

I. NICK VIAL MD

Curriculum Vitae

CONTACT INFORMATION:

invMD Plastic Surgery
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Ste 201
Bend, OR 97701

Employment

invMD Plastic Surgery
Private Practice

2017-Present

Resident Physician
Department of Plastic Surgery
University of Pittsburgh

2011-2017

EDUCATION:

Graduate:

Stanford University School of Medicine
Stanford, California
MD Degree

2004-2011

Undergraduate:

New York University
New York, New York
BA Degree

2000-2004

SELECTED HONORS/AWARDS:

Peter J. Gingrass, MD Award (*Plastic Surgery Research Council 2009*)
Hagey Family Research Fellowship (*Stanford University 2008-2009*)
Excellence in Adipose Stem Cell Research (*International Federation for Adipose Therapeutics & Science 2007*)
Stanford Medical Scholars Research Fellowship (*Stanford University 2006-2007*)
Phi Beta Kappa (*New York University 2004*)
Founders' Day Award (*New York University 2004*)
New York University College of Arts & Sciences Merit Scholarship (*New York University 2002-2004*)
Dr. Charles Barbieri Research Scholar (*New York University 2002*)
Dean's Circle University Scholar (*New York University 2001-2002*)
University Athletic Association All Academic Honors (*New York University 2000-2004*)
University Athletic Association Student-Athlete Academic Honor Roll (*New York University 2000-2004*)
Dean's List (*New York University 2000-2004*)

RESEARCH EXPERIENCE:

Stanford University School of Medicine, Hagey Laboratory

Research Fellow

Advisor: Geoffrey C. Gurtner, MD

2006-2011

New York University, Department of Biology

Undergraduate Researcher

Advisor: Ignatius P. Tan, PhD.

2000-2004

COLLEGIATE ATHLETICS:

Men's Fencing Team, New York University

Varsity Starter on UAA Championship Team

Nationally Ranked (2000)

2000-2004

Patent

Profiling of Cell Populations

United States Patent Number 8,586,305

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PUBLICATIONS:

1. **Vial IN**, Rubin JP. *Commentary on: Isolation and Differentiation Potential of Human Mesenchymal Stem Cells from Adipose Tissue Harvested by Water Jet-Assisted Liposuction.*
Aesthetic Surgery Journal, Nov. 2015
2. Januszyk M, Sorkin M, Glotzbach JP, **Vial IN**, Maan Z, Rennert RC, Duscher D, Thangarajah H, Longaker MT, Butte AJ, Gurtner GC. *Diabetes Irreversibly Depletes Bone Marrow-Derived Mesenchymal Progenitor Cell Subpopulations.*
Diabetes, Apr. 2014
3. Januszyk M, Wong VW, Bhatt KA, **Vial IN**, Paterno J, Longaker MT, Gurtner GC. *Mechanical offloading of incisional wounds is associated with transcriptional downregulation of inflammatory pathways in a large animal model.*
Organogenesis, Apr. 2014
4. Wong VW, Rustad KC, Akaishi S, Sorkin M, Glotzbach JP, Januszyk M, Nelson ER, Levi K, Paterno J, **Vial IN**, Kuang AA, Longaker MT, Gurtner GC. *Focal adhesion kinase links mechanical force to skin fibrosis via inflammatory signaling.*
Nature Medicine, Dec. 2011
5. Gurtner GC, Dauskardt RH, Wong VW, Bhatt KA, Wu K, **Vial IN**, Padois K, Korman JM, Longaker MT. *Improving cutaneous scar formation by controlling the mechanical environment: large animal and phase I studies.*
Annals of Surgery, Aug. 2011
6. **Vial IN***, Glotzbach JP*, Januszyk M*, Wong VW, Gelbard A, Kalisky T, Thangarajah H, Longaker MT, Quake SR, Chu G, Gurtner GC. *An information theoretic, microfluidic-based single cell analysis permits identification of subpopulations among putatively homogeneous stem cells.*
PLoS One, Jun. 2011
*Equally Credited Authors
7. **Vial IN***, Paterno J*, Wong VW, Rustad KC, Sorkin M, Shi Y, Bhatt KA, Thangarajah H, Glotzbach JP, Gurtner GC. *Akt-Mediated Mechanotransduction in Murine Fibroblasts during Hypertrophic Scar Formation.*
Wound Repair and Regeneration, Feb. 2011
*Equally Credited Authors
8. Thangarajah H, **Vial IN**, Grogan RH, Yao D, Shi Y, Januszyk M, Galiano RD, Chang EI, Galvez MG, Glotzbach JP, Wong VW, Brownlee M, Gurtner GC. *HIF-1 α Dysfunction in Diabetes.*
Cell Cycle, Jan. 2010
9. Thangarajah H, Yao D, Chang EI, Shi Y, Jazayeri L, **Vial IN**, Galiano RD, Du XL, Grogan R, Galvez MG, Januszyk M, Brownlee M, Gurtner GC. *The Molecular Basis for Impaired Hypoxia-Induced VEGF Expression in Diabetic Tissues.*
Proceedings of the National Academy of Sciences, Aug. 2009
10. Hamou C*, Callaghan MJ*, Thangarajah H, Chang E, Chang EI, Grogan RH, Paterno J, **Vial IN**, Jazayeri L, Gurtner GC. *Mesenchymal Stem Cells Can Participate in Ischemic Neovascularization.*
Plastic and Reconstructive Surgery, Feb. 2009
11. **Vial IN***, Thangarajah H*, Chang E, El-Ftesi S, Januszyk M, Chang EI, Paterno J, Neofytou E, Longaker MT, Gurtner GC. *IFATS Series: Adipose Stromal Cells Adopt a Proangiogenic Phenotype Under the Influence of Hypoxia.*
Stem Cells, Oct. 2009
*Equally Credited Authors

