

Curriculum Vitae

Stavros G. Drakos, MD, PhD

PERSONAL DATA

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Office Address: 50 North Medical Drive, Rm 4A100 University of Utah School of Medicine, Salt Lake City, Utah, 84132

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Home Address: 1865 Lakeline Drive, Salt Lake City, UT 84109

Date of Birth: Sept 14, 1971

Citizenship status: (a) United States citizen, (b) Greece (EU) citizen

Marital Status: Married to Alice Milioti-Drakos (Architect), Children: George (18yo) and Sofia (13yo)

EDUCATION

<u>Years</u>	<u>Degree</u>	<u>Institution (Area of Study)</u>
1991 - 1997	M.D.	University of Athens (Summa Cum Laude - most competitive academic institution in Greece: http://en.uoa.gr/)
1995 - 1999	Ph.D.	University of Athens (Pulsatile vs. Non Pulsatile Flow in Mechanical Support in a Porcine Model of Heart Failure, Institutional Award Best 3 PhD Theses, Mentor: John N. Nanas, MD/PhD)
1999 - 2001	Resident	University of Athens (Internal Medicine), Athens, Greece
2001 - 2003	Heart Failure Fellow	UTAH Cardiac Transplant Program: University of Utah Health; Intermountain Health; Salt Lake VA Health (Advanced Heart Failure Fellowship - Mentor: Dale G. Renlund, MD)
2003 - 2006	Cardiology Fellow	University of Athens & Harefield Heart Sciences Center/ Imperial College London (Harefield Athens Recovery Program –HARP, Mentors: Sir Magdi Yacoub, MD & John Nanas, MD/PhD)
2007 - 2009	Post-doctoral Fellow	University of Utah Eccles Institute of Human Genetics (Cardiovascular Translational Research Fellowship; Molecular Medicine Program - Mentor: Dean Y. Li, MD/PhD)

PROFESSIONAL EXPERIENCE

Full-Time Positions/Appointments

2006 - 2007	Faculty Attending Cardiologist , University of Athens & Harefield Heart Sciences Center/ Imperial College London (Harefield Athens Recovery Program - HARP)
2007 - 2009	Combined appointment , (a) 20% FTE Faculty Attending Cardiologist, UTAH Cardiac Transplant Program, (b) 80% FTE Translational CV Research Fellowship, Molecular Medicine Program, Eccles Institute of Human Genetics, University of Utah

2009 - 2014	Assistant Professor of Medicine , Division of Cardiology, University of Utah School of Medicine, Salt Lake City, UT & Salt Lake VA Medical Center
2011 - Present	Medical Director, Mechanical Circulatory Support Program , University of Utah Healthcare
2014 - Present	Co-Chief, Heart Failure and Transplant Section , University of Utah Healthcare
2014	Award of Tenure , University of Utah School of Medicine & Salt Lake VA Medical Center
2014 - 2019	Associate Professor of Medicine , Division of Cardiology, University of Utah School of Medicine & Salt Lake VA Medical Center
2016 - Present	Director of Cardiovascular Research of Division of Cardiology, University of Utah School of Medicine
2017 - Present	Adjunct Faculty , Department of Integrative Physiology and Department of Biomedical Engineering, University of Utah
2017 - Present	Nora Eccles Treadwell Investigator , Nora Eccles Harrison Cardiovascular Research & Training Institute (CVRTI), University of Utah
2019 - Present	Professor of Medicine , Division of Cardiology, Department of Medicine, Univ. of Utah School of Medicine & Salt Lake VA Medical Center

CURRENT MEDICAL LICENSES

State of Utah: State License (UT) - Physician (MD)
European Union Medical License

BOARD CERTIFICATIONS

06/17/2006	Board Certified in Cardiology, European Union/EC
08/01/2016	Board Certified in Heart Failure, European Society of Cardiology (ESC)

EDITORIAL EXPERIENCE

2010 - 2017	International Society of Heart Lung Transplant (ISHLT) Links: Associate Editor
2013 - 2019	Current Opinion in Cardiology: Heart Failure Section Editor
2016 - Present	J Am Coll Cardiol: Heart Failure: Editorial Board
2021 - Present	J Am Coll Cardiol: Advances: Editorial Board

REVIEWER EXPERIENCE

American Journal of Cardiology
ASAIO Journal (Journal of the American Society of Artificial Internal Organs)
American Heart Journal
American Journal of Transplantation (Journal of the American Transplant Society - ATC)
BMC Anesthesiology
Biomarkers in Medicine

Circulation (Journal of the American Heart Association)
 Circulation: Heart Failure
 Clinical Transplantation
 European Journal of Heart Failure
 Expert Review Cardiovascular Therapy
 Expert Review of Medical Devices
 International Journal of Cardiology
 JACC (Journal of the American College of Cardiology)
 Journal of Cardiac Failure (Journal of the Heart Failure Society of America - HFSA)
 Journal of Heart and Lung Transplantation (Journal of the International Society of Heart and Lung Transplantation - ISHLT)

SCHOLASTIC HONORS

1991	First Class Honors in Nationwide Greek Colleges Admission Exams (scoring 3rd highest out of thousands pre-med students on the state boards): Admission to U of Athens School of Medicine
1991 - 1992	Annual Award & Scholarship, Greek National Scholarship Foundation: Medical Student With Highest Grades – U of Athens School of Medicine
1992 - 1993	Annual Award & Scholarship, Greek National Scholarship Foundation: Medical Student With Highest Grades – U of Athens School of Medicine.
1997	First Class Honors for Graduation Ranking (Summa Cum Laude): 4th/140 medical graduates, U of Athens School of Medicine
2001	Award “Best Experimental Cardiology Abstract” , Annual Conference Hellenic Cardiological Society (www.hcs.gr)
2005	Award “Best 3 PhD Theses 2000-2005” , U of Athens School of Medicine (http://en.uoa.gr/)
2006	Award “Best Translational Research Project” , Hellenic Cardiological Society (www.hcs.gr)
2007	Hellenic Cardiological Society Young Investigator Award & Scholarship for Cardiovascular Basic Research Fellowship in the U.S. (performed at the Molecular Medicine Program, U of Utah SOM)
2014 - Present	Annual Visiting Professor , U of Athens School of Medicine, Athens, Greece
2015 - Present	Annual Visiting Professor , Sichuan Academy of Medical Sciences & Sichuan Provincial People’s Hospital, Chengdu, Sichuan, China
2016	Co-chair Mechanical Circulatory Support MASTERS ACADEMY , International Society of Heart and Lung Transplantation, Washington DC
2016	Co-chair, NIH/NHLBI Working Group: “Advancing the Science of Myocardial Recovery with Mechanical Circulatory Support”

2017	Chair, Mechanical Circulatory Support MASTERS ACADEMY , International Society of Heart and Lung Transplantation (ISHLT), San Diego, CA
2017	Outstanding Faculty Mentorship Award , Department of Internal Medicine, University of Utah (sole recipient)
2017	Keynote Speaker at National Conference: INTERMACS 11th Annual Meeting and Scientific Sessions 2017, Atlanta, Georgia
2017	Keynote Speaker at University of Texas Southwestern (UTSW) Annual Heart Failure Conference
2017 - Present	Nora Eccles Treadwell Investigator , Nora Eccles Treadwell Foundation & University of Utah School of Medicine
2018	Forbes Honor Roll – Top 27 US Cardiologists , Recognized by Forbes as Exemplary Physicians in the Field of Cardiology: https://www.forbes.com/sites/matthewherper/2017/12/05/27-top-cardiologists-picked-by-big-data/#2d2c230d6a7e
2018	Crutchfield Visiting Professorship at Virginia Commonwealth University (VCU), Richmond, Virginia
2017 - Present	NIH Clinical and Integrative Cardiovascular Sciences Study Section (CICS) Study Section – Ad Hoc and subsequently Standing Member
2020 - Present	Executive Committee, VANQUICH SHOCK Consortium (U of Toronto, Inova, Sentara, U of Utah)
2021 - Present	Steering Committee American Heart Association (AHA) Cardiogenic Shock Initiative
2021-Present	Chairperson , NIH Clinical Integrative Cardiovascular and Hematological Sciences (CCHS) Study Section
2021	Guy Zimmerman Faculty Mentorship Award , University of Utah School of Medicine
2021	Distinguished Keynote Speaker , Tufts Molecular Cardiology Research Institute (MCRI)
2021	Election to ASCI (American Society of Clinical Investigation)
2022	H.A. Edna Benning Presidential Endowed Chair

Honors & Awards to Mentees:

2011	Divya R. Verma, MD (Clinical Research Fellow U of Utah): Young Innovator
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- Fellow Award of the American Transplant Congress (ATC) 2011 - Philadelphia, Pennsylvania
- 2012 **Tracy M. Frech, MD**, (Rheumatology junior faculty), Development Grant K12 NIH/ University of Utah CCTS
- 2013 **Samuel Passi, MS** (Medical Student U of Utah): Award for Translational Research, University of Utah Scholarly Activity Symposium
- 2013 **Nikolaos A. Diakos, MD/PhD** (Translational Science Research Fellow U of Utah): Annual Research Fellowship Award 2013, International Society of Heart and Lung Transplantation (ISHLT)
- 2016 **Michael J. Bonios, MD/PhD** (Clinical Research Fellow U of Utah): Jay N. Cohn Young Investigator Award Finalist, Heart Failure Society of America (HFSA)
- 2017 **Mohammad Al-Sarie, MD**, (Heart Failure Research Fellow U of Utah): 1st place at the 13th Annual Peter White M.D. Resident Symposium, Toledo, Ohio
- 2018 **Nijat Aliyev** (U of Utah Medical Student): 1st place at SOM Alumni Student Poster Competition (among 42 participants)
- 2018 **Rachit Badolia, PhD**, (U of Utah CVRTI Post-doc): 1-year Grant/Fellowship, Driving Out Diabetes Initiative, Larry H. & Gail Miller Family Foundation
- 2019 **Rachit Badolia, PhD**, (U of Utah CVRTI Post-doc): Postdoctoral Research 2-year Grant/Fellowship, American Heart Association (AHA)
- 2020 **Omar Wever Pinzon, MD**, (U of Utah Assistant Professor): K23 Award Career Development Award, NIH

