

## 2-pages CV (Assoc. Prof. Eddie YK Ng, ResearcherID: A-1375-2011)

### A. EDUCATIONAL QUALIFICATIONS

Qualifications obtained & Class of Honors	Name of University	Year of Award
Licensed Marine Engineer, CL II	MoT Cert. of Competency	1985
B.Eng, 1 <sup>st</sup> CL	Uni. of Newcastle upon Tyne	1988
Ph.D. (Commonwealth Scholar)	Uni. of Cambridge	1992
Postgraduate Diploma in Teaching Higher Education	NIE-NTU	1995

### B. PROFESSIONAL EXPERIENCE

As **editor-in-chief** for both J. of Mech. in Med. and Biol. and (founding) J. Med. Imaging and Health Informatics, also editor for Computational Fluid Dynamics (CFD) J.; Open Numerical Methods J.; J. of Rotating Machinery, World J. of Clinical Oncology etc., Ng's main area of research is in biomechanics; marine sustainable energy problem; rotating machinery; computational fluid dynamics and heat transfer. He holds 3 U.S. Patents licensed for commercialization with product roll-out in Q3-2015. Ng was trained in PhD at the Whittle Laboratory of Cambridge Univ. in aerospace engg.. He has 2 yrs of Marine Engr. experience with the Exxon-Tanker Fleet as well as attachment in Keppel Shipyard. He has a good working relation with marine industries such as MTU (Tognum Gp), NTNU, Lloyds GTC, DNV, DHI, ST Engg., SemCorp Marine and still kept contacts with the local Mariners Network.

Ng is an invited keynote speaker (include opening speech) for many int. scientific confs/workshops. He has co-edited 14 books and co-authored a text book: "Compressor Instability with Integral Methods" by Springer (2007). Ng's latest book on "Bio-Inspired Surfaces and Applications" has been receiving very good responses from the publisher. He is active in offering consulting services, fellow of SAF-NTU Academy and in-house courses related to the thermal-fluid engineering and biomedical sciences. Fifteen of his papers have been adopted as references in Singapore Standard (SS 582: 2013) and ISO/IEC 80601-2-59: 2008. More details are available upon request.

### C. SELECTED Own PUBLICATIONS RELATED TO THE PROPOSAL

- Ng et al, "Effects of Baffling, Shaft Eccentricity and Angularly-Oscillating on the Laminar Mixing in a Cylindrical Vessel", **Chemical Engineering Science**, 2013, (IF=2.653) accepted 15/10/13
- Ng et al, "Lagrangian Simulation of Steady and Unsteady Laminar Mixing by Plate Impeller in a Cylindrical Vessel", **Industrial & Engineering Chemistry Research**, 52(29), 2013, 10004-10014, (IF=2.206). <http://pubs.acs.org/journal/iecred>
- Ng et al, "On the Effect of Turbulent Intensity towards the Accuracy of the Zero-Equation Turbulence Model for Indoor Airflow Application", **Building and Environment**, 46(1), 2011, 82--88.
- Wu & Ng., "Numerical Study of the Swirl Flow in F-5E Intake with Subsonic Speeds", **Mathematical and Computer Modelling**, 48(4), 2008, 447 - 467.
- Ng et al, "Response Surface Models for CFD Predictions of Air Diffusion Performance Index in a Displacement Ventilated Office", **Energy and Buildings**, 40(5), 2008, 774--781.
- Ng et al., "Applications of High-Resolution Schemes based on Normalized Variable Formulation for 3D Indoor Airflow Simulations", **International Journal for Numerical Methods in Engineering**, 73(7), 2008, 948--981.
- Ng et al., "Numerical Modelling of Biopotential Field for Detection of Breast Tumor", **Computers in Biology and Medicine**, 37(8), 2007, 1121 - 1132
- Ng & Tan, "Study of EDL Effect on 3D Developing Flow in Microchannel with Poisson-Boltzmann and Nernst-Planck Models", **International Journal for Numerical Methods in Engineering**, 71(7), 2007, 818 -- 836.

### D. SELECTED OTHER PUBLICATIONS (THAT THE REVIEW PANELS SHOULD NOTE)

- Ng, & Tan "LDPI of Osteoarthritis in Proximal Interphalangeal Joints", **Microvascular Research**, 65(1), 65-68, (2003). [IF=3.0]
- Ng. "Is Thermal Scanner Losing its Bite in Mass Screening of Fever due to SARS?", **Medical Physics**, 32(1), 93-97, (2004).
- Ong & Ng, "A Global Bioheat Model with Self-tuning Optimal Regulation of Body Temperature using Hebbian Feedback Covariance Learning", **Medical Physics**, 32(12), 3819-3831, (2005). [IF=3.871]
- Ng, et al, "Left Ventricular Shape-based on Contractility Index", **Journal of Biomechanics**, 39(13), 2397-2409, (2006). [IF: 2.784].
- Ng et al, "Detection, classification of breast cancer using neural classifiers with first warning thermal sensors", **Information Sciences**, 177(20), 4526-4538, 2007 [IF: 3.1]