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12. Loh S, Chang EI, Galvez MG, Thangarajah H, Hamou CD, **Vial IN**, El-ftesi S, Lin D, Gurtner GC. *SDF-1 α Expression During Wound Healing in the Aged is HIF Dependent.* *Plastic and Reconstructive Surgery*, Feb. 2009
13. Chang EI, Bonillas RG, El-Ftesi S, Chang EI, Ceradini DJ, **Vial IN**, Chan DA, Michaels J 5th, Gurtner GC. *Tissue Engineering using Autologous Microcirculatory Beds as Vascularized Bioscaffolds.* *Federation of American Societies for Experimental Biology*, Nov. 2008

ABSTRACTS:

1. James I, **Vial IN**, De La Cruz C. *Vacuum Infiltration as a Means of Small Molecule Delivery into Acellular Dermal Matrix.* Robert H. Ivy Society, 2015
2. Maan ZN, Ho N, Rennert RC, Duscher D, Sorkin M, Rodrigues M, Chen JS, **Vial IN**, Perez M, Findlay M, Gurtner GC. *Endothelial Cell Production of SDF-1 Critically Regulates Cytokine Expression and Neovascularization during Wound Healing.* American College of Surgeons, 2014
3. James I, **Vial IN**, Acarturk TO. *Free flap reconstruction of the hypopharynx: An analysis of patients and outcomes at the University of Pittsburgh from 2002 to 2012.* Robert H. Ivy Society, 2014
4. Zammerilla LL, **Vial IN**, Chavanon VA, Sirvastava U, Zhang X, Russavage JM, Manders EK, Acarturk TO. *Paraspinous Muscle Flaps for Closure of Midline Post-Spinal Surgery Defects.* Robert H. Ivy Society, 2013
5. **Vial IN**, Glotzbach JP, Januszyk M, Thangarajah H, Wong VW, Longaker MT, Gurtner GC. *Single Cell Analysis as a Model to Better Isolate Stem Cell Populations.* *Plastic Surgery Research Council*, 2010. †Presenter
6. **Vial IN**†, Glotzbach JP, Januszyk M, Thangarajah H, Chang E, Longaker MT, Gurtner GC. *Diabetic Mesenchymal Stem Cells Lack a Population of Cells that Express Genes Needed to Maintain Pluripotency as Determined by Microfluidic Single Cell Transcriptional Analysis.* *Plastic Surgery Research Council*, 2009. *American Association of Plastic Surgeons*, 2010 (by invitation) †Presenter
7. Bhatt KA, **Vial IN**, WU K, Wong VW, Dauskardt RH, Longaker MT, Gurtner GC. *Mechanical Stresses Determine Scarring During Wound Healing.* *Plastic Surgery Research Council*, 2010.
8. Glotzbach JP, **Vial IN**, Januszyk M, Wong VW, Thangarajah H, Longaker MT, Gurtner GC. *Single Cell Analysis Demonstrates Significant Transcriptional Heterogeneity within Tightly-Sorted Murine Hematopoietic Stem Cell Populations.* *Academic Surgical Congress*, 2010.
9. Wong VW, Bhatt KA, **Vial IN**, Wu K, Padois K, Dauskardt RH, Longaker MT, Gurtner GC. *Beyond Langer's Lines: Manipulating Wound Mechanical Forces to Control Hypertrophic Scar Formation in the Red Duroc Pig* *American College of Surgeons, Surgical Forum*, 2010.
10. Glotzbach JP, Januszyk M, **Vial IN**, Wong VW, Thangarajah H, Galvez MG, Longaker MT, Gurtner GC. *Defects in Mesenchymal Stem Cells are Evident with Single Cell Transcriptional Analysis.* *Wound Healing Society*, 2010.

