



## **CHWEE TECK LIM PhD**

Provost's Chair Professor  
Deputy Head, Department of Biomedical Engineering  
Department of Mechanical Engineering  
Principal Investigator, Mechanobiology Institute  
Principal Investigator & Group Head, Centre for Advanced  
2D Materials & Graphene Research Centre  
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### **EDUCATION**

BEng (First Class Honours), National University of Singapore  
PhD, University of Cambridge, UK

### **SELECTED AWARDS & HONORS (OUT OF 50)**

Vladimir K. Zworykin Award (IFMBE), International Federation for Medical & Biological Engineering, 2015  
Best Poster Award, 7<sup>th</sup> WACBE World Congress on Bioengineering, 2015  
Distinguished Visiting Professor, Shinshu University, Japan, 2014 – 2015  
Guest Professor, Shanghai Jiao Tong University, China, 2014 – 2017  
First Prize, IFMBE Asian Pacific medical Device Design Competition, 2014  
TIE50 Award, TIEcon 2014  
Outstanding Researcher Award, NUS University Awards 2014  
Outstanding NUS Innovator, Innovation & Enterprise Awards 2014  
Provost's Chair Professorship 2014-2016  
APSelect Paper (American Journal of Physiology – Cell Physiology), April 2014  
Singapore Business Review Hottest Startups to Watch in 2014  
Gold, Wall Street Journal Asian Innovation Awards 2012  
Wall Street Journal Asian Innovation Audience Choice Awards 2012  
Credit Suisse Technopreneur of the Year Award 2012  
TechVenture Most Disruptive Technology Award 2012  
First Prize, Asian Entrepreneurship Award 2012  
Promising NUS Start-Up, Innovation & Enterprise Awards 2012  
HFSP Collaborative Research Grant Award 2012  
NGS Excellent Mentor Award 2011/2012  
President's Technology Award 2011  
Faculty Research Award 2010  
Most Cited Article, Acta Biomaterialia, 2006 – 2010  
IES Prestigious Engineering Achievement Award 2010  
NRF Technology Incubation Scheme Award 2009  
First Prize, International Scanning Probe Microscopy Image Contest 2009

Best Oral Presentation, International Conference on Materials for Advanced Technologies 2009  
Honorable Mention Award, ASME Summer Bioengineering Conference 2009  
Tan Kah Kee Inventor's Award (Merit) 2009  
Most Cited Author 2005-2008, Acta Biomaterialia  
Best Poster Award, NUS GPBE-Tohoku University conference 2008  
Young Investigator Award (First Prize), International Conference on Biomedical Engineering 2008  
Cover Story-R&D at the nano scale, Pharma Focus Asia Magazine, Iss 7, 2008  
Best Poster Award, 3rd MRS-S Conference on Advanced Materials 2008  
Best Poster Award, Office of Life Science Conference 2007  
Best Basic Science Paper Award, Annual Congress of the Hong Kong Orthopaedic Association 2007  
Research cited by MIT Technology Review as one of the top ten emerging technologies of 2006  
Meeting Graduate Student Award (Gold), MRS Fall Meeting 2005  
Outstanding Paper Award, MRS Fall Meeting 2004  
MRS-S National Conference, Best Poster Award, 2004  
Excellent Paper Award, 2nd World Congress of Chinese Biomedical Engineers 2004  
Faculty Teaching Commendation Award, 2003-2006  
Faculty Teaching Excellence Award, 2002

### **SELECTED MAJOR APPOINTMENTS**

University Scholars Programme Fellow, NUS (2015 – 2017)  
Founding Member and Head (Group for 2D Devices), Centre for Advanced 2D Materials, NUS (2014 – present)  
Deputy Head (Administration & External Relations) (2013 - present)  
Deputy Director, NUS Life Sciences Institute (2006 - 2009)  
Fellow, NUS Graduate School for Integrative Science and Engineering (2003 - present)  
Faculty Associate, Institute of Microelectronics (2002 - present)  
Assistant Dean, Faculty of Engineering, NUS (2000 - 2003)  
Programme Manager & Founding Member, Division of Bioengineering, NUS (2000 - 2004)  
Coordinator & Founding Member, NUS Nanoscience & Nanotechnology Initiative (2001 - 2003)  
Lab Head, Nano Biomechanics Lab, Division of Bioengineering (2001 - present)  
Ministry of Education Life Sciences Guidebook Committee (2001)  
Ministry of Education National Science Curriculum Review Committee (1998 - 1999)

