

Anthony Robert Prisco, MD PhD
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Education:

University of Minnesota; Physician Scientist Training Program (2016—2023 expected)

- Internship, Internal Medicine (2016-2017)
- Residency, Internal Medicine (2017-2018)
- Fellowship, Cardiovascular Diseases (2018—2023 expected)

Medical College of Wisconsin; Medical Scientist Training Program (2008—2016)

Degrees: MD, 2016; PhD, 2014

PhD Advisor: Andrew Greene, PhD

Dissertation Title: The Engraftment Problem: TNF α Increases Adhesion and Migration of Endothelial Progenitor Cells to Vascular Endothelial Cells

Marquette University (2004—2008)

Bachelor of Science, Biomedical Engineering, *Summa Cum Laude*

Board Certification:

ABIM: Internal Medicine

Employment:

Current:

2018— **University of Minnesota:** Physician Fellow (Cardiology)
2018— **Veterans Administration Health Care:** Moonlighter (Internal Medicine)
2017— **Fairview Health Services:** Moonlighter (Internal Medicine)

Former:

2016—2018 **University of Minnesota:** Resident Physician (Internal Medicine)
2007 **Baxter Healthcare:** Engineering Intern
2007—2008 **Marquette University:** Teaching Assistant; Intro to Biomedical Engineering
2006—2007 **Marquette University:** Teaching Assistant; General Chemistry
2005—2006 **Medical College of Wisconsin:** Research Assistant
2005—2008 **Marquette University:** Student Tutor

Funding:

Title: Reducing the Carbon Footprint of Cardiovascular Disease by Diagnosing Subclinical Pathology using Artificial Intelligence

Source: University of Minnesota Medical School

Role: Principal Investigator

Dates: 4/1/2020 – 4/1/2021

Direct Funds: \$29,540

Title: Advanced Hemodynamic Characterization of COVID19 Patients Supported by Venous-Arterial Extracorporeal Membrane Oxygenation

Source: University of Minnesota Institute of Engineering in Medicine

Role: Principal Investigator

Dates: 5/1/2020 – 4/30/2021

Direct Funds: \$10,000

Title: CardioVascular-COVID

Source: Partnership for Advanced Computing In Europe

Principle Investigator: Jazmin Aguado-Sierra, Ph.D.

Role: Investigator

Dates: 6/1/2020 – 12/31/2020

Direct Funds: 7,800,000 core computing hours

Bibliography:

Manuscripts:

1. Hoffmann, B. R., J. R. Wagner, **A. R. Prisco**, A. Janiak, and A. S. Greene, *Vascular endothelial growth factor-A signaling in bone marrow-derived endothelial progenitor cells exposed to hypoxic stress*. *Physiol Genomics*, 2013. **45**(21): p. 1021-34.
2. Kaczorowski, C. C., T. J. Stodola, B. R. Hoffmann, **A. R. Prisco**, P. Y. Liu, D. N. Didier, J. R. Karcher, M. Liang, H. J. Jacob, and A. S. Greene, *Targeting the endothelial progenitor cell surface proteome to identify novel mechanisms that mediate angiogenic efficacy in a rodent model of vascular disease*. *Physiol Genomics*, 2013. **45**(21): p. 999-1011.
3. **Prisco, A. R.**, Bukowy, J. D., Hoffmann, B. R., Karcher, J. R., Exner, E. C., & Greene, A. S. (2014). Automated Quantification Reveals Hyperglycemia Inhibits Endothelial Angiogenic Function. *PloS one*, 9(4), e94599.
4. Prisco, S. Z., Priestley, J. R., Weinberg, B. D., **Prisco, A. R.**, Hoffman, M. J., Jacob, H. J., & Lazar, J. (2014). Vascular dysfunction precedes hypertension associated with a blood pressure locus on rat chromosome 12. *American Journal of Physiology-Heart and Circulatory Physiology*, 307(8), H1103-H1110.
5. Greene, A. S., Parker, S. J., **Prisco, A. R.**, (2015). Broken Bones/Broken Heart: The Cardiovascular-Bone Marrow Axis. *Shinzo*, 47, 248-250
6. **Prisco, A. R.**, Prisco, M. R., Carlson, B. E., & Greene, A. S. (2015). TNF α Increases Endothelial Progenitor Cell Adhesion to the Endothelium by Increasing Bond Expression and Affinity. *American Journal of Physiology-Heart and Circulatory Physiology*, 308(11), H1368-H1381.

