BIOGRAPHICAL SKETCH

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NAME: Nguyen, Tammy Tran

eRA COMMONS USER NAME (credential, e.g., agency login): tammynguyen

POSITION TITLE: Assistant Professor of Surgery, Division of Vascular and Endovascular Surgery, Medical Director of the Lower Extremity Wound Clinic

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of California, San Diego	B.S.	12/2003	General Biology
University of Utah, School of Medicine	Ph.D.	06/2013	Biochemistry
University of Utah, School of Medicine	M.D.	06/2015	Medicine
University of Massachusetts		06/2020	Vascular Surgery

A. Personal Statement

I am an Assistant Professor of Surgery, Division of Vascular Surgery, and the Medical Director of the Lower Extremity Wound Clinic at the UMass Chan Medical School. My professional goal is to improve wound healing and reduce the rate of lower extremity amputation caused from non-healing diabetic foot ulcers (DFUs), a complication that occur in 30% of Type 2 diabetic (T2D) patients. The underlying causes for non-healing DFUs are not well defined, but abnormalities of the immune cell response to wounding plays a key role. My focus is to become an independent surgeon-scientist focused on studying the mechanisms by which T2D impairs the immune cell response that contributes to non-healing DFUs. To identify clinically relevant questions to answer, I plan to execute translational research by maintaining a clinical practice focused on the development and application of innovative experimental approaches to improving the treatment of non-healing DFUs.

<u>Ongoing and recently completed projects that I would like to highlight include:</u>

NINDS F31 Individual NRSA for MD/PhD Student Award (F31NS080342)
Tammy T Nguyen, BS (awardee)
2012-2015
Relationship Between Miro GTPase Directed Mitochondrial Movement & Neurodegeneration

University of Massachusetts Small Pilot and Research Knowledge (SPARK)
Tammy T Nguyen, MD, PhD (PI)
2021
Exploring How the Diabetic Immune System Contributes to Non-Healing Ulcers

Vascular and Endovascular Surgery Society Early Career Award
Tammy T Nguyen, MD, PhD (PI)
2021-2022
Exploring How Adipocyte Signaling and the Diabetic Immune System Contributes to Non-Healing Ulcers

Remillard Family Community Service Award
Tammy T Nguyen, MD, PhD (PI)
2021-2022
Establishing UMass Homeless Diabetic Foot Screening Clinics

Vascular Cures Wylie Scholar Award
Tammy T Nguyen, MD, PhD (PI)
2022-2025
Exploring How the Diabetic Immune System Contributes to Non-Healing Ulcers

Clinical Investigator Mentored Research Training Grant K08 (K08DK134952)
Tammy T Nguyen, MD, PhD (PI)
2022-2027
Dissecting the Human Diabetic Bone Marrow Niche

Society of Vascular Surgery VISTA Pilot Project Grant
Tammy T Nguyen, MD, PhD (PI)
2022-2024
UMass Homeless Foot and Diabetes Screening Outreach Program

Citations:

1. **Nguyen TT**, Oh SS, Weaver D, Lewandowska A, Maxfield D, Schuler MH, Smith NK, Macfarlane J, Saunders G, Palmer CA, Debattisti V, Koshiba T, Pulst SM, Feldman EL, Hajnóczky G, Shaw JM. (2014). Loss of Miro1-directed mitochondrial movement results in a novel murine model for neuron disease. *PNAS,* 111(35):3631-3640. PMCID: 25136135
2. **Nguyen TT**, Simons JP, Schanzer A. (2019). Utilization of Fenestrated/Branch Endovascular Aortic Repair to Treat Carrel Patch Aneurysmal Degeneration After Open Thoracoabdominal Aortic Aneurysm Repair. JVS Cases Innov Tech. 5(2): 117-121. PMCID: 6529688.
3. **Nguyen TT**, Simons JP, Podder S, Crawford AS, Judelson DR, Arous EJ, Aiello FA, Schanzer A. (2019) Imaging Obtained Up To 12 Months Preoperatively Is Adequate for Planning Fenestrated/Branched Endovascular Aortic Aneurysm Repair. Vasc Endovascular Surg, PMCID: 31362600.
4. Solivan-Rivera J, Yang-Loureiro Z, DeSouza T, Desai A, Yang Q, Rojas-Rodriquez R, Skritakis P, Joyce S, Zhong D, **Nguyen T**, Corvera A. (2022) A Neurogenic Gene Expression Signature Supports Human Thermogenic Adipose Tissue Development In Vivo. eLife 11:e78945. PMCID: PMC9519151.
5. Yang-Loureiro Z, Joyce S, DeSouza T, Solivan-Rivera J, Desai A, Skritakis P, Yang Q, Ziegler R, Zhong D, **Nguyen T**, MacDougald OA, Corvera A. (2023) Wnt Signaling Perserves Progenitor Cell Multipotency During Adipose Tissue Development. Nature Metabolism, 5, 1014-1028, PMCID: 37337125.