### **EDITORIAL BOARDS**

Associate Editor, Microsystems & Nanoengineering (Nature Publishing Group)  
Editorial Board Member, Biomechanics and Modeling in Mechanobiology  
Editorial Advisory Board Member, Biomicrofluidics  
Editorial Board Member, Extreme Mechanics Letters  
Editorial Board Member, Journal of Nanobiotechnology  
Editorial Board Member, Acta Mechanica Sinica  
Editorial Board 'Collection Bioengineering and Health Science', ISTE and Wiley Editions  
Editorial Advisory Board Member, Open Access Books in Biology

International Advisory Board, Experimental Mechanics  
Editorial Board Member, Theoretical and Applied Mechanics Letters  
Editorial Board Member, BioNanoScience  
Editorial Board Member, Medical and Biological Engineering and Computing  
Editorial Board Member, Journal of Biorheology  
Editorial Board Member, Journal of the Royal Society - Interface  
Associate Editor, Cellular & Molecular Bioengineering  
Associate Editor, Molecular and Cellular Biomechanics  
Member of the Editorial Board, Mechanics & Chemistry of Biosystems (2005)  
Associate Editor, International Journal of Nanoscience

### **PROFESSIONAL SOCIETIES/COMMITTEES**

Council Member, World Council of Biomechanics  
Council Member, Singapore Biophysical Society  
Member, World Association for Chinese Biomedical Engineers  
Member, Institute of Engineering, Singapore  
Executive Member, Biomedical Engineering Society, Singapore

### **RESEARCH INTERESTS**

- Cell and molecular mechanobiology of human diseases
- Micro & nanofabricated technologies for biomedical applications
- Nanobiomaterials

### **SELECTED PLENARY/KEYNOTE/INVITED LECTURES (OUT OF OVER 270)**

#### **2015**

1. Lim, C T, Institute of Health and Biomedical Innovation Seminar, Queensland University of Technology, Brisbane, Australia, 2015.
2. Lim, C T, Forces in Biology Symposium, University of Queensland, Brisbane, Australia, 2015.
3. Lim, C T, Computational Fluid Dynamics in Medicine & Biology II, Albufeira, Portugal, 2015.
4. Lim, C T, National Center for Nanoscience & Nanotechnology, Beijing, China, 2015.
5. Lim, C T, School of Biological and Medical Engineering Seminar, Beihang University, Beijing, China, 2015.
6. Lim, C T, BIOPIC Seminar, Peking University, Beijing, China, 2015.
7. Lim, C T, Microsystems & Nanoengineering Summit, Beijing, China, 2015.
8. Lim, C T, Optofluidics, Taipei, Taiwan, 2015.
9. Lim, C T, Gordon Research Conference on Nano-Mechanical Interfaces, Hong Kong, China, 2015.
10. Lim, C T, Microfluidics Seminar, A\*STAR Biopolis, Singapore, 2015.
11. Lim, C T, GEM4 Summer School, CMU, USA, 2015.

