

Curriculum Vitae**TRAM DANG, PH.D.**

Assistant Professor

School of Chemical and Biomedical Engineering

Nanyang Technological University (NTU), Singapore

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EMPLOYMENT HISTORY

- **Assistant Professor** Singapore
1/2016-present
School of Chemical and Biomedical Engineering
Nanyang Technological University (NTU)
- **Senior Research Fellow** Singapore
10/2013-12/2015
Institute of Medical Biology, Epithelial Biology Group
Agency for Science, Technology and Research (A*STAR)
- **Postdoctoral Research Fellow** USA
9/2012-8/2013
Brigham & Women's Hospital, Harvard Medical School
Koch Institute for Integrative Cancer Research, MIT
- **Research Officer** Singapore
6/2006-8/2007
Institute of Bioengineering and Nanotechnology
Agency for Science, Technology and Research (A*STAR)

EDUCATION AND TRAINING

- **Massachusetts Institute of Technology (MIT)** USA
8/2007-8/2012
Ph.D. Chemical Engineering
Advisors : Robert Langer and Daniel Anderson
Thesis title: Anti-inflammatory drugs for modulation of host response to biomaterials and application in diabetes therapy.
- **University of Illinois, Urbana-Champaign (UIUC)** USA
9/2003-5/2006
B.Sc. Chemical Engineering
Advisor : Christopher V. Rao
Thesis title: Evolution of chemotaxis proteins in proteobacteria

HONORS AND AWARDS

- **Sung Wan Kim CRS Postdoctoral Fellowship**, Controlled Release Society, USA, 2012-2013
- **Graduate Education in Medical Science Travel Grant**, Harvard-MIT Division of Health Science and Technology, USA, 2010
- **Edward Clark Walsh Presidential Fellowship**, MIT, USA, 2007-2008
- **Singapore National Science Graduate Fellowship (NSS-PhD)**, A*STAR, Singapore, 2007-2012
- **A*STAR Roll of Honor** for outstanding national scholars, A*STAR, Singapore, 2006
- **University Bronze Tablet Honor** (*summa cum laude*), UIUC, USA, 2006
- **Worth Huff Rodebush Award** for top chemical engineering graduate, UIUC, USA, 2006
- **Proctor & Gamble Leadership Award**, UIUC, USA, 2006
- **Alumni Achievement Award**, Department of Chemical Engineering, UIUC, 2004

- **National Science Undergraduate Scholarship** (NSS-BSc), A*STAR Singapore, 2003-2006
- **ASEAN Pre-university Scholarship**, Ministry of Education, Singapore, 1999-2002