ADMINISTRATIVE EXPERIENCE

Administrative Duties

- 2009 - 2013 Steering Committee, Prometheus Trial: Inotropes for the Treatment of Acute Decompensated Heart Failure (European multicenter study)
- 2009 - 2013 Treasurer, Board of Directors, Hellenic Society for the Study and Research of Heart Failure
- 2010 - 2013 Member of the International Society of Heart & Lung Transplantation (ISHLT) Council of Heart Failure and Transplant Medicine: Registries and Databases Workforce
- 2011 - Present Medical Director, Mechanical Circulatory Support Program, University of Utah Healthcare
- 2014 - 2016 Heartware Inc., Global Cardiology Advisory Board Member
- 2014 - 2016 Abiomed Heart Failure Advisory Board
- 2014 - Present T32 Cardiovascular Training Grant Executive Committee Member, University of Utah School of Medicine
- 2014 - Present Co-Chief, Heart Failure & Transplant Section, Division of Cardiology, University of Utah

2015 - Present	Division of Cardiology Governance Council Member (comprised of the Division's Section Heads)
2016 - Present	Steering Committee INTELLECT 2-HF Multicenter Trial: INvesTigation to OptimizE Hemodynamic Management of HeartMate II Left Ventricular Assist Device Patients using the CardioMEMS Pulmonary ArTery Pressure Sensor in Advanced Heart Failure (INTELLECT 2-HF Trial)
2016 - Present	Director of Cardiovascular Research, Division of Cardiology, University of Utah
2016 - Present	Founder & Chair, Faculty Development Oversight Committee, Division of Cardiovascular Medicine, University of Utah
2016 - Present	Founder & Chair, Fellow Research Oversight Committee, Division of Cardiovascular Medicine, University of Utah
2017 - Present	T32 Cardiovascular Training Grant Principal Investigator, University of Utah School of Medicine
2018 - Present	American Heart Association (AHA) – Award #18UFEL3390022: Undergraduate Research Fellowship Program, Director and Principal Investigator
2021 - Present	Steering Committee American Heart Association (AHA) Cardiogenic Shock Initiative
2021 - Present	Executive Committee, VANQUICH SHOCK Consortium (U of Toronto, Inova, Sentara, U of Utah)

Grant Review Committee/Study Sections

2012 - 2017	British Heart Foundation, Program Grant Applications, London, UK
2015 - 2017	National Institutes of Health/NHLBI Study sections (CICS, CCHF), Ad hoc member
2015 - 2017	American Heart Association
2017 - 2020	National Institutes of Health/NHLBI, Clinical Integrative Cardiovascular Sciences (CICS) Study Section. Standing Member
2020	NHLBI - Special Emphasis Panel - ZHL1 CSR-O (O1) 2 - Catalyze Product Definition
2021 - Present	Chairperson, NIH Clinical Integrative Cardiovascular and Hematological Sciences (CCHS) Study Section

Scientific Conference Chair/Director/Planning Committee

2009	Scientific Program Committee, 10th Annual International Heart Failure Conference, Society for the Study and Research of Heart Failure, Athens, Greece
2010	Scientific Program Committee, 11th Annual International Heart Failure Conference, Society for the Study and Research of Heart Failure, Athens, Greece
2011	Scientific Program Committee, 12th Annual International Heart Failure Conference, Society for the Study and Research of Heart Failure, Athens, Greece
2013	Co-Director, 1 st Annual, Utah Cardiac Recovery International Conference (U-CARS), Salt Lake City, Utah
2013	Scientific Program Committee, 14th Annual International Heart Failure Conference, Society for the Study and Research of Heart Failure, Athens, Greece
2014	Co-Director, 2 nd annual, Utah Cardiac Recovery International Symposium

2014	(U-CARS), Salt Lake City, Utah Scientific Program Committee, 15th Annual International Heart Failure Conference, Society for the Study and Research of Heart Failure, Athens, Greece
2015	Co-director, 3 rd Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2015	Planning Committee Member for the 2015 Gordon Research Conference on Assisted Circulation, Lucca, Tuscany, Italy
2016	Co-director, 4 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2016	Co-chair, NIH/NHLBI Working Group: "Advancing the Science of Myocardial Recovery with Mechanical Circulatory Support", Bethesda, Maryland (http://www.nhlbi.nih.gov/research/reports/nhlbi-working-group-advancing-science-myocardial-recovery-mechanical-circulatory-support)
2016	Co-director, 5 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2016	Co-chair, International Society of Heart and Lung Transplantation (ISHLT) Mechanical Circulatory Support (MCS) Masters Academy, Washington DC
2017	Planning Committee, Gordon Research Conference (GRC) in Assisted Circulation, Stowe, Vermont
2017	Chair, International Society of Heart and Lung Transplantation (ISHLT) Mechanical Circulatory Support (MCS) Masters Academy, San Diego, CA
2018	Co-director, 6 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2019	Planning Committee, Gordon Research Conference (GRC) in Assisted Circulation, Barcelona, Spain
2019	Co-director, 7 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2020	Co-director, 8 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah
2021	Co-director, 9 th Annual Utah Cardiac Recovery International Symposium (U-CARS), Salt Lake City, Utah

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American College of Cardiology (ACC)
American Heart Association (AHA)
Athens Medical Association
European Society of Cardiology (ESC)
Heart Failure Society of America (HFSA)
Heart Failure Association of European Society of Cardiology (HFA-ESC)
Hellenic Association of Cardiology (HSC)
Hellenic Association of Medicine
Hellenic Society for the Study and Research of Heart Failure (EMEKA)
International Society for Heart & Lung Transplantation (ISHLT)

FUNDING

Active Grants

11/01/20-10/01/25 **NHLBI 1R01HL156667-01**

Title: Perm1 is a Novel Regulator of Cardiac Energetics and Function
Principal Investigators: Stavros G. Drakos, Junco Warren
Annual Direct Costs: \$251,000 Annual Total Costs: \$378,125
National Heart Lung & Blood Institute
Role: Principal Investigator

01/01/21-01/01/25 **Merit Review Award I01 CX002291**
Title: Understanding Myocardial Recovery in Diabetes and Heart Failure
Principal Investigator: Stavros G. Drakos
Annual Direct Costs: \$300,000
Department of Veterans Affairs
Role: Principal Investigator

12/09/16 - 11/30/22 **NHLBI R01 Research Grant HL 135121-01**
Title: "Clinical and Metabolic Signature of Recovered Myocardium in Human Heart Failure"
Principal Investigator: Stavros G. Drakos
Annual Direct Costs: \$248,486 Annual Total Costs: \$378,021
National Heart Lung & Blood Institute
Role: Principal Investigator

12/15/16 - 12/30/21
(NCE) **NHLBI R01 Research Grant HL132067-01A1**
Title: "Cellular Remodeling in Heart Failure and after LVAD Unloading"
Principal Investigators: Stavros G. Drakos, Frank Sachse
Annual Direct Costs: \$251,161 Annual Total Costs: \$378,125
National Heart Lung & Blood Institute
Role: Principal Investigator

07/01/16 - 07/30/21
(NCE) **AHA Heart Failure Strategically Focused Research Network (SFRN), 16SFRN29020000, Project 1**
Title: "Functional, Metabolic and Patient-Centered Determinants of Recovery in Heart Failure"
Principal Investigator: Stavros G. Drakos
Annual Direct Costs: \$583,277 Annual Total Costs: \$639,100
American Heart Association
Role: Principal Investigator

02/01/17 - 01/31/22 **NHLBIT32 2T32 HL007576-31**
Title: Training in Cardiovascular Research
Principal Investigators: Stavros G. Drakos; Robin Shaw
Annual Direct Costs: \$517,800 Annual Total Costs: \$558,607
National Heart, Lung, and Blood Institute
Role: Principal Investigator

01/11/21 - 01/11/23 **Novartis Institutes of Biomedical Research**
Title: "Single nuclei transcriptional and epigenetic profiling of human human myocardium in heart failure and myocardial recovery"
Principal Investigator: Stavros G. Drakos

- 07/01/18 – 06/30/22 **Nora Eccles Treadwell Foundation Research Grant**
 Title: Improving Myocardial Salvage after Acute Myocardial Infarction with Simultaneous Mechanical Unloading and Reperfusion
 Principal Investigator: Stavros G Drakos
 Direct Costs: \$650,000 (\$150,000/year)
 Nora Eccles Treadwell Foundation
 Role: Principal Investigator
- 04/01/20 - 03/01/24 **NHLBI R01HL151924**
 Title: Role of cardiomyocyte KLF5 in heart failure and myocardial recovery
 Principal Investigator: Kostas Drosatos
 Direct Costs: \$1,000,000 Total Costs: \$1,850,000
 National Institutes of Health
 Role: Co-Investigator
- 08/01/20 – 07/01/25 **NIH - K23HL150322**
 Title: Role of DNA Methylation in Cardiac Failure and Recovery
 Principal Investigator: Wever-Pinzon, Omar
 Total Costs: \$980,000
 National Institutes of Health
 Role: Primary Mentor
- 01/01/17 – 01/01/22 **Nora Eccles Treadwell Foundation Research Grant**
 Title: Mitochondrial Pyruvate Metabolism in Diabetes and Heart Failure.
 Principal Investigator: Jared P. Rutter
 Direct Costs: \$650,000 (\$150,000/year)
 Nora Eccles Treadwell Foundation
 Role: Co-Investigator