12. Lim, C T, SMART Workshop on Metastatic Cancer, Singapore, 2015.
13. Lim, C T, World Congress on Medical Physics and Biomedical Engineering, Toronto, Canada, 2015.
14. Lim, C T, 31, 15<sup>th</sup> International Congress of Biorheology and 8<sup>th</sup> International Conference on Clinical Hemorheology, Seoul, Korea, 2015.
15. Lim, C T, IFOM-MBI Joint Retreat, Sardinia, Italy, 2015.
16. Lim, C T, EMN Meeting on Droplets, Phuket, Thailand, 2015.
17. Lim, C T, Dept of Biomedical Engineering Special Seminar, Yale University, New Haven, USA, 2015.
18. Lim, C T, 1<sup>st</sup> NSF-Columbia University on MechanoMedicine Symposium, New York, USA, 2015.
19. Lim, C T, IAS Focused Program on Biomaterials for Medical Applications, HKUST, Hong Kong, China, 2015.
20. Lim, C T, MERIT Visiting Scholar Seminar, University of Melbourne, Melbourne, Australia, 2015.
21. Lim, C T, Workshop on Expanding International Collaborative Links on Mechanobiology, Melbourne, Australia, 2015.
22. Lim, C T, 2<sup>nd</sup> Multidisciplinary Lung Cancer Conference, Singapore, 2015.
23. Lim, C T, CIRCULATE, Berlin, Germany, 2015.
24. Lim, C T, UTown Residence Entrepreneur Chat, National University of Singapore, Singapore, 2015.
25. Lim, C T, The Singapore Venture Club – 4<sup>th</sup> Entrepreneurship Workshop, Singapore, 2015.
26. Lim, C T, 7<sup>th</sup> Annual NGS Symposium, National University of Singapore, Singapore, 2015.
27. Lim, C T, MBI Research Seminar, National University of Singapore, Singapore, 2015.
28. Lim, C T, Department of Mechanical & Biomedical Engineering Seminar, City University of Hong Kong, China, 2015.
29. Lim, C T, A\*STAR-JST Joint Workshop, Singapore, 2015.
30. Lim, C T, SNU I2R NUS Bioengineering Workshop, Singapore, 2015.

### **ENTREPRENEURSHIP**

Co-founder - Robust Dynamics Pte Ltd

Co-Founder & Advisor - Clearbridge Biomedics Pte Ltd

Co-Founder - Clearbridge Nanomedics Pte Ltd

Founding Affiliated Partner - Clearbridge Accelerator (an incubator awarded under NRF Technology Incubation Scheme)

Co-Founder - Clearbridge mFluidics Pte Ltd

### **PUBLICATIONS & RESEARCH OUTPUT**

Published over 270 peer reviewed journal articles (include 41 invited/review articles and 16 ISI highly cited papers), 275 plenary/keynote/invited lectures, 11 editorial works on special journal issues and proceedings, 26 book chapters & 4 spin-off companies. (Citation count > 16,500, h-index = 66 (Google Scholar Citations))