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11. Wong VW, Rustad KC, **Vial IN**, Glotzbach JP, Januszyk M, Major MR, Paterno J, Longaker MT, Gurtner GC. *Focal Adhesion Kinase is Critical in Maintaining Mechanical Homeostasis during Hypertrophic Scar Formation.* *Wound Healing Society, 2010.*
12. Glotzbach JP, Levi B, Januszyk M, **Vial IN**, Wong VW, Rustad KC, Longaker MT, Gurtner GC. *Single Cell Transcriptional Analysis Defines Multiple Heterogeneous Subpopulations Within Human Adipose Derived Stromal Cells.* *Plastic Surgery Research Council, 2010.*
13. Glotzbach JP, Levi B, Wong VW, Januszyk M, **Vial IN**, James AW, Sorkin M, Longaker MT, Gurtner GC. *Defining Functionally Distinct Subpopulations of Human Adipose-Derived Stromal Cells Through Single Cell Transcriptional Analysis.* *American College of Surgeons, Surgical Forum, 2010*
14. Wong VW, Glotzbach JP, Rustad KC, Major MR, **Vial IN**, Gurtner GC. *In-Vitro and In-Vivo Mechanotransduction of Focal Adhesion Kinase-Mediated MCP-1 Signaling During Hypertrophic Scar Formation.* *Academic Surgical Congress, 2010.*
15. Major M, Galvez MG, Chang EI, Wong VW, Glotzbach JP, **Vial IN**, Gurtner GC. *Reactive Oxygen Species Accumulation Leads to Deficient Wound Healing Similar to Aging.* *Plastic Surgery Research Council, 2010.*
16. Wong VW, Glotzbach JP, Paterno J, Rustad KC, Sorkin M, Major MR, **Vial IN**, Longaker MT, Gurtner GC. *Mechanical Modulation of Inflammation and Skin Fibrosis Through CD4+ T Cell Signaling.* *American College of Surgeons, Surgical Forum, 2010*
17. **Vial IN**, Wong VW, Paterno J, Galvez MG, Gurtner GC. *Evaluating the Effect of Mechanical Strain on Hypertrophic Scar Formation in Focal Adhesion Kinase Knockout Mice.* *Plastic Surgery Research Council, 2009.*
18. Glotzbach JP, **Vial IN**, Januszyk M, Thangarajah H, Wong VW, Galvez MG, Ko SH, Longaker MT, Gurtner GC. *A Novel Single Cell Gene Expression Analysis Identifies Critical Gene Transcription Defects in Diabetic Murine Mesenchymal Stem Cells.* *American College of Surgeons, Surgical Forum, 2009.*
19. Januszyk M, **Vial IN**, Glotzbach JP, Thangarajah H, Gurtner GC. *Applying Fuzzy Logic to Detect Novel Subpopulations of Mesenchymal Stem Cells.* *Plastic Surgery Research Council, 2009.*
20. Januszyk M, **Vial IN**, Glotzbach JP, Thangarajah H, Wong VW, Galvez MG, Longaker MT, Gurtner GC. *A Novel Approach to Evaluate Heterogeneity in Stem Cell Populations using Fuzzy Logic and Microfluidic Single Cell Technology.* *American College of Surgeons, Surgical Forum, 2009.*
21. Januszyk M, **Vial IN**, Glotzbach JP, Thangarajah H, Galvez MG, Wong VW, Longaker MT, Gurtner GC. *Computational Analysis of Stem Cell Population Heterogeneity and its Implications for Diabetic Neovascularization using Microfluidic Single Cell Technology.* *American Society for Clinical Investigation 2009.*
22. Wong WV, **Vial IN**, Paterno JM, Galvez MG, Glotzbach JP, Januszyk M, Longaker MT, Gurtner GC. *Altered Mechanotransduction Profiles in Skin Layer-Specific Focal Adhesion Kinase (FAK) Knockout Mice.* *American College of Surgeons, Surgical Forum, 2009.*