Past Grants

- 01/01/99 - 12/31/00 Young Investigator Grant
 Pulsatile versus non-pulsatile mechanical circulatory support in a porcine model of cardiogenic shock.
 Principal Investigator: Stavros G. Drakos
 Bodossakis Foundation
 Role: Principal Investigator
- 01/01/00 - 01/01/02 Young Investigator Award
 Pulsatile versus continuous flow unloading in experimental heart failure.
 Principal Investigator: Stavros G. Drakos
 A.G. Leventis Foundation, Switzerland
 Role: Principal Investigator
- 11/15/07 - 11/15/08 Young Investigator Award - Scholarship in Translational Cardiology
 Hellenic Cardiological Society

Role: Young Investigator Awardee

- 01/01/09 - 12/31/10 CTSA Award - Clinical and Translational Science Center (CCTS)
University of Utah - NIH
Reverse remodeling during mechanical unloading of the left ventricle.
Principal Investigators: Stavros G. Drakos; Abdallah G. Kfoury
National Institutes of Health
Role: Co-Principal Investigator
- 08/01/09 - 08/01/12 FP7 - European Union Marie Curie Grants - Number: 276776,
Title: Unload Failing Heart
Principal Investigator: Stavros G. Drakos
European Commission Research Executive Office, Brussels, Belgium
Role: Principal Investigator
- 08/01/10 - 08/01/12 Intermountain Research Medical Foundation (IRMF) Research Grant
#00571
Impact of Non-Pulsatile Left Ventricular Assist Device-Induced Unloading
on microvasculature
Principal Investigators: Stavros G. Drakos; Abdallah G. Kfoury
Deseret Foundation
Role: Principal Investigator
- 09/01/12 - 09/01/13 K12 - NIH/ University of Utah CCTS
Vascular leak is central to the pathogenesis of systemic sclerosis
Principal Investigator: Tracy M. Frech
University of Utah Center for Clinical and Translational Science
Role: Mentor
- 10/01/12 - 09/01/16 VA Merit Review Award
Effects of Mechanical Unloading on Myocardial Function and Structure in
Humans - CSR & D, 1I01CX000710-01A1
Principal Investigators: Stavros G. Drakos; Josef Stehlik
Direct Costs: \$649,000 Total Costs: \$649,000
Salt Lake City Veterans Affairs Medical Center
Role: Co-Principal Investigator
- 07/01/13 - 06/30/14 Nikolaos Diakos MD, PhD, Post-doctoral Fellowship
Direct Costs: \$40,000 Total Costs: \$40,000
International Society for Heart and Lung Transplantation (ISHLT)
Role: Mentor
- 07/01/13 - 06/30/16 Humans as a model organism to study metabolic changes in heart failure
and myocardial recovery.
Principal Investigator: Stavros G. Drakos
Direct Costs: \$378,704 Total Costs: \$405,001
Doris Duke Foundation
Role: Principal Investigator
- 08/01/13 - 08/01/15 Deseret Foundation Research Grant

Circulating microRNA in chronic heart failure patients during unloading with continuous flow LVAD, IRMF grant #676.

Principal Investigator(s): Stavros G. Drakos; Oxana Galenco

Direct Costs: \$80,000 Total Costs: \$80,000

Deseret Foundation

Role: Co-Principal Investigator

- 12/01/15 - 11/30/16 AHA CV Genome Phenome Discovery Grant (CVGPS)
Title: Molecular predictors of LVAD-induced unloading myocardial recovery
Principal Investigator: Stavros G. Drakos
Direct Costs: \$145,454 Total Costs: \$159,999
American Heart Association
Role: Principal Investigator
- 01/01/99 - 12/31/01 PENED/1999ED/9EPET II, European Union Research Agency Grant
Hemodynamic effects during cardiac mechanical support in an in vitro-mock circulation model
General Secretariat for Research and Technology
Role: Co-Investigator
- 07/01/06 - 06/30/11 NIH- U01HL084889-04
Gene and cell-based therapies for LVAD patients
Principal Investigator(s): David A. Bull; Dean Y. Li
National Institutes of Health
Role: Co-Investigator
- 01/01/09 - 07/31/11 AHA Clinical Research Program
Impact of non-pulsatile left ventricular assist device support on cardiac function and structure.
Principal Investigator: Josef Stehlik
American Heart Association
Role: Co-Investigator
- 07/01/15 - 06/30/17 Outcome Models For TAVR
Principal Investigators: Stavros G. Drakos; Anwar Tandar; Frederick G. Welt
Direct Costs: \$19,907 Total Costs: \$21,500
Washington University In St Louis
Role: Co-Principal Investigator
- 12/01/13 - 01/01/18 Clinical Trial - Risk Assessment and comparative effectiveness of left ventricular assist device and medical management in ambulatory heart failure patients (ROADMAP)
Thoratec Corporation
Role: Local Co-Principal Investigator
- 12/1/13 - 12/1/16 Clinical Trial
Functional Impact of GLP-1 for Heart Failure Treatment (FIGHT)
National Heart, Lung, and Blood Institute

Role: Co-Investigator

- 04/01/14 - 06/22/16 Clinical Trial
INcrease Of VAgal TonE in chronic Heart Failure (INOVATE-HF)
BioControl Medical
Role: Co-Investigator
- 04/01/14 - 12/31/17 Clinical Trial
Nitrate's Effect on Activity Tolerance in Heart Failure with Preserved
Ejection Fraction (NEAT-HFpEF)
National Heart, Lung, and Blood Institute
Role: Co-Investigator
- 07/01/14 - 07/01/14 Iron-Out
Principal Investigator: Stavros G. Drakos
Direct Costs: \$46,093 Total Costs: \$55,925
Duke Clinical Research Institute
Role: Local Principal Investigator
- 02/01/14 - 01/31/19 NHLBI R01 Research Grant
MRI of diffuse left ventricular fibrosis in atrial fibrillation
Principal Investigator: Daniel Kim
Direct Costs: \$1,250,000 Total Costs: \$1,862,500
National Heart Lung & Blood Institute
Role: Co-Investigator
- 10/01/18 - 10/01/19 Postdoctoral Fellowship, Larry H. & Gail Miller Family Foundation-Driving
Out Diabetes Initiative
Title: Altered monocarboxylate and glycolysis-dependent cardioprotective
metabolism in the failing hearts of diabetic patients
Trainee/Post-doctoral fellow: Rachit Badolia, PhD
Larry H. & Gail Miller Family Foundation
Role: Mentor
- 01/01/19 - 12/31/21 AHA Postdoctoral Fellowship
Title: Glycolysis-Dependent Pentose Phosphate Pathway and One-carbon
Metabolism during Cardiac Recovery in HF Patients
Trainee/Post-doctoral fellow: Rachit Badolia, PhD
Total Costs: \$104,000
American Heart Association
Role: Mentor
- 05/06/13 - 05/01/19 Remission From Stage D Heart Failure (RESTAGE-HF) - Multicenter Trial
Direct Costs: \$34,000 Total Costs: \$43,483
Abbott Corporation
Role: Local Co-Principal Investigator
- 05/21/17 - 06/30/20 Cardiac PET to evaluate the regenerative capacity of heart failure patients
with LVAD
Direct Costs: \$40,882 Total Costs: \$50,000

University of Texas Southwestern, Dallas, TX
Role: Local Principal Investigator

09/06/17 - 09/06/20 INTELLECT-2 (Investigation to Optimize Hemodynamic Management of Left Ventricular Assist Devices Using the CardioMEMS™) - Multicenter Trial

Principal Investigator(s): Stavros G Drakos

Direct Costs: \$42,779 Total Costs: \$58,393

Abbott Laboratories

Role: Local Principal Investigator & National Steering Committee

04/01/18 - 04/01/22 AHA – Award #18UFEL3390022

Title: Institutional Undergraduate Student Research Fellowship Program

Principal Investigator: Stavros G. Drakos

American Heart Association

Role: Director & Principal Investigator

01/20/19 - 01/19/21 Merck Research Grant LKR173917

Title: "Mechanical Unloading and Myocardial Recovery"

Principal Investigator: Stavros G. Drakos

MERCK CORPORATION

Role: Principal Investigator

07/01/17 - 07/01/21 NHLBI R01 Research Grant

Title: Quantitative MRI for characterizing heart failure with preserved ejection fraction (HFpEF)

Principal Investigator: Edward DiBella

Direct Costs: \$1,000,000 Total Costs: \$1,850,000

National Institutes of Health

Role: Co-Investigator

MENTORING & TEACHING

Junior Faculty

2011 - 2016

Tracy M. Frech, MD, University of Utah. Junior Faculty in Division of Rheumatology (position at the beginning of our relationship).

Translational research in vascular complications of scleroderma. Her work with me resulted in **abstracts** and peer-reviewed **articles** that she is included as co-author. Tracy also got a **KL2 award** from the Center of Clinical and Translational Science for which I was listed as Mentor

Trainee's Current Career Activities: Associate Professor of Rheumatology, Vanderbilt University, Director, Scleroderma Program

2011 - Present

Omar Wever-Pinzon, MD, University of Utah. Heart Failure Clinical Fellow (position at the beginning of our relationship).

His work with me during his HF research fellowship, HF clinical fellowship, subsequent cardiology clinical fellowship and junior faculty term resulted in

multiple **abstracts** and original peer-reviewed **articles** that he is included as co-author. Noteworthy, he recently received a NIH **K23 Award** focused on Epigenetics and Genetics of Cardiac Recovery for which I am listed as the primary Mentor.