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

12/2001-06/2004	Research Assistant, UCSD Moores Cancer Center, La Jolla, CA
06/2002-09/2003	Research Assistant, UCSD Molecular Biology Department, La Jolla, CA
01/2004-04/2005	Post-baccalaureate Intramural Research Fellow, Division of Molecular Biology, NHLBI, Bethesda, MD
07/2007-06/2015	MD/PhD Student, University of Utah School of Medicine
07/2015-06/2020	Integrated Vascular Surgery Resident, University of Massachusetts School of Medicine
08/2020-present	Assistant Professor of Surgery, Division of Vascular and Endovascular Surgery, Tenure-Track
08/2020-present	Division of Vascular and Endovascular Surgery Medical Director of the Lower Extremity Wound Clinic

Honors

2000-2002	UCSD Thurgood Marshall Award of Excellence
2001-2002	UCSD Academic Enrichment Program Faculty Mentorship
2002-2003	UCSD Howard Hughes Summer Research Scholarship
2003-2004	American Heart Association Undergraduate Summer Fellowship
2004-2005	NHLBI Post-Baccalaureate Intramural Research Training Award
2008-2015	University of Utah Golden Key Honors Society
2012-2015	NINDS F31 Individual NRSA for MD/PhD Research Award
2013-2015	AAAS/Science Program for Excellence in Science
2014	Society for Vascular Surgery Minority Medical Student Travel Scholarship
2021	Vascular and Endovascular Surgery Society Early Career Award
2021	UMass Prize for Academic Collaboration and Excellence (PACE) Award Finalist

2022 NIDDK K08 Clinical Investigator Award
2022 Vascular Cures Wylie Scholar

C. Contributions to Science

1. My early pre-doctoral introduction to translational research focused on molecular stress signaling in cardiac dysfunction. The myocardium is a highly metabolic tissue that is sensitive to stress. As a pre-doctoral fellow at NHLBI, I performed a series of biochemical assays to measure enzymatic markers for reactive oxygen species (ROS) in serum collected from iron overload hereditary hemochromatosis patients. I observed that hereditary hemochromatosis patient serum biomarkers for ROS were positively correlated to cardiac function tests. This work culminated in multiple publications including the manuscripts listed below:

Shizukuda Y, Matoba S, Mian OY, **Nguyen T**, Hwang PM. (2005). Targeted disruption of p53 attenuates doxorubicin-induced cardiac toxicity in mice. *Mol Cell Biochem*, 273(1-2): 25-32. PMID: 16013437

Shizukuda Y, Bolan CD, Tripodi DJ, Yau YY, **Nguyen TT**, Botello G, Sachdev V, Sidenko S, Ernst I, Waclawiw MA, Leitman SF, Rosing DR. (2006). Significance of left atrial contractile function in asymptomatic subjects with hereditary hemochromatosis. *Am J Cardiol*, 98(7): 954-9. PMID: 16996882