7. **Prisco, A. R.**, Hoffmann, B. R., Kaczorowski, C. C., McDermott-Roe, C., Stodola, T. S., Exner, E. C., Greene, A. S. (2016). TNF α Regulates Endothelial Progenitor Cell Migration via CADM1 and NF-kB. *STEM CELLS*. **34**(7): p. 1922-1933.
8. Aliseda, A., Chivukula, K.V., McGah, P., **Prisco, A.R.**, Beckman, J.A., Garcia, G.J., Mokadam, N.A., Mahr, C. (2017). LVAD Outflow Graft Angle and Thrombosis Risk. *ASAIO Journal*, 63(1): pp. 14-23.
9. Donohue, N.J., **Prisco, A.R.**, Grindel, S.R. (2017). Pre-Operative Corticosteroid Injections Improve Functional Outcomes in Patients Undergoing Arthroscopic Repair of High-Grade Partial-Thickness Rotator Cuff Tears. *Muscles, Ligaments, and Tendons*. 7(1): pp. 34-39.
10. **Prisco, A.R.**, Aliseda, A., Beckman, J.A., Mokadam, N.A., Mahr, C., Garcia, G.J. (2017). Impact of LVAD Implantation Site on Ventricular Blood Stagnation. *ASAIO Journal*. 63(4): pp. 392-400.
11. Mahr, C., Chivukula, K.V., McGah, P., **Prisco, A.R.**, Beckman, J.A., Mokadam, N.A., Aliseda, A. (2017). Intermittent Aortic Valve Opening and Risk of Thrombosis in VAD Patients. *ASAIO Journal*. 63(4): pp. 425-432.
12. Flister, M.J. Tsaih, S.W., Stoddard, A., Plasterer, C., Jagtap, J., Parchur, A.K., Sharma, G., **Prisco, A.R.**, Lemke, A., Murphy, D., Al-Gizawiy, M., Straza, M., Ran, S., Geurts, A.M., Dwinell, M.R., Greene, A.S., Bergom, C., LaViolette, P.S., Joshi, A. (2017). Host Genetic Modifiers Induce Non-Productive Angiogenesis and Inhibit Breast Cancer. *Breast Cancer Research and Treatment*. 165(1): pp. 53-64.
13. Chivukula, K.V., Beckman, J.A., **Prisco, A.R.**, Lin, S., Dardas, T., Cheng, R.K., Farris, S., Smith, J.W., Mokadam, N.A., Mahr, C., Aliseda, A. *ASAIO Journal*. 2019 Feb;65(2):152.
14. Jiang, A.W., Vijayaraghavan, M., Mills, E.G., **Prisco, A.R.**, Thurn, J.R. (2018). Scurvy, a Not-So-Ancient Disease. *American Journal of Medicine*. 131(5): pp. e185-e186.
15. Chivukula, K.V., Beckman, J.A., **Prisco, A.R.**, Dardas, T., Lin, S., Smith, J.W., Mokadam, N.A., Aliseda, A., Mahr, C. (2018). Left Ventricular Assist Device Inflow Cannula Angle and Thrombosis Risk. *Circulation: Heart Failure*. 11(4):e004325.
16. **Prisco, A.R.**, Allen, J., Gutierrez, A., Zanutto, A., Yannopoulos, D., Markowitz, J., Bartos, J.A. (2020). Kounis Syndrome Leading to Cardiac Arrest After Iodinated Contrast Exposure. *JACC Case Reports*, 2(4), pp.626-629.
17. **Prisco, A.R.**, Aguado-Sierra, J., Butakoff, C., Vazquez, M., Houzeaux, G., Eguzkitza, B., Bartos, J.A., Yannopoulos, D., Raveendran, G., Holm, M., Iles, T., Mahr, C., Iaizzo, P.A. (2021). Concomitant Respiratory Failure Can Impair Myocardial Oxygenation in Patients with Acute Cardiogenic Shock Supported by VA-ECMO. *Journal of Cardiovascular Translational Research*. Accepted, In Press.