Trainee's Current Career Activities: Assistant Professor of Cardiovascular Medicine at the University of Utah, Director: Hypertrophic Cardiomyopathy Program

2013 - 2017

Anna Catino, MD, University of Utah. Cardiology Fellow (position at the beginning of our relationship).

Her work with me already resulted in multiple **abstracts** and peer-reviewed original **articles** that she is included as co-author.

Trainee's Current Career Activities: Assistant Professor of Cardiovascular Medicine at the University of Utah. Director of Echocardiography Lab, Director of Cardio-Oncology Program

2014 – Present

Michael J Bonios, MD, PhD, University of Utah. Heart Failure Clinical Fellow (initial position at the start of our relationship).

He is working on projects focused on rotational mechanics as a predictor of recovery post-VAD unloading and other HF projects. His work resulted in several **abstracts** and peer-reviewed **articles**. He was also the 2016 Jay N. Cohn Young Investigator Award Finalist, Heart Failure Society of America (HFSA)

Trainee's Current Career Activities: Attending Faculty Cardiologist at the Onassis Cardiac Transplant Center, Athens, Greece, Adjunct Assistant Professor of Cardiology, University of Utah

2014 - 2018

James Wever-Pinzon, MD, University of Utah. General Cardiology Fellow (position at the beginning of our relationship).

His work resulted in multiple **abstracts** and original **articles** that he is included as lead author or co-author.

Trainee's Current Career Activities: Junior Heart Failure Faculty at Ochsner Health, New Orleans, Louisiana

2017 - Present

Palak Shah, MD, Inova Heart and Vascular Center/George Washington University, Assistant Professor of Medicine

His work resulted in multiple **abstracts** and 2 original **articles** that he is included as lead author or co-author.

Trainee's Current Career Activities: Assistant Professor of Medicine, Inova Heart and Vascular Center/George Washington University, Washington DC

2016 - Present

Junco Shibayama Warren, PhD, University of Utah/CVRTI Post-doctoral fellow (position at the start of our relationship).

Her work with me resulted in multiple original peer-reviewed **articles** that she is included either as lead author or co-author. Noteworthy, Dr Warren and I received in 2020 a **R01 award that the two of us are listed as co-PI (MPI R01)**

Trainee's Current Career Activities: Assistant Professor, Virginia Tech, Blacksburg, VA

- 2021 - Present **Tara Jones, MD**, University of Utah. Assistant Professor of Cardiology (Interventional Cardiology)
- 2021 – Present **Thomas Hanff, MD**, University of Utah. Assistant Professor of Cardiology (Heart Failure Cardiology)

Post-doctoral Fellows

- 2004 - 2007 University of Athens. Mechanical Circulatory Support (MCS) Program Fellowship: Teaching MDs through a 12-month educational clinical fellowship how to select and manage end-stage heart failure patients undergoing chronic MCS. On top of clinical training the three fellows listed below participated in clinical research with me and they are co-authors on multiple MCS abstracts and peer reviewed articles:
1. Charitos Efstratios, MD (2004-05)
Trainee's Current Career Activities: Cardiac Surgery Faculty, University of Bonn, Germany.
 2. Malliaras Konstantinos, MD (2005-06)
Trainee's Current Career Activities: Research Assistant Professor of Medicine (Eduardo Marban team), Cedars Sinai Medical Center, Los Angeles, CA.
 3. Koudoumas Dimitrios, MD (2006-07)
Trainee's Current Career Activities: Fellow in Cardiac & Vascular Surgery, SUNY, Buffalo, NY
- 2009 - 2011 **Divya Verma MD**, University of Utah. Heart Failure Clinical Research Fellow (position at the beginning of our relationship). His work with me resulted in multiple **abstracts** and peer-reviewed **articles** that he is included as co-author. He also received the award listed above.
Trainee's Current Career Activities: *Interventional Cardiology Junior Faculty at the University of Arizona.*
- 2011 - Present **Nikolaos Diakos, MD, PhD**, University of Utah. Research fellow, Translational Science (position at the beginning of our relationship). His work with me resulted in multiple **abstracts** and high profile peer-reviewed **articles** that he is included as co-author. He also received the award listed above.
Trainee's Current Career Activities: *Cardiology HF Fellow at Columbia University, NY*
- 2011 - 2013 **Blake Wachter, MD**, University of Utah. Heart Failure Fellow (position at the beginning of our relationship). Her clinical outcomes research with me using retrospective data from the UTAH Cardiac Transplant program resulted in a peer-reviewed **article** that

she is the 1st author.

Trainee's Current Career Activities: *Attending Heart Failure Cardiologist at the East Idaho Medical Center.*

- 2012 - 2014 **Yen Chi-Gang, MD**, University of Utah. Cardiology Fellow / T32 CV Training Grant (position at the beginning of our relationship)
His work with me already resulted in an abstract and peer-reviewed **article** that he is included as co-author.
Trainee's Current Career Activities: *Assistant Professor of Cardiovascular Medicine at OHSU, Portland, Oregon*
- 2014 - 2017 **Byung-Soo Ko, MD**, University of Utah. General Cardiology Clinical Fellow (position at the beginning of our relationship)
He worked on a large animal experimental project focused on improving our understanding of mechanical unloading and reperfusion injury.
So far his work with me resulted in abstracts and two peer-reviewed original **articles**.
Trainee's Current Career Activities: *Junior Faculty in Interventional Cardiology, DeBakey Heart Institute, HaysMed The University of Kansas Health System*
- 2015 - 2017 **Mohammad Al-Sarie, MD**, University of Utah. Mohammad Al-Sarie, MD, University of Utah, Heart Failure Clinical Research Fellow (initial position at the start of our relationship).
His work with me resulted in multiple **abstracts** and peer-reviewed **articles** that he is included as co-author. His main research project won the **1st place Award at the "13th Annual Peter White M.D. Resident Symposium, U of Toledo, Ohio"**
Trainee's Current Career Activities: *Cardiology fellow at Mount Sinai*
- 2017 - Present **Rachit Badolia, PhD**, University of Utah/CVRTI Post-doctoral fellow
He is working in my lab on cardiac metabolism and myocardial recovery using human myocardial tissue from HF patients and small animal models
His work with me resulted in two peer-reviewed **articles** that he is included as lead co-author. His main research project won an **AHA Post-doctoral Fellowship Award**
- 2017 - Present **Eleni Tseliou, MD, PhD**
University of Utah Internal Medicine Resident enrolled in the Physician Scientist Track - PSTP (7-year combined training in Internal Medicine, Cardiology & Research under my mentorship).
She recently submitted **NIH F32 grant application** with me listed as primary mentor
- 2017 – Present **Michael Yin, MD**, University of Utah. CV T32 Cardiology Fellow
He is working on a project focused on invasive hemodynamics (PV loops using Millar catheters) in advanced HF patients.
His work with me resulted in several peer-reviewed **articles** that he is included as lead author.

- 2019 – Present **Joe Visker, PhD** University of Utah Metabolism T32 Fellow. He is working in my lab on cardiac metabolism and myocardial recovery using human myocardial tissue from HF patients and small animal models
- 2020 – Present **Ben Sadeh, MD**, University of Utah. Heart Failure Cardiology Fellow

Residents

- 2011 - 2012 **Rory Farnan, MD**, University of Utah. University of Utah Internal Medicine Resident
Trainee's Current Career Activities: Interventional Cardiology Faculty, Sanford Health, Sanford Bemidji Heart and Vascular Center, Bemidji, MN
- 2014 - 2015 **Prasheeda Bremjit, MD**, University of Utah. University of Utah Internal Medicine Resident
Trainee's Current Career Activities: General Cardiology Fellow
- 2015 – 2017 **Aaron Kelkhoff, MD**, University of Utah. Internal Medicine Resident.
Trainee's Current Career Activities: General Cardiology Fellow at St. Vincent's Hospital, Indianapolis
- 2016 – 2018 **Drew Messerschmitt, MD**, University of Utah Internal Medicine Resident
Trainee's Current Career Activities: General Cardiology Fellow at University of Vermont
- 2018-2020 **Sean McCandless, MD**, University of Utah Internal Medicine Resident
Trainee's Current Career Activities: General Cardiology Fellow at University of Arizona

PhD Candidates

- 2011 - 2015 **Song Park**, University of Utah. Song Park, University of Utah. PhD Candidate Supervising Committee, Department of Internal Medicine, University of Utah (initial position at the start of our relationship). His work with his primary mentor (Russ Richardson) and me resulted in multiple abstracts and peer-reviewed articles that he is included as co-author.
Trainee's Current Career Activities: Junior Faculty at the School of Health and Kinesiology, University of Nebraska
- 2016 - 2020 **Jay Hydren**, University of Utah. PhD Candidate, PhD Supervising Committee Member/Co-mentor, Department of Medicine
- 2017 - Present **Thirupura S. Shankar**, University of Utah. PhD Candidate, Mentor and Chair of PhD Supervising Committee, Departments of Medicine and Bioengineering

Medical Students

- 2007 - 2009 **John Kotter**, University of Utah. His work with me resulted in abstracts and

two full articles in peer-reviewed journals.

Trainee's Current Career Activities: Associate Professor of Medicine (Cardiology) at the University of Kentucky.

