

Brief CV 2010 May

Associate Professor TAN Tin Wee
BA (Cambridge), MSc (London), PhD (Edinburgh)



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EDUCATION

Ph.D. Molecular Biology from University of Edinburgh, UK, 1990.
MSc (Biotechnology and Molecular Biology) Distinction, University of London, 1986
BA (Biochemistry) University of Cambridge, UK, 1985

CAREER

2007 – Present:	Deputy Head, Dept. of Biochemistry, Faculty of Medicine, National University of Singapore (NUS)
2010 – Present	Editorial Board, BMC Bioinformatics
2009 – Present	Board Director, iGates Bioinnovation Pte Ltd.
2006 – Present	Board Director, International Society for Computational Biology
2003 – Present:	Master of Eusoff Hall, National University of Singapore
2002 – Present	International Conference on Bioinformatics (Secretary of Steering Committee)
2002 – Present	Singapore Focal Point, ASEAN Subcommittee on Biotechnology and coordinator ASEAN Bioinformatics, A*STAR representative.
2000 – Present	Independent Director, Keppel Telecommunications and Transportation Ltd (SGX-listed company), Chair Nominations Committee, Member Audit, Remunerations; Member, Divestment Committee and MobileOne IPO committee.
2000 – Present	Advisor and retired President, Association for Medical and Bio Informatics Singapore (AMBIS)
1999 – Present:	Associate Professor, Dept. of Biochemistry, Faculty of Medicine, National University of Singapore (NUS)
1998 – Present	Founding Convenor, Secretariat, Asia Pacific Bioinformatics Network (APBioNet)
1998 – 2000:	Associate Director, Centre for Internet Research, NUS

1998 – 1999:	Special Advisor to Director-General, Asia Pacific Network Information Center (APNIC) - Internet Addresses and Numbers for AP Region, Singapore
1997 – 1999:	Co-Director, User Community Area, Asia Pacific Advanced Network (APAN) Consortium - Advancing high performance networking in AP region, Singapore
1997:	Co-founder of Asia Pacific Advanced Network (APAN), representing Singapore Advanced Research and Education Network (SINGAREN) together with representatives from Australia, Japan, Korea and Singapore
1997 – 1999:	South East Asian Representative, Coordinating Committee for InterContinental Research Networking (CCIRN), Singapore
1997 – 2001:	Founding Non-executive director, Bioinformatrix Pte Ltd -An NUS Spin-off Company, Singapore
1997 – 1999:	Chairman, Asia Pacific Networking Group (APNG), Singapore
1997 – 1999:	Advisor to SingCERT Incident response and Internet Security for Singapore Telemanufacturing Research Group Pioneering remote rapid prototyping Satellite Internet Competency Unit Advancing satellite internet technology
1997 – 1998:	Chairman, CAL Project, IT Task Force for Special Education Schools, National Council for Social Service, Singapore
1997 – 1998:	Principal Investigator and Founder, Singapore Advanced Research and Education Network (SINGAREN), Singapore
1996 – 2001	Co-Chairman, Enable2000 virtual committee for Internet among people with disabilities, Singapore
1996 – 2001:	Director, Bioinformatics Centre, National University of Singapore (NUS)
1996 – 2000:	President, Association for Informatics in Medicine Singapore (AIMS), Singapore
1996 – 1997:	Consultant, ASEAN Science and Technology Information Network (ASTNET) Project, Singapore
1995 – 1998:	Head, Internet Research and Development Unit; Assistant Director, Computer Centre, NUS; <i>Upgraded into Centre for Internet Research</i>
1995 – 1997:	Consultant, National Technology Databank, Singapore
1994 – 1995:	Head, Technet Unit, NUS; <i>commercialised into Pacific Internet (NASDAQ)</i>
1993 – 1996:	Coordinator, EDB-NUS Biotechnology Database, Singapore
1993 – 1994:	Consultant, Education Sector, Schools Internet Pilot Project, National Computer Board, Singapore
1992 – 2003:	Resident Fellow, Sheares Hall of Residence, NUS
1992 – 1996:	Coordinator, Biocomputing Research and User Support technology group, Singapore
1990 – 1995:	Lecturer/Senior Lecturer, Dept of Biochemistry, Faculty of Medicine, NUS
1986 – 1989:	Research Fellow, Animal Health Trust, UK