## **INVITED/REVIEW/LEADING JOURNAL ARTICLES**

1. Doostmohammadi, A, S. P. Thampi, T. B. Saw, C. T. Lim, B. Ladoux, J. M. Yeomans, Cell division: a source of active stress in cellular monolayers, *Soft Matter*, Celebrating Soft Matter's 10th Anniversary issue, 2015. (*in press*)
2. Ravasio, A, A P Le, T B Saw, V Tarle, H T Ong, C Bertocchi, R-M Mège, C T Lim, N Gov, B Ladoux, Regulation of epithelial cell organization by tuning cell-substrate adhesion, *Integrative Biology*, 2015. (*in press*)
3. Ye, T, N Phan-Thien, C T Lim, Particle-Based Simulations of Red Blood Cells – A Review, *Journal of Biomechanics*, 2015. (*in press*)
4. Chaudhuri, PK, ME Warkiani, TY Jing, Kenry, CT Lim, Microfluidics for Research and Applications in Oncology, *Analyst*, 2015. (*in press*)
5. Li, Y Q, B K Chandran, C T Lim\*, X D Chen\*, Rational Design of Materials Interface for Efficient Capture of Circulating Tumor Cells, *Advance Science*, 2015. (*in press*)
6. Nematbakhsh, Y, CT Lim, Cell Biomechanics and its Applications in Human Disease Diagnosis, *Acta Mechanica Sinica*, 31, 2 (2015):268-273.
7. Saw, TH, S Jain, B Ladoux, CT Lim, Mechanobiology of collective cell migration, *Cellular & Molecular Bioengineering*, 8, 1 (2015):3-13.
8. Lim, CT, DSB Hoon, Circulating Tumor Cells: Cancer's deadly couriers, *Physics Today*, 67, 2, 26-30, 2014.
9. Majid EW, BL Khoo, AAS Bhagat, JY Han, CT Lim, HQ Gong, AG Fane, Isopore micro/nano engineered membranes– A review, *ACS Nano*, 7, 3, 1882-1904, 2013.
10. Vedula, SRK, A Ravasio, CT Lim, B Ladoux, Collective Cell Migration: A mechanistic perspective, *Physiology*, 28, 6, 370-379, 2013. (*in press*)
11. Thiery, JP, CT Lim, Tumor dissemination, an EMT affair, *Cancer Cell*, 23, 3, 272-273, 2013.
12. Kenry, CT Lim, Synthesis, optical properties, and chemical-biological sensing applications of one-dimensional inorganic semiconductor nanowires, *Progress in Materials Science*, 58, 5, 705-748, 2013.
13. Zhong, SP, YZ Zhang, CT Lim, Fabrication of large pores in electrospun nanofibrous scaffolds for cellular infiltration: A review, *Tissue Engineering Part B*, 18, 2, 77-87, 2012.
14. Hou HW, WC Lee, MC Leong, S Sonam, SRK Vedula, CT Lim, Microfluidics for applications in cell mechanics and mechanobiology, *Cellular and Molecular Bioengineering*, 4, 4, 591-602, 2011.
15. Long M, M Sato, CT Lim, J Wu, T Adachi, Y Inoue, Advances in Experiments and Modeling in Micro- and Nano-Biomechanics - A Mini Review, *Cellular and Molecular Bioengineering*, 4, 3, 327-339, 2011.
16. Mendoz E, CT Lim, Collective migration of human breast cancer cells in 2D, *Cellular and Molecular Bioengineering*, 4, 3, 411-426, 2011.
17. Bhagat, AAS, HW Hou, LD Li, CT Lim, J Han, Pinched flow coupled shear modulated inertial microfluidics with application towards high throughput circulating tumor cell separation, *Lab-on-a-Chip (special issue)*, 11, 1870-1878, 2011.
18. Hou HW, Bhagat AAS, Lee WC, Huang S, Han JY, Lim CT, Microfluidic Devices for Blood Fractionation, *Micromachines*, 2, 319-343, 2011.
19. Lim CT, Li A. Mechanopathology of red blood cell diseases – Why mechanics matters, *Theoretical & Applied Mechanics Letters*, 1, 1, 1-6, 2011.
20. Varghese B, Sow CH, Lim CT, Mechanical Properties of 1D Metal Oxide

Nanostructures. Special issue on “Nanomechanical Testing”, *Nanoscience and Nanotechnology Letters*, 2, 4, 268-281, 2010.