- 2009 - 2010 **Lindsay Janicki**, University of Utah. Her work with me resulted in abstracts and a full article in a peer reviewed journal
Trainee's Current Career Activities: University of Utah Pulmonary Clinical Fellow.
- 2012 - 2013 **Samuel Passi**, University of Utah. His work resulted in an abstract that he is included as co-author. He also received the award listed above.
Trainee's Current Career Activities: Ophthalmology Resident, Duke University School of Medicine
- 2013 - 2014 **Sean Patrick Mccandless**, University of Utah. His work resulted in an abstract and a peer reviewed article that he is included as co-author.
Trainee's Current Career Activities: Cardiology fellow, University of Arizona
- 2013 - 2014 **Jacob Barney**, University of Utah. Jacob Barney, University of Utah. His work resulted in abstracts that he is included as co-author.
- 2016 **Stephanie Ortiz-Troche**, University of Utah. University of Puerto Rico School of Medicine, 2-month research in my lab through the NEI T35 Training Grant
- 2016 - 2017 **Alex Judd**, University of Utah. Research in my lab through the Medical Student Research Program, NIH/NHLBI, T35HL007744
- 2017 - 2018 **Jared Roberts**, University of Utah. Research in my lab through the Medical Student Research Program, NIH/NHLBI, T35HL007744
- 2018 - 2020 **Nijat Aliyev**, University of Utah. Research in my lab through the Medical Student Research Program, NIH/NHLBI, T35HL007744 to study metabolic pathways within certain populations of advanced heart failure patients.
- 2018 - Present **Elizabeth Stauder**, University of Utah. Her research with my clinical research team is focused on the role of shock team approach to the management of cardiogenic shock

Didactic Lectures

- 2002 Lecture to Internal Medicine Residents: "Chemotherapy cardiotoxicity". Agioi Anargiroi General Hospital/ University of Athens, Athens, Greece
- 2007 Lecture to Cardiovascular Residents/ Fellows: "End stage heart failure therapy". 2nd Division of Cardiology, University of Athens, Athens, Greece
- 2007 Lecture to 6th year Medical Students: "Heart failure stages", University of Athens, Athens, Greece
- 2007 Lecture to 6th year Medical Students: "Physiology of myocardial contraction", University of Athens, Athens, Greece
- 2007 Lecture to 6th year Medical Students: "Pharmaceutical treatment of heart

2007	failure", University of Athens, Athens, Greece Lecture to Cardiovascular Resident/ Fellows: "Chronic mechanical circulatory support". Sotiria General Hospital, Athens, Greece
2009 – Present (annually)	"Mechanical Circulatory Support: bridge to transplant, destination therapy, bridge to recovery", Division of Cardiology, General Cardiology Fellowship Core Curriculum, Department of Medicine, University of Utah
2009 – Present (annually)	"HF pharmacologic therapy according to the AHA/ACC stage" Division of Cardiology, General Cardiology Fellowship Core Curriculum, Department of Internal Medicine, University of Utah
2009	Heart Failure therapy: inotropes and other provocative issues. Heart Failure Educational Series – Division of Cardiology, Department of Internal Medicine, University of Utah
2010	Cardiovascular Providers CME Heart Failure & Transplant Series : "Heart Failure Therapy – inotropes and other provocative issues", Intermountain Medical Center, 18/3/2010, Murray, USA
2011	"VADs and neurologic complications" Division of Neurology Fellowship Core Curriculum, University of Utah
2011	"LVAD bridge to recovery for end-stage HF". Heart Failure Fellowship Core Curriculum, Division of Cardiology, Department of Internal Medicine, University of Utah
2011 – Present (annually)	"Mechanical Circulatory Support for the General Cardiologist: Practical Bedside Issues", Division of Cardiology General Cardiology Fellowship Core Curriculum, Department of Internal Medicine, University of Utah"
2012 – Present (annually)	"Hemodynamic support in the cath lab: an evidence based approach", Division of Cardiology Interventional Cardiology Fellowship Core Curriculum, Department of Internal Medicine, University of Utah
2012 – Present (annually)	"Ventricular Assist Device patients: practical issues for the outpatient management". Division of Cardiology & CT Surgery APC (Nurse practitioners, Physician assistants), VAD/Transplant Coordinators, University of Utah

Laboratory Teaching

2003 - 2007	Experimental Cardiology Lab, University of Athens: Teaching medical students (MS) and MDs: Bonios Michael/ MD, Pierakos Charalambos/MD, Zagorianou Natasa/MD, Marougas Meletis/MD, Chatziliadis Antonios/MD, Charitos Efstratios/MS, Malliaras Konstantinos/MS, Koudoumas Dimitrios/MS
2008 - Present	Molecular Medicine Program/Translational Research, University of Utah: Teaching undergraduate students: Spencer Wright, Lauren McCreath, Caitlin Jensen, Lilly Shi, Yan Yan Xiong

MENTORING and ACADEMIC PROGRAM DEVELOPMENT

2015 - Present	<u>Heart Failure Program, Sichuan Academy of Medical Sciences & Sichuan Provincial Hospital, Chengdu, Sichuan, China (4000-bed academic medical center)</u> In 2015 I organized a 6-month training course at the University of Utah for three Chinese colleagues from the Sichuan Academy of Medical Sciences/
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Sichuan Provincial People's Hospital:
- **Annie Wang, MD/PhD, Cardiologist,**
- **Tao Yu, MD, Cardiac Surgeon,**
- **Bin Zeng, RN, ICU nurse**

This course was structured to cover all aspects of Acute and Chronic HF management with an emphasis in Cardiac Mechanical Support. After returning at their home institution our colleagues started one of the first specialized HF centers in China. The next phase was to expand to a Cardiac Mechanical Support program which was the first in China. To do this we jointly applied and succeeded in acquiring a Program Development Grant from the local Chinese medical funding agency. I have been an annual visiting professor in an effort to help the further development of this collaborative program. After 5 years of planning and program building in Nov 2020 the first in China commercially available LVAD (EVAHEART) was successfully implanted in a 42yo HF patient at the Sichuan Academy of Medical Sciences. This event draw major attention by the media in Asia and beyond.

2019 - Present

HF Program, Tel Aviv Medical Center (one of top three academic medical centers in Israel). I was approached by Israeli colleagues with whom I collaborated in the past (Professors Banai and Havaluk) and I organized a training program in order to help them start an Advanced HF Program (MCS and Tx). This collaboration includes an Advanced HF Cardiology fellowship and Advanced HF Surgery fellowship. Currently, **Dr Ben Sadeh**, Israeli cardiologist, is performing under my mentorship a 2-year clinical and research fellowship in our institution. The plan is to return to Israel and help them start a VAD program in their institution.

2014 - Present

Heart Failure Program, University of Athens, Evagelismos Hospital and Onassis Heart Center, Athens, Greece (leading academic medical centers in Greece)

Through a visiting faculty appointment and various other initiatives I retained close ties with the HF program of my prior institution (University of Athens). In 2014 Craig Selzman and I (in our roles as surgical and medical director of our MCS program in Utah) succeeded in securing the **ISHLT Brano Radovancevic Scholarship** and brought **Dr. Antigone Koliopoulou**, MD (CT surgeon from Evagelismos Hospital) to the U of Utah for advanced HF, VAD and Transplant training. After the completion of her training she stayed on the HF surgery faculty for a total of 4 years and recently returned to the Onassis Heart Center.

In 2016, I also recruited **Dr Michael Bonios**, MD/PhD who trained in HF and Transplant Cardiology at the U of Utah. Both Drs Bonios and Koliopoulou returned as faculty at the Onassis Heart Center strengthening the program there and also strengthening our long standing relationships with the U of Athens.

Demetra Koutsavli, RN, from the Evagelismos hospital in Athens also completed a 6-month training at our institution as a VAD/Transplant clinical coordinator and returned to Athens to strengthen the clinical and research potential of the program there.

PEER-REVIEWED JOURNAL ARTICLES

1. Ziras N, Rozakou A, Skoura S, **Drakos S**, Venetsanou V, Tsiggalakis D, Fragaki M, Giannakakis T, Athanassiou A (2001). Soluble transferrin receptor: An early predicting index of response to epoetin alfa treatment for the prophylaxis of chemotherapy-induced anemia in patients with solid tumors. *J BUON*, 6, 67-73.
2. **Drakos SG**, Anastasiou-Nana M, Nanas J (2001). Exacerbation of variant angina by metoprolol resulting in syncope due to transient atrioventricular block. *Int J Cardiol*, 82, 83-85.
3. Nanas S, Nanas J, Kassiotis C, Nikolaou C, Tsagalou E, Sakellariou D, Terovitis I, Papazachou O, **Drakos S**, Papamichalopoulos A, Roussos C (2001). Early recovery of oxygen kinetics after submaximal exercise test predicts functional capacity in patients with chronic heart failure. *Eur J Heart Fail*, 3(6), 685-92.
4. **Drakos SG**, Papamichael CM, Alexopoulos GP, Anastasiou-Nana MI, Stathopoulos JV, Nanas JN (2003). Effects of high doses versus standard doses of enalapril on endothelial cell function in patients with chronic congestive heart failure secondary to idiopathic dilated or ischemic cardiomyopathy. *Am J Cardiol*, 91(7), 885-8.
5. Nanas JN, Tsolakis E, Terrovitis JV, Eleftheriou A, **Drakos SG**, Dalianis A, Charitos CE (2004). Moderate systemic hypotension during reperfusion reduces the coronary blood flow and increases the size of myocardial infarction in pigs. *Chest*, 125(4), 1492-9.
6. Tsagalou EP, Anastasiou-Nana MI, Charitos CE, Siafakas CX, **Drakos SG**, Ntalianis A, Terrovitis JV, Mavrikakis EM, Doufas A, Nanas JN (2004). Time course of fibrillation and defibrillation thresholds after an intravenous bolus of amiodarone--an experimental study. *Resuscitation*, 61(1), 83-9.
7. **Drakos SG**, Charitos CE, Ntalianis A, Terrovitis JV, Siafakas KX, Dolou P, Pierrakos C, Charitos E, Karelis J, Nanas JN (2005). Comparison of pulsatile with nonpulsatile mechanical support in a porcine model of profound cardiogenic shock. *ASAIO J*, 51(1), 26-9.
8. Anastasiou-Nana MI, Tsagalou EP, Charitos C, Siafakas KX, **Drakos S**, Terrovitis JV, Ntalianis A, Doufas A, Mavrikakis J, Nanas JN (2005). Effects of transient myocardial ischemia on the ventricular defibrillation threshold. *Pacing Clin Electrophysiol*, 28(2), 97-101.
9. Anastasiou-Nana MI, Tsagalou EP, Mavrikakis EM, Siafakas KX, Tsolakis EJ, **Drakos SG**, Dalianis A, Karelis J, Terrovitis JV, Nanas JN (2005). Myocardial ischaemic preconditioning in the pig has no effect on the ventricular fibrillation and defibrillation thresholds. *Resuscitation*, 64(3), 373-6.
10. **Drakos SG**, Kfoury AG, Long JW, Stringham JC, Gilbert EM, Moore SA, Campbell BK, Nelson KE, Horne BD, Renlund DG (2006). Effect of mechanical circulatory support on outcomes after heart transplantation. *J Heart Lung Transplant*, 25(1), 22-8.
11. Dimopoulos S, Anastasiou-Nana M, Sakellariou D, **Drakos SG**, Kapsimalakou S, Maroulidis G, Roditis P, Roussos C, Nanas S (2006). Effects of exercise rehabilitation program on heart rate recovery in patients with chronic heart failure. *Eur J Cardiovasc Prev Rehabil*, 13(1), 67-73.
12. Terrovitis JV, Anastasiou-Nana MI, Alexopoulos GP, Tsolakis EJ, Margari ZJ, **Drakos SG**, Tsagalou EP, Papazoglou P, Efentakis S, Nanas JN (2006). Prevalence and prognostic significance of anemia in patients with congestive heart failure treated with standard vs high doses of enalapril. *J Heart Lung Transplant*, 25(3), 333-8.
13. Nanas SN, Nanas JN, Sakellariou DCh, Dimopoulos SK, **Drakos SG**, Kapsimalakou SG, Mpatziou CA, Papazachou OG, Dalianis AS, Anastasiou-Nana MI, Roussos C (2006). VE/VCO₂ slope is associated with abnormal resting haemodynamics and is a predictor of