- Ng et al., “The Engineering Analysis of Bioheat Equation and Penile Hemodynamic Relationships in the Diagnosis of Erectile Dysfunction: Part II – Model optimization using the ANOVA and Taguchi method”, **Int. J. of Impotence Research**, 20(3), (2008), 285-294. (IF= 5.395)
- Ng, “Thermography as Promising Non-invasive Detection Modality for Breast Tumour”, **Int. J. of Thermal Sciences**, 48(5), 849-855, 2009. (IF=1.683)
- Ng et al., “Prediction and Parametric Analysis of Thermal Profiles within Heated Human Skin using Boundary Element Method”, **Philosophical Transactions A, The Royal Society**: 368: 655-678, (2010), [IF=2.459]
- Tan & Ng, “Evaluation of Tear Evaporation from Ocular Surface by Functional Infrared Thermography”, **Medical Physics**, American Association of Physicists in Medicine, 37(11), 1-13 (2010), [IF=3.871]

**As of Dec. 2016**, Ng’s H-index is **33 (SCI)**; **40 (Scopus)**; **50 (Goggle Scholar)**, and total citations of more than **1720 (WOS-SCI-ISI)**; **2430 (Scopus)**; **4340 (Goggle Scholar)** respectively. He has had more than **250 ISI journal articles** and **117 conference papers**, **84 book chapters**, and **13 (+1 on-going) books**.

**3 Patents filed: USA ref. # 12/198,967; 12/583,969; 12/583,951 (Aug. 2007)**. These patents have received investment of **USD 4.5million by Members of the Reno Angels and Local Investors, USA**.

## E. PREVIOUS AND CURRENT RESEARCH GRANTS IN RELATED AREAS

- CFD Simulation of Army Airdrop Systems from Transport Plane (Agreement no: 9009105995) with DSTA / RSAF / USAFA, S\$220k, Apr/10 to Mar/12
- 5 EDB-IPP-JIP (via ERIAN) PhD projects with Tier-1 Companies totaling of >\$720k
- Mechanistic and pathological study of the genesis, growth, and rupture of abdominal aortic aneurysms with NTU-NHG Innovation Seed Grant, S\$48k, Nov/11 to Jul/13
- A\*STAR-India DST (Department of Science and Technology) Grant with project title: Developing a Thermal Imaging based non-touch micro Blood Pressure measuring device. S\$300k

## F. LIST OF RECENT COLLABORATORS

Together with ERIAN@NTU, Norway’s NOWITECH & NTNU (Profs. Jørgen Amdahl; Asgeir Sørensen; Michael Muskulus, Ole D. Økland, Director of Marintek), NREL, Keppel, DNV, Lloyds GRC, DHI (EDB-IPP) and MPA in close discussion of SMI in the field of Ocean Renewable Energy Program.

Research collaborations with Overseas Universities at PhD/PDF level:

#	Overseas Prof name	Overseas University	Name of your PhD/PDF student	Project title	Year of start of collaboration
1	Prof. S. Sadri & Prof. N. Gheissari	Isfahan University of Technology, Iran	Dr. M. Etehad Tavakol	Breast Thermography	2007-2013

## G. LIST OF ADVISEES (INCLUDING STUDENTS MENTORED)

#	(on-going) Student name	Nationality	MEng or PhD	Date joined (mm/yr)	Thesis Title
1	Chow Jeng Hei	S’porean	PhD	11 Jan. 2013	Coupled CFD and depth integrated modelling of marine structures
2	Abdulqadir Aziz Singapore Wala	S’porean	PhD	14 Jan. 2013	Development of a coupled simulation methodology for offshore wind turbines
3	Koh Jian Hao	S’porean	PhD	Aug. 2011	Loads and analysis of an offshore floating wind turbine
4	Ijaz Fazil S.A. Kabir	SPR	PhD	Aug. 2011	Modeling of Wakes for Large Wind Farm
5	Chew Kok Hon	SPR	PhD	Jan. 2012	Optimal Structural Design for Ocean Renewables (Wind) Energy System
6	Koh Wei Xiang Martin	S’porean	PhD	Jan. 2012	Tidal turbine optimization and impact
7	Vidya Bhat (co-sup.)	SPR	PT PhD	Jan. 2013	Detection of infarcted myocardium with Electrocardiogram signal and Echo texture analysis by developing an Integrated Index
8	Kim Youngkook	Korean/SPR	M.Eng.	Aug. 2013	Study of Ship-to-Shore Interaction
9	Nikhil Garg	Indian	PhD	Aug. 2013	Wind resource assessment and Decision making framework
10	Tejas Canchi	Indian	PhD	Aug. 2013	Mechanistic in Rupture of Abdominal Aortic Aneurysms
11	Low Chee Meng	S’porean	PhD	4 Aug 2014	Wake dynamics of Floating Offshore Wind farm
12	Suriyanto	Indonesian	PhD	4 Aug 2014	Role of nanoparticles in the thermal treatment of cancer: in vivo and in vitro

No. of M.Eng. and Ph.D. students graduated = 18 & 9 respectively ; No. of RF mentored = 2

## H. GRADUATE ADVISORS

Professor William N. Dawes, (former head) Dept. of Engineering, Uni. of Cambridge, England.