21. Unnikrishnan G.U., Unnikrishnan V.U., Reddy J.N., Lim C.T., Review on the constitutive models of tumor tissues for computational analysis, *Applied Mechanics Reviews*, 63, 4, 040801-040807, 2010.
22. Zhong SP, Zhang YZ, Lim CT, Tissue scaffolds for skin wound healing and dermal reconstruction. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, 2, 5, 510-525, 2010.
23. Bhagat, AAS, H Bow, HW Hou, SJ Tan, CT Lim, JY Han, Microfluidics for cell separation, *Medical & Biological Engineering & Computing*, 48, 10, 999-1014, 2010.
24. Fu HX, Chen H, Yan J, Lim CT, Salt Solution Effects on Overstretching Transitions of DNA Molecules, *Journal of Computational and Theoretical Nanoscience*, 7, 1272–1278, 2010.
25. Diez-Silva, M, M Dao, J Y Han, C T Lim, S Suresh, Shape and Biomechanical Characteristics of Human Red Blood Cells in Health and Disease, *MRS Bulletin*, 35, 5, 337–408, 2010.
26. Lim, CT, J Y Han, J Guck, H Espinosa, Micro and nanotechnology for biological and biomedical applications, *Medical & Biological Engineering & Computing*, 48, 10, 941–943, 2010.
27. Lim, CT, A Bershadsky, MP Sheetz, Introduction – Mechanobiology, *J Roy Soc – Interface*, 7, S291-S293, 2010.
28. Wong, SY, KH Chiam, CT Lim, P Matsudaira, Computational Model of Cell Positioning, Directed and Collective Migration in the Intestinal Crypt Epithelium, *J Roy Soc – Interface*, 7, S351-S363, 2010.
29. Vedula SRK, Mendoz E, Sun W, Lim TS, Li A, Li QS, Lim CT, Human cell as a structure and machine – An engineering perspective, *IES Journal Part A: Civil and Structural Engineering*, 2, 2, 153-160, 2009.
30. Dai L, Tan VBC, Sow CH, Lim CT, Atomistic Simulations of Inorganic Nanowires, *Journal of Nanoscience & Nanotechnology*, 9, 5, 2795-812, 2009.
31. Zhang YZ, Su B, Venugopal J, Ramakrishna S, Lim CT, Biomimetic and Bioactive Nanofibrous Scaffolds from Electrospun Composite Nanofibers, *International Journal of Nanomedicine*, 2, 623-638, 2007.
32. Zhang YZ, Lim CT, The development of biocomposite nanofibers for tissue scaffolding applications, *JOM*, 60, 6, 45-48, 2008.
33. Lee, GYH, Lim CT, Nanotechnology and human diseases, *COSMOS*, 3, 1, 89-101, 2007.
34. Lee GYH, Lim CT, Biomechanics approaches to studying human diseases, *Trends in Biotechnology*, 25, 3, 111-118, 2007.
35. Lim CT, Single cell mechanics study of the human disease malaria, *Journal of Biomechanical Science & Engineering*, 1, 1, 82-92, 2006.
36. Lim CT, Zhou EH, Li A, Vedula SRK, Fu HX, Experimental techniques for single cell and single molecule biomechanics, *Materials Science and Engineering C: Biomimetic and Supramolecular Systems*, 26, 8, 1278-1288, 2006.
37. Hairul Nizam BR, Lim CT, Nanoindentation of teeth - A review, *Journal of Experimental Mechanics*, 21, 1, 35-50, 2006.
38. Tan EPS, Lim CT, Nanomechanical characterization of nanofibers - A review. *Composites Science & Technology*, 66, 9, 1099-1108, 2006.
39. Lim CT, Zhou EH, Quek ST, Mechanical models for living cells - A review, *Journal of*

- Biomechanics, 39, 2, 195-216, 2006.
40. Vedula SRK, Lim TS, Kausalya PJ, Hunziker W, Rajagopal G, Lim CT, Biophysical approaches for studying the integrity and function of tight junctions, *Molecular & Cellular Biomechanics*, 2, 3, 105-124, 2005.
  41. Zhang YZ, Lim CT, Ramakrishna S and Huang ZM, Recent development of polymer nanofibers for biomedical and biotechnological applications. *Journal of Materials Science - Materials in Medicine*, 16, 10, 933-946, 2005.
  42. Suresh S, Spatz J, Mills JP, Micoulet A, Dao M, Lim CT, Beil M, Seufferlein T, Connections between disease states and single-cell mechanical response: human pancreatic cancer and malaria, *Acta Biomaterialia*, 1, 15-30, 2005.
  43. Chong EJ, Lim CT, Lim IJ and Phan TT, Application of Biotechnology, Nanotechnology and Tissue Engineering in Cosmetic Medicine, *Kosmetische Medizin*, 5/6, 212-216, 2005.