- long-term survival in chronic heart failure. *Eur J Heart Fail*, 8(4), 420-7.
14. **Drakos SG**, Kfoury AG, Long JW, Stringham JC, Fuller TC, Nelson KE, Campbell BK, Gilbert EM, Renlund DG (2006). Low-dose prophylactic intravenous immunoglobulin does not prevent HLA sensitization in left ventricular assist device recipients. *Ann Thorac Surg*, 82(3), 889-93.
 15. Nanas JN, Matsouka C, Karageorgopoulos D, Leonti A, Tsolakis E, **Drakos SG**, Tsagalou EP, Maroulidis GD, Alexopoulos GP, Kanakakis JE, Anastasiou-Nana MI (2006). Etiology of anemia in patients with advanced heart failure. *J Am Coll Cardiol*, 48(12), 2485-9.
 16. **Drakos SG**, Kfoury AG, Gilbert EM, Long JW, Stringham JC, Hammond EH, Jones KW, Bull DA, Hagan ME, Folsom JW, Horne BD, Renlund DG (2007). Multivariate predictors of heart transplantation outcomes in the era of chronic mechanical circulatory support. *Ann Thorac Surg*, 83(1), 62-7.
 17. **Drakos SG**, Kfoury AG, Gilbert EM, Horne BD, Long JW, Stringham JC, Campbell BA, Renlund DG (2007). Effect of reversible pulmonary hypertension on outcomes after heart transplantation. *J Heart Lung Transplant*, 26(4), 319-23.
 18. Papazachou O, Anastasiou-Nana M, Sakellariou D, Tassiou A, Dimopoulos S, Venetsanakos J, Maroulidis G, **Drakos S**, Roussos C, Nanas S (2007). Pulmonary function at peak exercise in patients with chronic heart failure. *Int J Cardiol*, 118(1), 28-35.
 19. **Drakos SG**, Stringham JC, Long JW, Gilbert EM, Fuller TC, Campbell BK, Horne BD, Hagan ME, Nelson KE, Lindblom JM, Meldrum PA, Carlson JF, Moore SA, Kfoury AG, Renlund DG (2007). Prevalence and risks of allosensitization in HeartMate left ventricular assist device recipients: the impact of leukofiltered cellular blood product transfusions. *J Thorac Cardiovasc Surg*, 133(6), 1612-9.
 20. **Drakos SG**, Kfoury AG, Long JW, Stringham JC, Gilbert EM, Horne BD, Hagan MB, Nelson K, Renlund DG (2007). Similar transplantation outcomes in patients bridged with cardiac assist devices for acute cardiogenic shock versus chronic heart failure. *Eur J Heart Fail*, 9(8), 845-9.
 21. Kravari M, Vasileiadis I, Gerovasili V, Karatzanos E, Tasoulis A, Kalligras K, **Drakos SG**, Dimopoulos S, Anastasiou-Nana M, Nanas S (2008). Effects of a 3-month rehabilitation program on muscle oxygenation in congestive heart failure patients as assessed by NIRS. *Int J Ind Ergon*.
 22. Struber M, Sander K, Lahpor J, Ahn H, Litzler PY, **Drakos SG**, Musumeci F, Schlensak C, Friedrich I, Gustafsson R, Oertel F, Leprince P (2008). HeartMate II left ventricular assist device; early European experience. *Eur J Cardiothorac Surg*, 34(2), 289-94.
 23. Tsagalou EP, Anastasiou-Nana M, Agapitos E, Gika A, **Drakos SG**, Terrovitis JV, Ntalianis A, Nanas JN (2008). Depressed coronary flow reserve is associated with decreased myocardial capillary density in patients with heart failure due to idiopathic dilated cardiomyopathy. *J Am Coll Cardiol*, 52(17), 1391-8.
 24. **Drakos SG**, Anastasiou-Nana MI, Terrovitis JV, Tsagalou EP, Kanakakis J, Ntalianis A, Lazaris N, Maroulidis G, Venetsanakos J, Bonios M, Nanas JN (2008). Intra-aortic balloon counterpulsation and delayed revascularization for myocardial infarction and shock in the absence of primary angioplasty: a treatment strategy with or without thrombolysis? *Coron Artery Dis*, 19(7), 521-6.
 25. Ntalianis AS, **Drakos SG**, Charitos C, Dolou P, Pierrakos CN, Terrovitis JV, Papaioannou T, Charitos E, Nanas JN (2008). Effects of intra-aortic balloon pump versus centrifugal pump on myocardial energetics and systemic circulation in a porcine model of rapidly worsening acute heart failure. *ASAIO J*, 54(6), 600-5.
 26. Tsagalou EP, Kanakakis J, Anastasiou-Nana MI, **Drakos SG**, Ntalianis AS, Malliaras K, Lazaris N, Katsaros F, Nanas JN (2009). Hemodynamic effects of levosimendan in acute myocardial infarction complicated by cardiogenic shock and high systemic vascular

- resistance. *Acute Card Care*, 11(2), 99-106.
27. **Drakos SG**, Kanakakis JV, Nanas S, Bonios M, Kaldara E, Katsaros F, Pantsios C, Nanas JN (2009). Intermittent inotropic infusions combined with prophylactic oral amiodarone for patients with decompensated end-stage heart failure. *J Cardiovasc Pharmacol*, 53(2), 157-61.
 28. Whitehead KJ, Chan AC, Navankasattusas S, Koh W, London NR, Ling J, Mayo AH, **Drakos SG**, Jones CA, Zhu W, Marchuk DA, Davis GE, Li DY (2009). The cerebral cavernous malformation signaling pathway promotes vascular integrity via Rho GTPases. *Nat Med*, 15(2), 177-84.
 29. Tsagalou EP, Gounopoulos P, Terrovitis JV, **Drakos SG**, Katsaros FT, Kaldara EE, Alexopoulos GP, Anastasiou-Nana MI (2009). Amiodarone attenuates the proarrhythmic effects of dobutamine in patients with advanced congestive heart failure. *Hellenic J Cardiol*, 50(3), 193-8.
 30. Kfoury AG, Hammond ME, Snow GL, **Drakos SG**, Stehlik J, Fisher PW, Reid BB, Everitt MD, Bader FM, Renlund DG (2009). Cardiovascular mortality among heart transplant recipients with asymptomatic antibody-mediated or stable mixed cellular and antibody-mediated rejection. *J Heart Lung Transplant*, 28(8), 781-4.
 31. **Drakos SG**, Bonios MJ, Anastasiou-Nana MI, Tsagalou EP, Terrovitis JV, Kaldara E, Maroulidis G, Nanas SN, Kanakakis J, Nanas JN (2009). Long-term survival and outcomes after hospitalization for acute myocardial infarction complicated by cardiogenic shock. *Clin Cardiol*, 32(8), E4-8.
 32. **Drakos SG**, Kfoury AG, Kotter JR, Reid BB, Clayson SE, Selzman CH, Stehlik J, Fisher PW, Merida M 3rd, Eckels DD, Brunisholz K, Horne BD, Stoker S, Li DY, Renlund DG (2009). Prior human leukocyte antigen-allosensitization and left ventricular assist device type affect degree of post-implantation human leukocyte antigen-allosensitization. *J Heart Lung Transplant*, 28(8), 838-42.
 33. Kanakakis J, Nanas JN, Tsagalou EP, Maroulidis GD, **Drakos SG**, Ntalianis AS, Tzoumele P, Skoumbourdis E, Charbis P, Rokas S, Anastasiou-Nana M (2009). Multicenter randomized trial of facilitated percutaneous coronary intervention with low-dose tenecteplase in patients with acute myocardial infarction: the Athens PCI trial. *Catheter Cardiovasc Interv*, 74(3), 398-405.
 34. Gerovasili V, **Drakos S**, Kravari M, Malliaras K, Karatzanos E, Dimopoulos S, Tasoulis A, Anastasiou-Nana M, Roussos C, Nanas S (2009). Physical exercise improves the peripheral microcirculation of patients with chronic heart failure. *J Cardiopulm Rehabil Prev*, 29(6), 385-91.
 35. Singhal AK, Sheng X, **Drakos SG**, Stehlik J (2009). Impact of donor cause of death on transplant outcomes: UNOS registry analysis. *Transplant Proc*, 41(9), 3539-44.
 36. **Drakos SG**, Athanasoulis T, Malliaras KG, Terrovitis JV, Diakos N, Koudoumas D, Ntalianis AS, Theodoropoulos SP, Yacoub MH, Nanas JN (2010). Myocardial sympathetic innervation and long-term left ventricular mechanical unloading. *JACC Cardiovasc Imaging*, 3(1), 64-70.
 37. Bonios MJ, Pierrakos CN, Argiriou M, Dalianis A, Terrovitis JV, Dolou P, **Drakos SG**, Koudoumas D, Charitos CE, Anastasiou-Nana MI (2010). Increase in coronary blood flow by intra-aortic balloon counterpulsation in a porcine model of myocardial reperfusion. *Int J Cardiol*, 138(3), 253-60.
 38. **Drakos SG**, Janicki L, Horne BD, Kfoury AG, Reid BB, Clayson S, Horton K, Haddad F, Li DY, Renlund DG, Fisher PW (2010). Risk factors predictive of right ventricular failure after left ventricular assist device implantation. *Am J Cardiol*, 105(7), 1030-5.
 39. Bull DA, Reid BB, Selzman CH, Mesley R, **Drakos S**, Clayson S, Stoddard G, Gilbert E, Stehlik J, Bader F, Kfoury A, Budge D, Eckels DD, Fuller A, Renlund D, Patel AN (2010).

