarskaya Y, von Kuster G, Labarga A, Limviphuvadh V, McCarthy L, Nakamura Y, Nam Y, Nishida K, Nishimura K, Nishizawa T, Ogishima S, Oinn T, Okamoto S, Okuda S, Ono K, Oshita K, Park KJ, Putnam N, Senger M, Severin J, Shigemoto Y, Sugawara H, Taylor J, Trelles O, Yamasaki C, Yamashita R, Satoh N, Takagi T. The 2nd DBCLS BioHackathon: interoperable bioinformatics Web services for integrated applications . Journal of Biomedical Semantics 2011, Vol. 2, Issue 4, doi:10.1186/2041-1480-2-4, PMID: 21806842
33.	Turgay Celik, Tardi Tjahjadi. Multiscale texture classification and retrieval based on magnitude and phase features of complex wavelet subbands . Computers and Electrical Engineering 2011, ISSN: 0045-7906, doi: 10.1016/j.compeleceng.2011.06.008
34.	Yan Nei Law, Hwee Kuan Lee, Michael K. Ng, Andy M. Yip. Interactive Segmentation of Multiple Images . Proceedings of the 2011 International Conference on Image Processing, Computer Vision & Pattern Recognition, Volume II, Pg 571-575
35.	Yan Nei Law, Hwee Kuan Lee, Andy M. Yip. A Stochastic Level Set Method for Subspace Mumford-Shah Based Image Segmentation . Proceedings of the 2011 International Conference on Image Processing, Computer Vision & Pattern Recognition, Volume II, Pg 511-516
36.	Wee Choo Puah, Leong Poh Cheok, Mate Biro, Wee Thong Ng, Martin Wasser. TLM-Converter: reorganization of long time-lapse microscopy datasets for downstream image analysis . BioTechniques, Vol. 51, No. 1, July 2011, Pg 49-54, doi: 10.2144/000113704
37.	Neelagandan Kamariah, Frank Eisenhaber, Sharmila Adhikari, Birgit Eisenhaber, Gerhard Grüber. Purification and crystallization of yeast glycosylphosphatidylinositol transamidase subunit PIG-S(PIG-S(71-467)) . Acta Crystallographica Section F:Structural Biology and Crystallization Communications (2011) Aug 1, Vol. 67, 896-899, ISSN: 1744-3091, PMID : 21821889
38.	CAGNAC Pierre, DI NOIA Noel, HUANG Chao-Hui, RACOCEANU Daniel, CHAUDRON Laurent. Consciousness-driven Model for Visual Attention . Proceedings : The 2011 International Joint Conference on Neural Networks (IJCNN), San Jose, CA, USA, 31 July - 5 Aug 2011, Pg 1061-1066, doi: 10.1109/IJCNN.2011.6033340
39.	CHOONG Lee-Yee, LIM Shen-Kiat, CHEN Yunhao, LOH Marie, TOY Weiyi, WONG Chow-Yin, SALTO-TELLEZ Manuel, SHAH Nilesh, LIM Yoon-Pin. Elevated NRD1 Metalloprotease Expression Plays a Role in Breast Cancer Growth and Proliferation . Genes Chromosomes Cancer, Oct 2011, Vol 50, Issue 10, pg 837-847. doi: 10.1002/gcc.20905

40.	Minglun Gong, Li Cheng. Foreground Segmentation of Live Videos using Locally Competing ISVMs . IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2011
41.	Shen Kiat-Lim, Magali Orhant-Prioux, Weiyi Toy, Kah Yap Tan, Yoon Pin Lim. Tyrosine phosphorylation of transcriptional coactivator WW-domain binding protein 2 regulates estrogen receptor a function in breast cancer via the Wnt pathway . The FASEB Journal, June 3, Sept 2011, vol. 25, no. 9, pg 3004-3018, doi: 10.1096/fj.19-169136, PMID: 21642474
42.	Janos Kriston-Vizi, Ng Wee Thong, Cheok Leong Poh, Kwo Chia Yee, Joan Sim Poh Ling, Rachel Kraut, Martin Wasser. Gebiss: An ImageJ Plugin for the Specification of Ground Truth and the Performance Evaluation of 3D Segmentation Algorithms . BMC Bioinformatics 2011, Vol. 12, Issue 232, doi: 10.1186/1471-2105-12-232