RESEARCH INTERESTS

Bioinformatics

Advanced Internet Network Protocols and Applications in Biological Sciences

Internationalized Domain Names (IDN) (original founder and inventor)

- 1) Biodatabases; Large-scale workflow integration; grid computing; immunomics & vaccine informatics.
- 2) Computer protocols, applications and standards for biological entities, nomenclature, pathways, diagramming and software tools interfacing.
- 3) Advanced Internet research network engineering for bioinformatics applications.
- 4) Internet protocols for bioinformatics and multilingual internet names.

INTERNATIONAL AND LOCAL AWARDS AND SCHOLARSHIPS

August 2008 Singapore	ASEAN Science and Technology Meritorious Award ASEAN Committee on Science and Technology
April 2006 Singapore	High Performance Grid Computing Competition, 2nd Prize National University of Singapore Computer Centre
Feb 2005 Kyoto, Japan	Recognition Award for early pioneering contributions to Asia Pacific Regional Internet Conference on Operational Technologies during APRICOT2005 10th Anniversary.
2003 USA	HPC Challenge Award: Most Geographically Distributed Application at SC2003 Member of the international team on project entitled "Global Analysis of Arthropod Evolution"
1998 Singapore	National University of Singapore Annual Staff Achievement Award 1998
1998 Singapore	7th Indian Cultural Festival Innovation Award (team award to the Tamil Web Project) Centre for Internet Research/NUS and School of Arts/NIE/NTU
1997 Jakarta	ASEAN Achievement Award (Research and Development) ASEAN Business Forum
1997 Singapore	Japan Chamber of Commerce and Industry (JCCI) Singapore Foundation (for contribution towards Internet and IT in education)
1997 Singapore	Life Insurance Association (LIA) Award, Singapore (team award for community work in building Internet access for people with disabilities)
1994 Singapore	Singapore Youth Award (Excellence in Science and Technology) (Internet biological databases and biocomputing)
1992 Geneva	Gold Medal, World Congress for Medical Informatics, Geneva MEDINFO'92 (best presentation - Internet biomedical databases)
1989 UK	Annual Award, Vaccine Research Trust, UK - (Chlamydial vaccines for sheep)
1986-89 UK	Animal Health Trust (UK) Research Fellowship
1986-89 UK	UK Overseas Research Student Award (ORS)
1985-1986 UK	Trinity College (Cambridge, UK) Travelling Studentship

1980 Singapore Singapore Government Overseas Merit Scholarship (OMS) (Teaching)
Declined.

MAJOR GRANTS AWARDED AND/OR MANAGED

2009-present EUAsiaGrid FP7 Grant – project member

2005-present National Institutes of Health, USA
NO1 and U19, as a subcontractor of Johns Hopkins University

1999-2002 S\$6.1M - Bioinformatics Research Programmes from NSTB, Singapore

1999-2001 S\$1M - GlaxoWellcome-BIC Bioinformatics research grant in collaboration with CNPR (under BIC directorship) from GW Manufacturing (Singapore) Pte Ltd

1999-2000 C\$72K - Pan-Asia Networking Research Grant, International Development Research Centre, Canada (PI)

1998-2000 S\$2M - GlaxoWellcome-BIC Bioinformatics research grant in collaboration with CNPR (under BIC directorship) from GW Manufacturing (Singapore) Pte Ltd

1997-1999 S\$88K – National University of Singapore Grant for running Asia Pacific Networking Group secretariat (PI)