JOURNAL PUBLICATIONS

1. Chen Y, Nguyen DT, Kokil GN, Wong YX, **Dang TT*** "Microencapsulated Islet-like Microtissues with Toroid Geometry Enhanced Cellular Viability ". *in submission* 2019 .
2. Nguyen DT, Soeranaya BHT, Truong THA, **Dang TT*** "Modular design of a hybrid hydrogel for protease-triggered drug delivery to regulate macrophage proliferation ". *in submission* 2019 .
3. Tan TS, Ng YZ, Badowski C, **Dang TT**, Common JEA, Lacina L, Szeverenyi, Lane EB. "Assays to study consequences of keratin mutations". **Methods in Enzymology** 2016 .
4. Shin SR, Aghaei-Ghareh-Bolagh B, **Dang TT**, Topkaya SN, Gao X, Yang SY, Jung SM, Oh JH, Dokmeci MR, Tang XS, and Khademhosseini A. " Cell-laden Microengineered and Mechanically Tunable Hybrid Hydrogels of Gelatin and Graphene oxide" **Adv. Mat.** 2013; 26;25(44):6385-91.
5. Gu Z, **Dang TT**, Ma M, Tang BC, Cheng H, Jiang S, Dong Y, Zhang Y, Anderson DG. "Glucose-responsive Microgels Integrated with Enzyme Nanocapsules for Closed-Loop Insulin Delivery" **ACSNano** 2013 ; 7(8):6758-6. *Most-read article in ACSNano during July-August, 2013. Highlighted by Science Daily, FierceDrugDelivery, AIP-Inside Science*
6. **Dang TT**, Thai AV, Cohen J, Slosberg JE, Siniakowicz K, Doloff JC, Ma M, Hollister-Lock J, Tang KM, Gu Z, Cheng H, Weir GC, Langer R, Anderson DG. "Enhanced function of immunolated islets in diabetes therapy by co-encapsulation with an anti-inflammatory drug" **Biomaterials** 2013 ; 34(23):5792-801.
7. Gu Z, Aimetti A , Wang Q, **Dang TT**, Zhang Y, Veiseh O , Cheng H , Langer R, Anderson DG. "Injectable Nano-Network for Glucose-Mediated Insulin Delivery" **ACSNano** 2013; 7(5):4194-201. *Highlighted as a FrontCover; # 1 most-read article in ACS Nano during May to June, 2013; Featured by TIME Magazine, Science Daily, C&EN, MIT Weekly Best News, Editor's Choice of Science Translational Medicine, Nano Today*
8. Kastrup CJ, Nahrendorf M, Figueiredo JL, Lee H, Kambhampati S, Lee T, Cho SW, Gorbatov R, Iwamoto Y, **Dang TT**, Dutta P, Yeon JH, Cheng H, Pritchard CD, Vegas AJ, Siegel CD, Macdougall S, Okonkwo M, Thai A, Stone JR, Coury AJ, Weissleder R, Langer R, Anderson DG. "Painting blood vessels and atherosclerotic plaques with an adhesive drug depot". **Proc. Natl. Acad. Sci.** USA. 2012; 109(52):21444-9.
9. Ma M, Chiu A, Sahay G, Doloff JC, Dholakia N, Thakrar R, Cohen J, Vegas A, Chen D, Bratlie KM, **Dang TT**, York RL, Hollister-Lock J, Weir GC, Anderson DG. "Core-Shell Hydrogel Microcapsules for Improved Islets Encapsulation". **Adv. Health Mater.** 2012; 2(5):667-72.
10. Vacanti NM, Cheng H, Hill PS, Guerreiro JD, **Dang TT**, Ma M, Watson S, Hwang NS, Langer R, Anderson DG. "Localized delivery of dexamethasone from electrospun fibers reduces the foreign body response". **Biomacromolecules** 2012; 13(10):3031-8.
11. **Dang TT**, Bratlie KM, Bogatyrev SR, Chen XY, Langer R, Anderson DG. "Spatiotemporal effects of a controlled release anti-inflammatory drug on the cellular dynamics of host response" **Biomaterials** 2011; 32(19):4464-70.

12. Liu WF, Ma M, Bratlie KM, **Dang TT**, Langer R, Anderson DG. "Real-time in vivo detection of biomaterial-induced reactive oxygen species" *Biomaterials* 2011; 32(7):1796-801.
13. Bratlie KM, **Dang TT**, Lyle S, Nahrendorf M, Weissleder R, Langer R, Anderson DG. "Rapid biocompatibility analysis of materials by *in vivo* fluorescence imaging of Mouse Models". *PLoS ONE* 2010; 5(4): e10032.
Cited in News Feature "Encapsulate This" of Nature Medicine in 1/2014
14. **Dang TT**, Xu Q, Bratlie KM, O'Sullivan ES, Chen XY, Langer R, Anderson DG. "Microfabrication of Homogeneous, Asymmetric Cell-laden Hydrogel Capsules." *Biomaterials* 2009; 30(36): 6896-6902.
15. Xu Q, Hashimoto M, **Dang TT**, Hoare T, Kohane DS, Whitesides GM, Langer R, Anderson DG. "Preparation of Monodisperse Biodegradable Polymer Microcapsules Using a Microfluidic Flow- Focusing Device for Controlled Drug Delivery". *Small* 2009; 5(13): 1575-1581.

BOOK CHAPTER

1. **Dang TT**, Nikkhah N, Memic A, and Khademhosseini A. " Polymeric Biomaterials for Implantable Prostheses" in " *Natural and Synthetic Biomedical Polymers*" edited by Sangamesh Kumbar, Cato Laurencin, and Meng Deng. Elsevier 2014

ISSUED PATENT

1. **Dang TT**, Anderson DG, and Langer R. "Hybrid microcapsules containing islets and anti-inflammatory drugs for diabetes therapy". WO2012112982A3; US Patent 9867781. Issued on 16/02/2018. **Licensed** by Sigilon Therapeutics.