Shizukuda Y, Bolan CD, **Nguyen TT**, Botello G, Tripodi DJ, Yau YY, Waclawiw MA, Leitman SF, Rosing DR. (2007). Oxidative stress in asymptomatic subjects with hereditary hemochromatosis. *Am J Hematol*, 82(3):249-50. PMID: 16955456

Shizukuda Y, Bolan CD, Tripodi DJ, Sachdev V, **Nguyen TT**, Botello G, Yau YY, Sidenko S, Ernst I, Ali MI, Waclawiw MA, Leitman SF, Rosing DR. (2009). Does Oxidative Stress Modulate Left Ventricular Diastolic Function in Asymptomatic Subjects with Hereditary Hemachormatosis? *Echocardiography*, 26(10): 1153-8. PMID: 19725855

2. During my graduate school training as part of the MD/PhD program at the University of Utah School of Medicine, I focused on developing a translational research model for neurodegenerative disorders. I joined Dr. Janet Shaw's laboratory, a leader in *Saccharomyces cerevisiae* mitochondrial dynamics and trafficking. By leveraging the Shaw Lab expertise in mitochondrial movement, I was the first to demonstrate that mitochondrial movement and distribution defects lead to mammalian neuronal degeneration. This work led to two lead author publications.

Nguyen TT*, Lewandowska A*, Choi J*, Markgraf D*, Junker M, Bilgn M, Ejsing CS, Voelker DR, Rapoport TA, Shaw JM. (2012). Gem1 and ERMES do not directly affect phosphotidylserine transport from ER to mitochondria or mitochondrial inheritance. *Traffic,* 13: 880-890. *these authors contributed equally. PMID: 22409400

Nguyen TT, Oh SS, Weaver D, Lewandowska A, Maxfield D, Schuler MH, Smith NK, Macfarlane J, Saunders G, Palmer CA, Debattisti V, Koshiba T, Pulst SM, Feldman EL, Hajnóczky G, Shaw JM. (2014). Loss of Miro1-directed mitochondrial movement results in a novel murine model for neuron disease. *PNAS,* 111(35):3631-3640. PMID: 25136135

3. I gravitated toward the field of vascular surgery for my residency training because of my interest in further developing patient oriented translational research models. During my surgical residency training, I continued to pursue research with a clinical focus to develop my understanding of clinically relevant questions in vascular surgery. My early clinical research focused on understanding the technical treatment challenges for aortic aneurysms, and more recently on diabetes, as demonstrated in the publications listed below:

Nguyen TT, Simons JP, Schanzer A. (2019). Utilization of Fenestrated/Branch Endovascular Aortic Repair to Treat Carrel Patch Aneurysmal Degeneration After Open Thoracoabdominal Aortic Aneurysm Repair. JVS Cases Innov Tech. 5(2): 117-121. PMID: 31193425.

Nguyen TT, Simons JP, Podder S, Crawford AS, Judelson DR, Arous EJ, Aiello FA, Schanzer A. (2019) Imaging Obtained Up To 12 Months Preoperatively Is Adequate for Planning Fenestrated/Branched Endovascular Aortic Aneurysm Repair. Vasc Endovascular Surg, PMID: 31362600.

Solivan-Rivera J, Yang-Loureiro Z, DeSouza T, Desai A, Yang Q, Rojas-Rodriquez R, Skritakis P, Joyce S, Zhong D, **Nguyen T**, Corvera A. (2022) A Neurogenic Gene Expression Signature Supports Human Thermogenic Adipose Tissue Development In Vivo. eLife 11:e78945. PMCID: PMC9519151.

Yang-Loureiro Z, Joyce S, DeSouza T, Solivan-Rivera J, Desai A, Skritakis P, Yang Q, Ziegler R, Zhong D, **Nguyen T**, MacDougald OA, Corvera A. (2023) Wnt Signaling Perserves Progenitor Cell Multipotency During Adipose Tissue Development. Nature Metabolism, 5, 1014-1028, PMCID: 37337125.

Complete List of Published Work in My Bibliography
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