43.	Mohammad Shorif Uddin, Hwee Kuan Lee, Stephan Preibisch, Pavel Tomancak. Restoration of Uneven Illumination in Light Sheet Microscopy Images . Microscopy and Microanalysis (2011), Vol : 17, Issue 04, Pg 607-613, doi: 10.1017/S1431927611000262
44.	A C Hurt, R T Lee, S K Leang, L Cui, Y M Deng, S P Phuah, N Caldwell, K Freeman, N Komadina, D Smith, D Speers, A Kelso, R T Lin, S Maurer-Stroh, I G Barr. Increased detection in Australia and Singapore of a novel influenza A(H1N1)2009 variant with reduced oseltamivir and zanamivir sensitivity due to a S247N neuraminidase mutation . Eurosurveillance, Vol. 16, Issue 23, 2011, pii=19884
45.	Hanna Dellago, Marlies Loscher, Paul Ajuh, Ursula Ryder, Christian Kaisermayer, Regina Grillari-Voglauer, Klaus Fortschegger, Stefan Gross, Anna Gstraunthaler, Nicole Borth, Frank Eisenhaber, Angus I. Lamond, Johannes Grillari. Exo70, A Subunit of the exocyst complex, interacts with SnehvPrp19/hPso4 and is involved in pre-mRNA splicing . Biochemical Journal, June 3, 2011. doi:10.1042/BJ20110183
46.	Kok Loon Wong, Jing-Yi June Tai, Wing-Cheong Wong, Hao Han, Xiaohui Sem, Wei-Hseun Yeap, Philippe Kourilsky, and Siew-Cheng Wong. Gene expression profiling reveals the defining features of the classical, intermediate and nonclassical human monocyte subsets . Blood, June 7, 2011. doi:10.1182/blood-2010-12-326355, PMID : 21653326
47.	Alessandra Nardin, Wing-Cheong Wong, Charlene Tow, Thierry Jo Molina, Frederique Tissier, Anna Audebourg, Marylene Garcette, Anne Caignard, Marie-Francoise Avril, Jean-Pierre Abastado, Armelle Prevost-Blondel. Dacarbazine Promotes Stromal Remodeling and Lymphocyte Infiltration in Cutaneous Melanoma Lesions . Journal of Investigative Dermatology, doi:10.1038/jid.2011.128
48.	Yan Nei Law, Hwee Kuan Lee, Andy M. Yip. Subspace Learning for Mumford-Shah Model Based Texture Segmentation through Texture Patches . Applied Optics 2011, Vol. 50, Issue 21, pg 3947-3957
49.	Yan Nei Law, Hwee Kuan Lee, Chaoqiang Liu, Andy M. Yip. A Variational Model for Segmentation of Overlapping Objects With Additive Intensity Value . IEEE Transactions on Image Processing, Vol. 20, Issue 6, June 2011, Pg 1495-1503, doi: 10.1109/TIP.2010.2095868
50.	Yan-Nei Law, Haizun Wang, Carlo Zaniolo. Relational Languages and Data Models for Continuous Queries on Sequences and Data Streams . ACM Transactions on Database Systems, Vol. 36, Issue 2, May 2011, doi:10.1145/1966385.1966386
51.	Gloria Fuentes, Maurizio Scaltriti, Jose Baselga, Chandra S Verma. Synergy between trastuzumab and pertuzumab for human epidermal growth factor 2 (Her2) from colocalization: an in silico based mechanism . Breast Cancer Research 2011, Vol 13, Issue 3, doi:10.1186/bcr2888
52.	M. N. Nguyen, K.P. Tan, M.S. Madhusudhan. CLICK - topology-independent comparison of biomolecular 3D structures . Nuclei Acids Research 2011, Jul;39:W242-8, Pg 1-5,

	doi:10.1093/nar/gkr393, PMID: 21576233
53.	<i>Minh N. Nguyen, M.S. Madhusudhan.</i> Biological insights from topology independent comparison of protein 3D structures. Nuclei Acids Research 2011, Aug; 39 (14) :e94, Pg 1-16, doi:10.1093/nar/gkr348, PMID: 21596786