### **SELECTED JOURNAL ARTICLES**

44. Warkiani, M E, B L Khoo, L Wu, A K P Tay, A A S Bhagat, J Han, C T Lim, Ultra-fast, label-free isolation of circulating tumor cells from blood using spiral microfluidics, *Nature Protocols*, 2015. (*in press*)
45. Yeo, J C, Z P Wang, C T Lim, Microfluidic size separation of cells and particles using a swinging bucket centrifuge, *Biomicrofluidics*, 2015. (*in press*)
46. Le, S, R Liu, C T Lim\*, J Yan\*, Uncovering mechanosensing mechanisms at the single protein level using magnetic tweezers, *Methods*, 2015. (*in press*)
47. Kurniawan, N A, P K Chaudhuri, C T Lim, Concentric gel system to study the biophysical role of matrix microenvironment on 3D cell migration, *Journal of Visualized Experiments*, 2015. (*in press*)
48. Zhang, R, R Suwanarusk, B Malleret, F Nosten, M Dao, C T Lim, L Renia, K Tan, B Russell, A basis for rapid clearance of circulating ring-stage malaria parasites by the spiroindolone KAE609, *Journal of Infectious Diseases*, 2015. (*in press*)
49. Kenry, KP Loh, CT Lim, Molecular Hemocompatibility of Graphene Oxide and Its Implication for Antithrombotic Application, *Small*. 2015. (*in press*)
50. Nam, J H, B Namgung, C T Lim, KS Cho, S Kim, Novel microfluidic device for sheathless particle focusing and separation using a viscoelastic fluid, *Journal of Chromatography A*, 2015. (*in press*)
51. Tijore, A, P Cai, M H Nai, Z Li, Y Wang, C Y Tay, C T Lim, X D Chen, L P Tan, Role of Cytoskeletal Tension in the Induction of Cardiomyogenic Differentiation in Micropatterned Human Mesenchymal Stem Cell, *Advanced Healthcare Materials*, 2015. (*in press*)
52. Gupta, M, B R Sarangi, J Deschamps, Y Nematbakhsh, A Callan-Jones, F Margadant, R-M Mege, C T Lim, R Voituriez, B Ladoux, Adaptive rheology and ordering of cell cytoskeleton govern matrix rigidity sensing, *Nature Communications*, 2015. (*in press*)
53. Khoo, B L, S C Lee, P Kumar, T Z Tan, M E Warkiani, S G W Ow, S Nandi, C T Lim, J P Thiery Short-term expansion of breast circulating cancer cells predicts response to anti-cancer therapy, *Oncotarget*, 2015. (*in press*)
54. Wang, S, S P Zhong, C T Lim, H Nie, Effects of fiber alignment on stem cell – fibrous scaffold interactions, *Journal of Materials Chemistry B*, 2015. (*in press*)