INVITED LECTURES

1. "Immuno-modulatory effects of surface charge on biomaterial-mediated host response", **3rd Asian University Symposium on Biomedical Engineering**, July 5th-7th 2018, Seoul, Korea (**Keynote Lecture**)
2. "Charging polymeric surface by amino acid functionalization: a strategy to curtail biomaterial-mediated host response", **5th International Conference on Cellular and Molecular Bioengineering**, 5th-7th March 2018, Singapore
3. "Modulation of host wound healing response to implantable biomaterials and cell-based systems", **45th Annual General Meeting, Singapore Microbiology and Biotechnology Society**, March 8th 2018, Singapore
4. "Delivery strategies for modulation of host response to implantable biomaterials and cell-based systems". **Drug Delivery Australia Conference**, Oct 23rd-24th 2017, Wollongong, Australia
5. "Immuno-modulatory therapeutic cellular and drug delivery systems" **Workshop on Materials and Nanoscience/Engineering, Linkoping University**, Jun 11-13th , Sweden
6. "Modulation of host response to implanted biomaterials and cell-based therapeutics" **Controlled Release and Drug Delivery Symposium**, CRS Local Chapter, 23rd-24th August 2014, Kuala Lumpur, Malaysia
7. "Modulation of host response to implanted biomaterials and cell-based therapeutics" , **5th International Conference on Biomedical Engineering**, 16th-18th June 2014, Ho Chi Minh City, Vietnam

8. "Modulation of host response to implanted biomaterials and cell-based therapeutics", *Singapore University of Technology and Design*, July 8th 2015
9. "Modulation of host response to implanted biomaterials and cell-based therapeutics", *National University of Singapore*, Feb 3rd 2015
10. "Modulation of host response to implanted biomaterials and cell-based therapeutics", School of Chemical and Biomedical Engineering, *Nanyang Technological University*, Aug 21st 2014, Singapore

TEACHING EXPERIENCE

- **2016-present, Semester 1, Instructor, NTU**
Undergrad/Postgrad lecture course : Advanced Biomaterials (BG6001)
- **2016-present, Semester 1, Instructor, NTU**
Undergrad lecture course : Fluid systems - Microscopic fluid mechanics (CH2103)
- **2016-2018, Semester 2, Course coordinator, NTU**
Undergraduate Final Year Project in Bioengineering (BG4801)
- **2008, Spring semester, Teaching Assistant, MIT**
Lecture course : Introduction to Chemical Engineering (10.10)

PROFESSIONAL ACTIVITIES

- **Editorship**
Associate Editor
Drug Delivery and Translational Research (DDTR), 2019-present
- **Academic membership**
Controlled Release Society (CRS)
Society for Biomaterials (SFB)
Material Research Society (MRS)
- **Grant review**
Genome Bristish Columbia, Canada
Sector Innovation Program Grant
Singapore National Medical Research Council (NMRC)
Open Fund- Young Investigator Individual Research Grant (OFYIRG)
Transition Award
Clinician Individual Research Grant (CIRG)
SingHealth Foundation
SHF Transition Project – Clinical Trial
SHF Transition Project - Translational Research
- **Journal manuscript review**
Biomaterials, J. Controlled Release, ACSNano, AiChe Journal, Scientific Reports, Annals. Biomedical Engineering, Drug Delivery and Translational Research.
- **Conference & Symposium organization**
Conference Chair/Organizer
 - **Co-Chair**, 5th International Conference on Cellular and Molecular Bioengineering, 5th-7th March 2018, Singapore
 - **Co-Chair**, Symposium on Advances in Molecular Sensory Engineering, 27th-28th July 2017, Singapore
 - **Member of Organizing Committee**, 3rd Singapore International Conference on Skin Research, 21st-24th March 2018, Singapore
 - **Member of Organizing Committee**, 5th International Conference on Biomedical Engineering, 16th-18th June 2014, Vietnam
 - **Member of International Scientific Advisory Committee**, 3rd Asian University Symposium in Biomedical Engineering, 5th-7th July 2017, Seoul, Korea

Session Chair/Co-Chair

- **Session Chair** for “Emerging Technologies in Wound Treatments”, 3rd Singapore International Conference in Skin Research, 21st-24th March 2018, Singapore
- **Session Chair** for “Materials for Biomedical Application”, 5th International Conference on Biomedical Engineering, Vietnam, 16th-18th June 2014
- **Session Co-Chair** for “Tissue Engineering and Regenerative Medicine”, International Conference on Biomedical Engineering (ICBME), Singapore, 12/2013