54.	<i>Kuan Pern Tan, Raghavan Varadarajan, M.S. Madhusudhan.</i> DEPTH: a web server to compute depth and predict small-molecule binding cavities in proteins. Nuclei Acids Research 2011, Pg 1-7, doi:10.1093/nar/gkr356
55.	<i>Turgay Celik.</i> Bayesian Change Detection Based on Spatial Sampling and Gaussian Mixture Model. Pattern Recognition Letters, Vol. 32, Issue 2, 2011, Pg 1635-1642, doi:10.1016/j.patrec.2011.05.008
56.	<i>Frederico Medda, Thomas Leonard, Lisa Pirrie, Maureen Higgins, Alexandra M.Z. Slawin, Sonia Lain, Chandra Verma, Nicholas J. Westwood.</i> N1-Benzyl substituted cambinol analogues as isozyme selective inhibitors of the sirtuin family of protein deacetylases. Medicinal Chemistry Communications, 2011, Vol. 2, Pg 611-615, doi:10.1039/c1md00023c
57.	<i>Bastian Zimmer, Stefan Schildknecht, Philipp B. Kuegler, Vivek Tanavde, Suzanne Kadareit, Marcel Leist.</i> Sensitivity of dopaminergic neuron differentiation from stem cells to chronic low-dose methylmercury exposure. Toxicological Sciences, 2011, Mar 7, PMID : 21385734, doi: 10.109/toxsci/kfr054
58.	<i>Tim Knehans, Andreas Schuller, Danny N. Doan, Kassoum Nacro, Jeffrey Hill, Peter Guntert, M.S. Madhusudhan, Tanja Weil, Subhash G. Vasudevan.</i> Structure-guided fragment-based in silico drug design of dengue protease inhibitors. Journal of Computer-Aided Molecular Design, 2011, Vol. 25, No. 3, Pg 263-274, doi: 10.1007/s10822-011-9418-0, PMID : 21344277
59.	<i>Mark Nicholas Wass, Gloria Fuentes, Carles Pons, Florencio Pazos, Alfonso Valencia.</i> Towards the prediction of protein interaction partners using physical docking. Molecular Systems Biology 7, Article no 469, doi: 10.1038/msb.2011.3
60.	<i>Saritha Nambodiri, Chandra Verma, Pawan K Dhar, Alessandro Giuliani, Achuthsankar S Nair.</i> Sequence signatures of allosteric proteins towards rational design. Systems and Synthetic Biology, doi : 10.1007/s11693-011-9072-9
61.	<i>Kah-Bin Lim, Tie-Hua Du, Qing Wang.</i> Partially occluded object recognition. International Journal of Computer Applications in Technology 2011, Vol. 40, No. 1/2, pp 122-131, doi: 101504/IJCAT.2011.038559
62.	<i>Hiroshi Watanabe, Satoshi Sashida, Yutaka Okabe, Hwee Kuan Lee.</i> Monte Carlo methods for optimizing the piece-wise constant Mumford-Shah Segmentation Model. New Journal of Physics, 13 (2011), doi: 10.1088/1367-2630/13/2/023004
63.	<i>Tan Yaw Sing, Gloria Fuentes, Chandra Verma.</i> A comparison of the dynamics of pantothenate synthetase from M. tuberculosis and E. coli: Computational studies. PROTEINS: Structure, Function and Bioinformatics, 2011, doi : 10.1002/prot.22994
64.	<i>Shubhra Ghosh Dastidar, Devanathan Raghunathan, Judith Nicholson, Ted R. Hupp, David P. Lane, Chandra S. Verma.</i> Chemical states of the N-terminal "lid" of MDM2 regulate p53 binding: simulations reveal complexities of modulation". Cell Cycle, Vol 10, Issue 1, January 1, 2011, pg 82-89, doi : 10.4161/cc.10.1.14345, PMID: 21191186
65.	<i>Pieper U, Webb BM, Barkan DT, Schneidman-Duhovny D, Schlessinger A, Braberg H, Yang Z, Meng EC, Pettersen EF, Huang CC, Datta RS, Sampathkumar P, Madhusudhan MS, Sjölander K, Ferrin TE, Burley SK, Sali A.</i> ModBase, a database of annotated comparative protein structure models, and associated resources. Nuclei Acids Research 2011, Jan:39 (Database issue) D465-74, doi: 10.1093/nar/gkq1091, PMID : 21097780