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23. Glotzbach JP, Thangarajah H, **Vial IN**, Chang E, Januszyk M, Gurtner GC. *Hematopoietic Stem Cells Prevent Angiogenic Differentiation of Mesenchymal Stem Cells*. *Plastic Surgery Research Council, 2009*.
24. Galvez MG, Chang EI, Glotzbach J, Major M, **Vial IN**, Thangarajah H, Rajadas J, Gurtner GC. *Pullulan Delivery Film for Targeted Ischemic Preconditioning*. *Plastic Surgery Research Council, 2009*.
25. **Vial IN**†, Thangarajah H, Bhatt KA, Paterno J, Gurtner GC. *Evaluating the Regenerative Capacity of Cultured and Primary Bone Marrow Derived Cells using Real-Time Bioluminescent In-Vivo Imaging*. *Plastic Surgery Research Council, 2008*. †Presenter
26. Bhatt KA, **Vial IN**, WU K, Kelantan MS, Binyamin G, Park Y, Dauskardt RH, Longaker MT, Gurtner GC. *Anatomical Variations of Mechanical Stress on Swine Wounds -- Correlation with Human Hypertrophic Scars*. *American College of Surgeons, Surgical Forum, 2008*.
27. Gupta DM, **Vial IN**, Lee JK, Wan DC, Gurtner GC, Longaker MT. *TAZ is a transcriptional modulator of human adipose-derived stromal cell differentiation towards the osteogenic lineage*. *Plastic Surgery Research Council, 2008*.
28. Thangarajah H, **Vial IN**†, Chang E, El-Ftesi, Chang EI, Bhatt KA, Paterno JM, Gurtner GC. *Hypoxic Regulation of Proangiogenic Adipose-Derived Mesenchymal Stem Cell Function*. *American College of Surgeons, Surgical Forum, 2008*. †Presenter.
29. Bhatt KA, Rajadas J, Thangarajah H, **Vial IN**, Olorunnipa S, Longaker MT, Gurtner GC. *Replicating Fetal Matrix Ligand Domains to Promote Tissue Regeneration*. *American College of Surgeons, Surgical Forum, 2008*.
30. Paterno J, Bhatt KA, Kelantan M, **Vial IN**, Chang E, Thangarajah H, Gurtner GC. *In-Vivo Temporal And Mechanical Load Dependent Analysis of Microarray Expression Profiles in Hypertrophic Scar Formation Demonstrates Unique Fibrotic and Inflammatory Signatures*. *Plastic Surgery Research Council, 2008*.
31. Thangarajah H, Yubin S, Yao D, Jazayeri L, Chang EI, **Vial IN**, Galiano RD, Ceradini DJ, Brownlee M, Gurtner GC. *Diabetes Impairs the Hypoxia Response by Blocking Hypoxia Inducible Factor-1 α binding to P300*. *American College of Surgeons, Surgical Forum, 2008*.
32. Thangarajah H, **Vial IN**†, Chang E, Chang EI, Paterno JM, Gurtner GC. *Adipose-Derived Mesenchymal Stem Cells Mobilize to Sites of Ischemia and Participate in Postnatal Neovascularization*. *International Federation of Adipose Therapeutics and Science 2007*. †Presenter.
33. Thangarajah H, Chang E, **Vial IN**, Gurtner GC. *Mobilization of Bone Marrow Resident Mesenchymal Stem Cells is Impaired in Diabetes*. *American College of Surgeons, Surgical Forum, 2007*.
34. Loh SH, Chang EI, **Vial IN**, Galvez MG, Lin D, Gurtner GC. *Aging Impairs IL 1- β Induced SDF-1 Expression through Decreased HIF-1 α Stabilization*. *Plastic Surgery Research Council, 2007*.
35. Kelantan MS, Slater B, Chang E, Paterno JM, **Vial IN**, Longaker MT, Gurtner GC. *Role of T Lymphocytes in the Formation of Hypertrophic Scars*. *Plastic Surgery Research Council, 2007*.
36. **Vial IN**†, Ghiassi-Nejad Z, Sukarna T, Nadel J, Ajmera P, Bavichi S, Arriaza J, Tan IP. *Suppression of Cx43 Expression via RNA Interference*. *American Society for Cell Biology, 2003*. †Presenter.