55. Gao, D L, A Novitsky, T H Zhang, F C Cheong, L Gao, C T Lim, B Luk'yanchuk, C-W Qiu, Unveiling the correlation between non-diffracting tractor beam and its singularity in Poynting vector, *Laser & Photonics Reviews*, 2015. (*in press*)
56. Qiu, C W, W Ding, M R C Mahdy, D Gao, T Zhang, F C Cheong, A Dogariu, Z Wang, C T Lim, Photon Momentum Transfer in Inhomogeneous Dielectric Mixtures and Induced Tractor Beams, *Light: Science & Applications*, 2015. (*in press*)
57. Cheong, F C, C C Wong, Y Gao, B M H Nai, Y Cui, S Park, L J Kenney, C T Lim, Rapid, High-throughput Tracking of Bacterial Motility in 3D using Phase Contrast Holographic Video Microscopy, *Biophysical Journal*, 2015. (*in press*)
58. Malleret, B, A Li, R Zhang, K S W Tan, R Suwanarusk, C Claser, J S Cho, E G L Koh, C S Chu, S Pukrittayakamee, M L Ng, F Ginhoux, L G Ng, C T Lim, F Nosten, G Snounou, L Rénia, B Russell, Plasmodium vivax: restricted tropism and rapid remodelling of CD71 positive reticulocytes, *Blood*, 125, 1314-1324, 2015.
59. Ong, C T, Zhang Y Z, Lim R, Samsonraj R, Masilamani J, Phan T H H, Ramakrishna S, Lim I, Kee I, Fahamy M, T Vilma, Lim C T, Phan T T, Preclinical Evaluation of Tegaderm™ Supported Nanofibrous Wound Matrix Dressing on Porcine Wound Healing Model, *Advances in Wound Care*, 4(2): 110-118, 2015.
60. Corbin, E A, F Kong, C T Lim, W P King, R Bashir, Biophysical Properties of Human Breast Cancer Cells Measured Using Silicon MEMS Resonators and Atomic Force Microscopy, *Lab on a Chip*, 15(3):839-47, 2015.
61. Majid, E W, A Tay, B L Khoo, X F Xu, J Han, C T Lim, Malaria detection using inertial microfluidics, *Lab-on-Chip*, 15, 1101-1109, 2015.
62. Hirata, H, M Gupta, S R K Vedula, C T Lim, B Ladoux, Masahiro Sokabe, Actomyosin bundles serve as a tension sensor and a platform for ERK activation, *EMBO Reports*, 16(2):250-7, 2015.
63. Xu, J, M H Nai, C T Lim, C Le Visage, J K Y Chan, S Y Chew, Polysaccharide nanofibers with variable compliance for directing cell fate, *Journal of biomedical materials research. Part A*, 103(3):959-968, 2015.
64. Li, Y, C T Lim, M Kotaki, Study on structural and mechanical properties of porous PLA nanofibers electrospun by channel-based electrospinning system, *Polymer*, 56, 572-580, 2015.
65. Vedula, S R K, G Peyret, I Cheddadi, T Chen, A Brugués, H Hirata, H Lopez-Menendez, Y Toyama, L Almeida, X Trepate, C T Lim, B Ladoux, Mechanics of epithelial closure over non-adherent environments, *Nature Communications*, 6, 6111, 2015.
66. Lee, W C, C H Lim, Kenry, C L Su, K P Loh, C T Lim, Cell Assembled Graphene Biocomposite for Enhanced Chondrogenic Differentiation, *Small*, 11(8):963-9, 2015.
67. Jing, T Y, R Ramjia, E W Majid, J Han, C T Lim and C-H Chen, Jetting Microfluidics with Size-Sorting Capability for Single-Cell Protease Detection, *Biosensors & Bioelectronics*, 66, 19-23, 2015.
68. Ramji, R, F C Cheong, H Hirata, A R A Rahman, C T Lim, Rapid Quantification of Live Cell Receptors using Bioluminescence in a Flow based Microfluidic Device, *Small*, 11(8):943-51, 2015.
69. Poon, Z, W C Lee, G F Guan, L M Nyan, C T Lim, J Han, K J van Vliet, Bone Marrow Regeneration Promoted by Biophysically Sorted Osteoprogenitors from Mesenchymal Stromal Cells, *Stem Cells Translational Medicine*, 4(1):56-65, 2015.