1997-1998 S\$28M - Singapore Advanced Research and Education Network (SingAREN)
(Founding Principal Investigator - upgraded to national-status project in 1998)
from Telecommunications Authority of Singapore and National Science and Technology Board

1996-1999 S\$6M - Bioinformatics Centre (Founding Principal Investigator) from Economic Development Board (EDB), Singapore

1995-1998 S\$2.08M - Internet R&D Unit (Founding Principal Investigator) from NSTB, Singapore

1995-1996 S\$185K - Singapore Broadcasting Authority Grant on Internet regulation (Co-PI)

1995-1996 S\$100K - Singapore Network Services (Co-PI)

1994-1996 S\$30K - Biocomputing Research grant (PI) (self-contributed from KC Lun, Derek Kiong and Tan Tin Wee as a bridging grant for sustaining bioinformatics research in National University of Singapore)

1994-1995	S\$3.5M - Internet for R&D (as the last Head of Technet Unit) from National Science and Technology Board (NSTB), Singapore
1992-1994	S\$33K - National Biotechnology Database-Directory project (PI) from TIBS grant, National Biotechnology Programme, EDB, Singapore

(approx S\$1.38 = US\$1)

RECENT SELECTED PUBLICATIONS (from 2006)

- Miotto O, Heiny AT, Albrecht R, García-Sastre A, **Tan TW**, August JT, Brusica V. Complete-proteome mapping of human influenza A adaptive mutations: implications for human transmissibility of zoonotic strains. **PLoS One**. 2010 Feb 3;5(2):e9025.
- Choo KH, **Tan TW**, Ranganathan S. A comprehensive assessment of N-terminal signal peptides prediction methods. **BMC Bioinformatics**. 2009 Dec 3;10 Suppl 15:S2.
- Wee LJ, Tong JC, **Tan TW**, Ranganathan S. A multi-factor model for caspase degradome prediction. **BMC Genomics**. 2009 Dec 3;10 Suppl 3:S6.
- Tan TW**, Lim SJ, Khan AM, Ranganathan S. A proposed minimum skill set for university graduates to meet the informatics needs and challenges of the "-omics" era. **BMC Genomics**. 2009 Dec 3;10 Suppl 3:S36.
- Ranganathan S, Eisenhaber F, Tong JC, **Tan TW**. Extending Asia Pacific bioinformatics into new realms in the "-omics" era. **BMC Genomics**. 2009 Dec 3;10 Suppl 3:S1.
- Lim SJ, Khan AM, Silva MD, Lim KS, Hu Y, Tan CH, **Tan TW**. The implementation of e-learning tools to enhance undergraduate bioinformatics teaching and learning: a case study in the National University of Singapore. **BMC Bioinformatics**. 2009, 10(Suppl 15):S12.
- Koo QY, Khan AM, Jung KO, Ramdas S, Miotto O, **Tan TW**, Brusica V, Salmon J, August JT. Conservation and variability of West Nile virus proteins. **PLoS One**. 2009;4(4):e5352. Epub 2009 Apr 29.
- Ranganathan S, Hsu WL, Yang UC, **Tan TW**. Emerging strengths in Asia Pacific bioinformatics. **BMC Bioinformatics**. 2008 Dec 12;9 Suppl 12:S1.
- Khan AM, Miotto O, Nascimento EJ, Srinivasan KN, Heiny AT, Zhang GL, Marques ET, **Tan TW**, Brusica V, Salmon J, August JT. Conservation and variability of dengue virus proteins: implications for vaccine design. **PLoS Negl Trop Dis**. 2008 Aug 13;2(8):e272.
- Miotto O, Heiny AT, **Tan TW**, August JT, and Brusica V. Identification of human-to-human transmissibility factors in PB2 proteins of influenza A by large-scale mutual information analysis. **BMC Bioinformatics** 2008, 9(Suppl 1): S18. doi:10.1186/1471-2105-9-S1-S18
- Sangket U, Phongdara A, Chotigeat W, Nathan D, Kim WY, Bhak J, Ngamphiw C, Tongsima S, Khan AM, Lin H, **Tan TW**. Automatic synchronization and distribution of biological databases and software over low-bandwidth networks among developing countries. **Bioinformatics** 2008 24 (2):299-301.
- Miotto O, **Tan TW**, Brusica V. Rule-based Knowledge Aggregation for Large-Scale Protein Sequence Analysis of Influenza A Viruses. **BMC Bioinformatics** 2008, 9(Suppl 1): S7. doi:10.1186/1471-2105-9-S1-S7
- Ranganathan S, Gribskov M, **Tan TW**. Bioinformatics research in the Asia Pacific: a 2007 update. **BMC Bioinformatics**. 2008;9 Suppl 1:S1.
- Tong JC, Zhang ZH, August JT, Brusica V, **Tan TW** and Shoba Ranganathan. In silico characterization of immunogenic epitopes presented by HLA-Cw*0401 **Immunome Research** 2007, 3:7 (20 Aug 2007)
- Wee LJK, **Tan TW**, Ranganathan S. CASVM: web server for SVM-based prediction of caspase substrates cleavage sites. **Bioinformatics** 2007, 23: 3241-3243.
- Heiny AT, Miotto O, Srinivasan KN, Khan AM, Zhang GL, Brusica V, **Tan TW**, August JT. Evolutionarily Conserved Protein Sequences of Influenza A Viruses, Avian and Human, as Vaccine Targets. **PLoS ONE** 2007, 2(11):e1190.
- Tong JC, **Tan TW**, Ranganathan S. In silico grouping of peptide/HLA class I complexes using structural interaction characteristics. **Bioinformatics** 2007 Jan 15;23(2):177-83.
- Tong JC, **Tan TW**, Ranganathan S. Methods and protocols for prediction of immunogenic epitopes. **Briefings in Bioinformatics** 2007; doi: 10.1093/bib/bbl038