- The impact of bridge-to-transplant ventricular assist device support on survival after cardiac transplantation. *J Thorac Cardiovasc Surg*, 140(1), 169-73.
40. **Drakos SG**, Kfoury AG, Hammond EH, Reid BB, Revelo MP, Rasmusson BY, Whitehead KJ, Salama ME, Selzman CH, Stehlik J, Clayson SE, Bristow MR, Renlund DG, Li DY (2010). Impact of mechanical unloading on microvasculature and associated central remodeling features of the failing human heart. *J Am Coll Cardiol*, 56(5), 382-91.
 41. Dimopoulos SK, **Drakos SG**, Terrovitis JV, Tzanis GS, Nanas SN (2010). Improvement in respiratory muscle dysfunction with continuous-flow left ventricular assist devices. *J Heart Lung Transplant*, 29(8), 906-8.
 42. Kotter JR, **Drakos SG**, Horne BD, Hammond EH, Stehlik J, Bull DA, Reid BB, Gilbert EM, Everitt M, Alharethi R, Budge D, Verma DR, Li DY, Kfoury AG (2010). Effect of blood product transfusion-induced tolerance on incidence of cardiac allograft rejection. *Transplant Proc*, 42(7), 2687-92.
 43. Singhal AK, **Drakos SG**, Kfoury AG, Horne BD, Verma DR, Stehlik J (2010). Prolonged allograft ischemic time is not associated with higher incidence of antibody-mediated rejection. *J Heart Lung Transplant*, 29(10), 1198-200.
 44. Tasoulis A, Papazachou O, Dimopoulos S, Gerovasili V, Karatzanos E, Kyprianou T, **Drakos S**, Anastasiou-Nana M, Roussos C, Nanas S (2010). Effects of interval exercise training on respiratory drive in patients with chronic heart failure. *Respir Med*, 104(10), 1557-65.
 45. Verma DR, **Drakos SG**, Stehlik J, Horne BD, Kfoury AG (2010). Effect of preservation solution choice on antibody-mediated rejection after heart transplantation. *J Heart Lung Transplant*, 29(11), 1314-5.
 46. Brush S, Budge D, Alharethi R, McCormick AJ, MacPherson JE, Reid BB, Ledford ID, Smith HK, Stoker S, Clayson SE, Doty JR, Caine WT, **Drakos S**, Kfoury AG (2010). End-of-life decision making and implementation in recipients of a destination left ventricular assist device. *J Heart Lung Transplant*, 29(12), 1337-41.
 47. Stavrakis S, Terrovitis J, Tsolakis E, **Drakos S**, Dalianis A, Bonios M, Koudoumas D, Malliaras K, Nanas J (2011). Relationship between retrograde coronary blood flow and the extent of no-reflow and infarct size in a porcine ischemia-reperfusion model. *J Cardiovasc Transl Res*, 4(1), 99-105.
 48. **Drakos SG**, Terrovitis JV, Nanas JN, Charitos EI, Ntalianis AS, Malliaras KG, Diakos N, Koudoumas D, Theodoropoulos S, Yacoub MH, Anastasiou-Nana MI (2011). Reverse electrophysiologic remodeling after cardiac mechanical unloading for end-stage nonischemic cardiomyopathy. *Ann Thorac Surg*, 91(3), 764-9.
 49. Chan AC, **Drakos SG**, Ruiz OE, Smith AC, Gibson CC, Ling J, Passi SF, Stratman AN, Sacharidou A, Revelo MP, Grossmann AH, Diakos NA, Davis GE, Metzstein MM, Whitehead KJ, Li DY (2011). Mutations in 2 distinct genetic pathways result in cerebral cavernous malformations in mice. *J Clin Invest*, 121(5), 1871-81.
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LETTERS, EDITORIAS, CASE REPORTS

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11. **Drakos SG**. Combining Left Ventricular Volume Reduction Techniques With Cell Therapies: Quo Vadis? *Hellenic J Cardiol*, 2017;(58(2):), 133-134.
12. **Drakos SG**, Uriel N. Advances in cardiac transplantation. 10.1097/HCO. *Curr Opin Cardiol* 2017.
13. Baldwin HS, **Drakos SG**. Lymphangiogenesis in Chronic Rejection and Coronary Allograft Vasculopathy: An Emerging Diagnostic and Therapeutic Target? *Circulation* 2018, 30:137(5), 504-507.
14. Varedi D, Kovacsovics T, Downs Kelly E, Abraham J, Cowley J, Barrell K, Revelo MP, Stehlik J, **Drakos SG**, Marrouche N, Wilson B, Swanson EA, Fang J, Nativi-Nicolau J. Unmasking Early Wild-Type Transthyretin Amyloidosis Cardiomyopathy in a Patient With Refractory Atrial Fibrillation and Unremarkable Cardiac Imaging. *Circ Heart Fail*. 2018 Jul;11(7):e004812. doi: 10.1161/CIRCHEARTFAILURE.117.004812. PMID: 29921704
15. Bonios MJ, Adamopoulos SN, **Drakos SG**. The evolving field of nonpharmacological therapies to improve functional capacity in chronic heart failure. *Hellenic J Cardiol*. 2018 Nov 16. pii: S1109-9666(18)30441-X.
16. Jay R. Hydren, Russell S. Richardson, Omar Wever-Pinzon, **Drakos SG**. The “Double Whammy” of a Continuous Flow Left Ventricular Assist Device on von Willebrand Factor. *J Thorac Cardiovasc Surg* 2019 May 16. pii: S0022-5223(19)31020-7.
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22. Birks EJ, Rame JE, Cunningham C, **Drakos SG**. Response by Birks et al to Letters Regarding Article, "Prospective Multicenter Study of Myocardial Recovery Using Left Ventricular Assist Devices (RESTAGE-HF [Remission from Stage D Heart Failure]): Medium-Term and Primary End Point Results". *Circulation*. 2021 Jun;143(22):e1017-e1018.
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BOOK CHAPTERS

1. **Drakos SG**, Alexopoulos G, Nanas JN (2005). Organizing a heart failure program. In Filippatos G, Adamopoulos S, Parissis J, Anthopoulos L, Kremastinos D (Eds.), *Heart Failure: from diagnosis to treatment* (pp. 453-464). Athens, Greece: Paschalides Editions.
2. Tsagalou EP, **Drakos SG**, Tsolakis E, Nanas J (2008). Intra-aortic balloon pump in the management of acute heart failure syndromes. In Alexandre Mebazaa, Mihai Gheorghiade, Faiez Zannad, Joseph Parrillo (Eds.), *Acute Heart Failure* (pp. 671-684). New York, NY: Springer.
3. Terrovitis JV, Tseliou E, **Drakos SG**, Nanas JN (2011). Evaluation of Cardiac Function after VAD Implantation, *New Aspects of Ventricular Assist Devices*, Guillermo Reyes (Ed.), ISBN: 978-953-307-676-8, InTech, Available from: <http://www.intechopen.com/books>.
4. Diakos NA, Wever-Pinzon O, Zannas AS, **Drakos SG** (2013). Mechanical unloading and heart remodeling features. In Edmo Gabriel, Sthefano Gabriel (Eds.), *Inflammatory response in cardiovascular surgery*, New York, NY: Springer.
5. **Drakos SG**, Uriel N (2020). The Biological Response to Ventricular Unloading. In *Mechanical Circulatory Support: A Companion To Braunwald's Heart Disease* (2020). Elsevier.
6. Dandel M, **Drakos SG**, Birks EJ. Cardiac Recovery and Mechanical Circulatory Support. In *ISHLT Monograph (2021)*, In Press
7. **Drakos SG**, Kyriakopoulos C, Selzman CH. Left Ventricular Recovery During LVAD Support. In *Textbook of Transplantation and Mechanical support for End Stage Heart and Lung Disease*. Wiley. In Press

CONFERENCE PROCEEDINGS

1. Bonios M, **Drakos SG**, Anastasiou-Nana M, Tsagalou E, Ntalianis A, Maroulidis G, Venetsanakos J, Lazaris N, Kanakakis J, Nanas J (2007). Prognosis of Post-Myocardial Infarction Cardiogenic Shock Patients that Require Mechanical Ventilation. (indexed in Current Contents of ISI, Philadelphia, USA). *Proceedings of the 13th World Congress on Heart Dis*, XV, 383-7.
2. **Drakos SG**, Bonios M, Terrovitis JV, Panagiotopoulos G, Pozios I, Diakos N, Tseliou E, Malliaras K, Kanakakis J, Anastasiou-Nana MI (2009). Commonly used risk factors failed to accurately predict survival in patients with advanced heart failure. (Indexed in Current Contents of ISI, Philadelphia, USA). *Proceedings of the 14th World Congress on Heart Disease*, 251.