70. Ng, A M H, Kenry, C T Lim, H Y Low, K P Loh, Highly sensitive reduced graphene oxide microelectrode array sensor, *Biosensors & Bioelectronics*, 65C:265-273, 2014.
71. Hirata, H, K H Chiam, C T Lim, M Sokabe, Actin flow and talin dynamics govern rigidity sensing in the actin-integrin linkage through talin extension, *J Roy Soc – Interface*, 11(99). pii: 20140734, 2014.
72. Ye, T, N Phan-Thien, B C Khoo, C T Lim, Application Of Dissipative Particle Dynamics To The Study of a Red Blood Cell in Simple Shear Flow, *International Journal of Modern Physics*, 34, 1460373, 2014.
73. Lee, W C\*, H Shi\*, Z Poon, L M Nyan, T Kaushik, G Shivashankar, J K Y Chan, C T Lim, J. Han, K J Van Vliet, Multivariate biophysical markers predictive of mesenchymal stromal cell multi potency, *PNAS*, 111(42):E4409-18, 2014.
74. Yao, M, W Qiu, R Liu, A K Efremov, P Cong, R Seddiki, M Payre, C T Lim, B Ladoux, R M Mège, J Yan, Force-dependent conformational switch of a-catenin controls vinculin binding, *Nature Communications*, 5, 4525, 2014.
75. Wu, Y N, J B K Law, A Y He, H Y Low, J H P Hui, C T Lim, Z Yang, E H Lee, Substrate topography determines the fate of chondrogenesis from human mesenchymal stem cells resulting in specific cartilage phenotype formation, *Nanomedicine: Nanotechnology, Biology, and Medicine*, 10(7):1507-16, 2014.
76. Zhang, R, W-C Lee, B Malleret, R Suwanarusk, M Dao, C Chu, C T Lim, L Renia, F Nosten, B Russell, Therapeutic disruption of Plasmodium vivax infected red cell deformability, *Malaria Journal*, 13 (Suppl 1):O25, 2014.
77. Hay, H S, E M Shin, M H Lee, J N Goh, T Z Tan, Y P Sen, S W Lim, E Yousef, H T Ong, A A Thike, X Kong, E Mendoz, W Sun, M Salto-Tellez, C T Lim, P Lobie, Y P Lim, C Yap, G Sethi, M Lee, P Tan, B C Cher, L Miller, J-P Thiery, T Zhu, L Gaboury, P H Tan, K M Hui, G W C Yip, S Miyamoto, V Tergaonkar, A P Kumar, DEAD-box Helicase DP103, an Essential Regulator of NEMO SUMOylation and NFkB Activation, Defines the Metastatic Potential of Human Breast Cancers, *Journal of Clinical Investigation*, 124(9):3807-3824, 2014.
78. Ye, T, N Phan-Thien, B C Khoo, C T Lim, A Three-dimensional Numerical Study on Rheology of a File of Red Blood Cells in a Tube Flow, *J. Appl. Phys.*, 116, 124703, 2014.
79. Ye, T, N Phan-Thien, B C Khoo, C T Lim, Numerical modelling of a healthy/malaria-infected erythrocyte in shear flow using dissipative particle dynamics method, *J. Appl. Phys.*, v115, 224701, 2014.
80. Ramji, R, M Wang, A A S Bhagat, D S W Tan, N V Thakor, C T Lim, C H Chen, Single cell kinase signaling assay using pinched flow coupled droplet microfluidics, *Biomicrofluidics* 8, 034104, 2014.
81. Khoo, B L, E W Majid, D S W Tan, A A S Bhagat, D Irwin, D P Lau, A S T Lim, K H Lim, S S Krishna, W T Lim, Y S Yap, S C Lee, R A Soo, J Han, C T Lim, Clinical validation of an ultra high-throughput spiral microfluidics for the detection and enrichment of viable circulating tumor cells, *PloS One*, 9(7):e99409, 2014.
82. Sun, W, C T Lim, N A Kurniawan, Mechanistic adaptability of cancer cells strongly affects anti-migratory drug efficacy, *J Roy Soc – Interface*, 11(99). pii: 20140638, 2014.
83. Majid, E W, B L Khoo, D S W Tan, A A S Bhagat, W T Lim, Y S Yap, S C Lee, R A Soo, J Han, C T Lim, An ultra-high throughput spiral microfluidic 1 biochip for the enrichment of circulating tumor cells, *Analyst*, 139, 3245-3255, 2014.
84. Sun, W, N A Kurniawan, A P Kumar, R Rajagopalan, C T Lim, Effects of migrating cell–

- induced matrix reorganization on 3D cancer cell migration, *Cell & Molecular Bioengineering*, 7, 2, 205-217, 2014.
85. Hirata, H, H Tatsumi, C T Lim, M Sokabe, Force-dependent vinculin binding to talin in live cells: a crucial step in anchoring the actin cytoskeleton to focal adhesions, *Am J Physiol - Cell Physiol*, 306, C607-C620, 2014.
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