19. Bollina D, Lee BT, **Tan TW**, Ranganathan S. ASGS: an alternative splicing graph web service. **Nucleic Acids Res.** 2006 Jul 1;34 (Web Server issue):W444-7.
20. Khan AM, Miotto O, Heiny AT, Salmon J, Srinivasan KN, Nascimento EJ, Marques ET Jr, Brusica V, **Tan TW**, August JT. A systematic bioinformatics approach for selection of epitope-based vaccine targets. **Cell Immunol** 2006, 244 (2), 141-147
21. Khan AM, Heiny AT, Lee KX, Srinivasan KN, **Tan TW**, August JT, Brusica V. Large-scale analysis of antigenic diversity of T-cell epitopes in dengue virus. **BMC Bioinformatics** 2006, 7(Suppl 5):S4
22. Wee LJK, **Tan TW** and Ranganathan S. SVM-based prediction of caspase substrate cleavage sites. **BMC Bioinformatics** 2006, 7(Suppl 5):S14
23. Tong JC, Kong L, **Tan TW**, Ranganathan S. MPID-T: Database for Sequence-Structure-Function Information on T-Cell Receptor/Peptide/MHC Interactions. **Appl Bioinformatics** 2006; 5 (2): 111-114.
24. Tong JC, **Tan TW**, Sinha AA and Ranganathan S. Prediction of desmoglein-3 peptides reveals multiple shared T-cell epitopes in HLA DR4- and DR6- associated Pemphigus vulgaris. **BMC Bioinformatics** 2006, 7(Suppl 5):S7
25. Tong JC, Zhang GL, **Tan TW**, August JT, Brusica V, Ranganathan S. Prediction of HLA-DQ3.2beta Ligands: evidence of multiple registers in class II binding peptides. **Bioinformatics** 2006, 22(10):1232-1238.