Abstracts:

1. Shames, B. D., Layman, R., Hilton, G., **Prisco, A. R.**, Johnson, C. P., Pieper, G. M., & Nilakantan, V. (2006). Inherent resistance to acute ischemic renal injury in the Brown Norway rat is mediated by heme oxygenase-1. *Journal of Surgical Research*, 130(2), 207.
2. **Prisco, A. R.**, Olson, L. Greene, A. S. "A Novel Way of Measuring Cell Interaction Strength." FASEB J. March 17, 2011 25:820.12
3. **Prisco, A. R.**, and A. S. Greene, *Measurement of the Binding Strength of Endothelial Progenitor Cells to Vascular Endothelial Cells in Shear*. The FASEB Journal, 2012. **26**: p. 1129.7.
4. Hoffmann, B. R., J. R. Wagner, **A. R. Prisco**, and A. S. Greene, *Vascular Endothelial Growth Factor-A signaling in Bone Marrow-Derived Endothelial Progenitor Cells Exposed to Hypoxia*. The FASEB Journal, 2013. **27**: p. 685.7.
5. **Prisco, A. R.**, B. R. Hoffmann, C. C. Kaczorowski, and A. S. Greene, *Targeted Proteomics: Endothelial Cell Membrane Response to TNF- α* . The FASEB Journal, 2013. **27**: p. 737.6.
6. **Prisco, A. R.**, B. R. Hoffmann, C. C. Kaczorowski, and A. S. Greene, *The Engraftment Problem: Identifying Proteins that Mediate Stem Cell Adhesion*. The FASEB Journal, 2013. **27**: p. 874.2.
7. Kaczorowski, C. C., T. J. Stodola, B. R. Hoffmann, **A. R. Prisco**, P. Lui, D. Didier, J. Karcher, M. Liang, H. Jacob, and A. S. Greene, *Abstract 48: Targeting the Endothelial Progenitor Cell Surface Proteome to Identify Novel Mechanisms that Mediate Angiogenic Efficacy and Restore Angiogenesis in a Rodent Model of Vascular Disease*. Hypertension, 2013. **62**: p. A48.
8. **Prisco, A. R.**, B. R. Hoffmann, J. D. Bukowy, J.R. Karcher, and A. S. Greene, *Abstract 232: High Glucose Attenuates In Vitro Tube Growth of Microvascular Endothelial Cells*. Hypertension, 2013. **62**: p. A232.
*Poster Award Winner
9. Hoffmann, B. R., **A. R. Prisco**, J. Wang, T. M. Suboc, M. E. Widlansky, and A. S. Greene, *Abstract 230: Evaluation of Hyperglycemia-Driven Alterations on Vascular Endothelial Function*. Hypertension, 2013. **62**: p. A230.
10. Hoffmann, B. R., **A. R. Prisco**, and A. S. Greene, *Hyperglycemia-driven glycosylation of the AT1 receptor in the vascular endothelium (1086.8)*. The FASEB Journal, 2014. **28**.

11. **Prisco, A. R.**, B. R. Hoffmann, C. C. Kaczorowski, and A. S. Greene, *TNF α regulates endothelial progenitor cell migration through the NF- κ B pathway (1180.16)*. The FASEB Journal, 2014. **28**.
12. Hoffmann, B. R., **Prisco, A. R.**, Widlansky, M. E., & Greene, A. S. "Hyperglycemia-induced alterations of the vascular endothelium in type 2 diabetes mellitus." *The FASEB Journal* 29, 2015: 802-4.
13. McGah, P., **Prisco, A. R.**, Garcia, G., Beckman, J. A., Mokadam, N. A., Mahr, C., Aliseda, A. "Computational Optimization of LVAD Outflow Graft Configuration." *ASAIO Journal* 2015, 153: p. 64.
14. **Prisco, A. R.**, McGah, P., Garcia, G., Beckman, J. A., Mokadam, N. A., Aliseda, A., Mahr, C. "Influence of LVAD Inflow Cannula Placement Location on the Flow Stresses and Residence Time in the Left Ventricle." *ASAIO Journal* 2015, 155: p. 65.
*Selected for oral presentation

Posters:

1. **Prisco, A. R.** Humphrey, S. Schuckit, S. "Student-Guided Curriculum Design at the Medical College of Wisconsin." Poster session presented at the 2009 AAMC National Conference. 2009, November 6-12; Boston, MA
2. **Prisco, A. R.** Ford, C. Humphrey, S. Simpson, D.S. "Recipe for Success: What Influences Student Success in Academic Projects?" Poster session presented at the 2010 AAMC National Conference. 2010, November 5-11; Washington D.C.
3. **Prisco, A. R.** Prisco, M. R. Greene, A. S. "Fluid Dynamic Analysis of a Custom In-Vitro Flow Chamber." Poster session presented at the 2011 BBC Innovation Day. 2011, February 10; Milwaukee, WI
4. Sheets, L. M. **Prisco, A. R.** Ford, C. Simpson, D. S. "Pathways to Public Health: Integrating Public Health into the Medical School Curriculum." Poster session presented at the 2011 AAMC National Conference. 2011, Nov 4-11; Denver, CO
5. Mantha, A. Ray A. **Prisco A. R.** Bagwell, S. Deci, D. Schapiro, R. "Use of a Poverty Simulation in Medical Education." Poster Presented at the 2012 AAMC Regional Conference, 2012, March 29-April 1; Clearwater Beach, FL
6. Priestley, J. R. C., Weinberg, B. D., **Prisco, A. R.**, Endres, B., Casati, M., Geurts, A. M., Lombard, J. H., "Nrf2 Mutation Eliminates Vasoprotective Effects of Low Dose Angiotensin II Infusion in Sprague-Dawley Rats Fed High Salt Diet." Poster Presented at the 2014 Experimental Biology Conference, 2014, April 26-April 30; San Diego, CA

7. **Prisco, A.R.**, Aliseda, A., Beckman, J.A., Mokadam, N.A., Mahr, C., Garcia, G.J. (2016). “Impact of LVAD Implantation Site on Ventricular Blood Stagnation.” Poster Presented at the ACP Minnesota Chapter Meeting. 2016, October 28; Minneapolis, MN
*Poster award winner

Invited External Presentations:

1. “Use of a Poverty Simulation in Medical Education.” Presented at the 2012 AAMC Regional Conference, March 30, 2012; Clearwater Beach, FL
2. “Heart Failure: New Treatments, Engineering, and Patients – Can a Single Person Integrate These?” *Invited Lecturer* for the Intro to Biomedical Engineering Class, Marquette University, April 22, 2014
3. “TNF α Regulates Endothelial Progenitor Cell Migration via CADM1 through the NF-kB Pathway.” *Invited Speaker* for the Department of Biomedical Engineering Seminar Series, Marquette University, May 9, 2014

Honors/Awards:

2017	ACP National Meeting: Young Scholars Award
2016	ACP Minnesota Chapter: Poster Competition Winner, Minneapolis, MN
2016	Medical College of Wisconsin: J.J. Smith Award in Physiology
2013	American Heart Association Scientific Sessions: Poster Competition Winner, New Orleans, LA
2013	Medical College of Wisconsin: Travel Award Winner
2012	Medical College of Wisconsin: Travel Award Winner
2011	Medical College of Wisconsin: Travel Award Winner
2008	Marquette University: Graduated <i>Suma cum Laude</i>
2008	Marquette University: Highest Ranking Biomedical Engineering Senior
2002	Eagle Scout Rank (Troop 57, St. Joseph’s Parish, Aurora, IL)

Leadership/Professional Activities/Volunteering:

2016—	Reviewer, ASAIO Journal
2014—	Reviewer, Journal of Stem Cell Research and Regenerative Medicine
2014—	Reviewer, Journal of Heart and Lung Transplantation
2014—	Reviewer, PLoS One
2012—2016	Medical College of Wisconsin, Bioengineering Educational Outreach Program
2009—2012	Medical College of Wisconsin, Class of 2012 <u>AAMC OSR Representative</u>
2009—2010	Medical College of Wisconsin, Student Assembly, Alumni Relations <u>Committee Member</u>
2009—2010	Medical College of Wisconsin, Student Assembly, Awards <u>Committee Member</u>
2008—2012	Medical College of Wisconsin, MSTP, Retreat <u>Committee Member</u>