OTHER: Newsletters, Web Articles

1. Nanas JN, Alexopoulos G, Anastasiou-Nana MI, Karidis K, Tirologos A, Zobelos S, Pirgakis V, Anthopoulos L, Sideris D, Stamatelopoulos SF, Mouloupoulos SD (2000). Outcome of patients with congestive heart failure treated with standard versus high doses of enalapril: a multicenter study. High Enalapril Dose Study Group. "**Drakos SG**" cited as an investigator at the appendix of the publication -multicenter trial. *J Am Coll Cardiol*. 2000; 36(7):2090-5.
2. Lenzen MJ, Boersma E, Bertrand ME, et al (2005). Management and outcome of patients with established coronary artery disease: the Euro Heart Survey on coronary revascularization. "**Drakos SG**" cited as an investigator at the appendix of the publication -

- multicenter trial. *Eur Heart J* (26, pp. 1169- 1179).
3. Nieminen MS, Brutsaert D, Dickstein K, Drexler H, Follath F, Harjola VP, et al (2006). EuroHeart Failure Survey II (EHFS II): a survey on hospitalized acute heart failure patients: description of population. On behalf of the EuroHeart Survey Investigators. "**Drakos SG**" cited as an investigator at the appendix of the publication -multicenter trial. *Eur Heart J* (27(22), pp. 1169-79).
 4. **Drakos SG** (2007). Management of heart failure. The role of ventricular assist devices. (Newsletter). Hospital Post Europe.
 5. **Drakos SG** (2009). LVADs and reverse remodeling: a journey to Ithaca. (Newsletter). International Society of Heart and Lung Transplantation LINKS.
 6. **Drakos SG** (2011). Scientific Summary Report of the Heart Failure Society of America Annual Scientific Conference - Part 1. (Newsletter) ISHLT Links 2011; 3(7): 18-20.
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 8. Ko B-S, **Drakos SG** (2015). Referral and Management of Cardiogenic Shock.. <http://www.acc.org>. January 14, 2015. <http://www.acc.org/latest-in-cardiology/articles/2014/12/23/08/57/referall-and-management-of-cardiogenic-shock-expert-analysis>.
 9. Wever-Pinzon J, **Drakos SG**, Fang JC (2015). DEBATE: The Obese Heart Failure Patient as a Candidate for Mechanical Circulatory Support: It's Rarely Appropriate. <http://www.acc.org>. June 29, 2015. Accessed [Insert Access Date]. <http://www.acc.org/latest-in-cardiology/articles/2015/06/29/08/49/con-the-obese-heart-failure-patient-as-candidate-for-mechanical-circulatory-support-its-rarely-appropriate>.

INVITED LECTURES

Keynote / Plenary Lectures

- | | |
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| 2017 | Interagency Registry for Mechanically Assisted Circulation (INTERMACS) - 11th Annual Meeting and Scientific Sessions, <i>Keynote Address</i> : "Myocardial Recovery and Mechanical Circulatory Support", March 3-4, 2017, Atlanta, Georgia |
| 2017 | University of Texas Southwestern (UTSW) Heart Failure Symposium, <i>Keynote Speaker</i> : "Mechanical Circulatory Support and Cardiac Recovery: What Have We Learned", Saturday, May 6, 2017, Dallas, Texas |
| 2021 | Hellenic Society for the Study and Research of Heart Failure, 22 nd Annual International Conference, <i>Keynote Address</i> : "Update on Chronic Mechanical Circulatory Support". Feb 5, 2021, Virtual Conference |
| 2021 | Tufts Molecular Cardiology Research Institute (MCRI), <i>Distinguished Keynote Guest Speaker</i> : "Myocardial Recovery: Bedside to Bench and Back", Sept 30, 2021, Boston, Massachusetts |

International Visiting Professor Presentations / International Conferences Invited Presentations

- 2005 Hellenic Association of Cardiology Annual Seminars: "Pulsatile versus non pulsatile flow for the treatment of acute cardiogenic shock". Thessaloniki, Greece
- 2007 Society for the Study and Research of Heart Failure, 8th Annual International Conference: "End stage heart failure therapy". Athens, Greece
- 2007 Cardiothoracic Surgery Working Group Annual Seminars: "Chronic Mechanical Circulatory Support: clinical indications and outcomes". Thessaloniki, Greece
- 2007 European Thoratec Symposium on Ventricular Assist Devices: "Left ventricular assist devices-worst case scenario". Amsterdam, The Netherlands
- 2008 Hellenic Society for the Study and Research of Heart Failure, 9th Annual International Conference: "Reverse remodeling after chronic mechanical support: dream or reality". Athens, Greece
- 2009 Hellenic Society for the Study and Research of Heart Failure, 10th Annual International Conference: "Reverse remodeling: tissue findings guide further clinical progress". Athens, Greece
- 2009 Interventional Cardiovascular Conference, "Heart failure pharmacologic therapy according to stage", Ioannina, Greece
- 2009 Interventional Cardiovascular Conference, : "The development of an organized heart failure management program", Ioannina, Greece
- 2010 Hellenic Society for the Study and Research of Heart Failure, 11th Annual International Conference: "Reverse remodeling in the era of chronic mechanical support: from bench to bedside". Athens, Greece
- 2011 Hellenic Society for the Study and Research of Heart Failure, 12th Annual International Conference: "Mechanical circulatory support: pulsatile versus non pulsatile flow". Athens, Greece
- 2011 Conference New Trends in Cardiology, Chronic Mechanical Circulatory Support: Bridge to Recovery, Destination Therapy, Bridge to Recovery. Thessaloniki, Greece
- 2012 Hellenic Society for the Study and Research of Heart Failure, 13th Annual International Conference: "Effects of mechanical unloading on the failing human heart". Athens, Greece
- 2012 International Society of Heart and Lung Transplantation, 32nd Annual Meeting and Scientific Sessions: "Effects of LVAD unloading on myocardial structure and function", PRAGUE, CZECH Republic
- 2012 Hellenic Cardiological Society (HCS) Annual Seminars: "Prolonged VAD unloading of

the failing human heart: myocardial atrophy or recovery?". Thessaloniki, Greece

- 2013 Hellenic Society for the Study and Research of Heart Failure, 14th Annual International Conference: "Chronic mechanical circulatory support in end stage heart failure". Athens, Greece
- 2013 ISHLT Annual Conference. "Vascular Changes after Mechanical Circulatory Support", MONTREAL, CANADA
- 2014 Hellenic Society for the Study and Research of Heart Failure, 15th Annual International Conference "Metabolism and Cardiac Recovery" Athens, Greece
- 2014 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, "Drilling Down on Myocardial Recovery – Basics and Clinical", Apr 10, 2014, SAN DIEGO, CA
- 2014 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, "Choosing the Right Patient for Mechanical Assistance or Transplant - Session Chairman", Fri, Apr 11, 2014, SAN DIEGO, CA
- 2015 Hellenic Society for the Study and Research of Heart Failure, 16th Annual International Conference, "Reverse Cardiac Remodeling". February 2015, Athens, Greece
- 2015 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, Chairman of Session: "Myocardial Recovery: Moving Forward", April 16, 2015, Nice, France
- 2015 Gordon Research Conference in Assisted Circulation: Chairman of Session: "Myocardial Recovery", June 2015, Barga, Tuscany, Italy
- 2016 Freeman Hospital and University of Newcastle, "Heart failure and recovery", Newcastle, England
- 2016 Hellenic Society for the Study and Research of Heart Failure, 17th Annual International Conference, "Update on Chronic Mechanical Circulatory Support". February 2016, Athens, Greece
- 2016 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, Co-chair of MCS Masters Academy, April 2016, Washington DC
- 2016 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, Chairman of Session: "On the Road to Recovery: Treating Chronic Heart Failure with Mechanical Support", April 2016, Washington DC
- 2016 Sichuan Academy of Medical Sciences Cardiovascular Grand Rounds, "Advanced Heart Failure Therapies", Sichuan Provincial Hospital, April 6, 2016, Chengdu, China
- 2016 Heart Failure Association (HFA) of the European Society of Cardiology (ESC) Annual Conference, "Understanding and Predicting Cardiac Recovery: What Have We

Learned", May 22, 2016, Florence, Italy

- 2017 Hellenic Society for the Study and Research of Heart Failure, 18th Annual International Conference, "Myocardial Recovery and Mechanical Assist". February 4, 2017, Athens, Greece
- 2017 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, Chair of MCS Masters Academy, April 2017, San Diego, California
- 2017 Gordon Research Conference – Assisted Circulation 2017, "Recent Developments in Myocardial Recovery", June 27, 2017, Stowe, Vermont
- 2017 European Society of Cardiology (ESC) Annual Conference, "Will we use VADs to recover the failing heart in the future?", 8/27/2017, Barcelona, Spain
- 2018 1st Olympiad in Cardiovascular Medicine, International Symposium on Experimental & Clinical Cardiology, "Myocardial Recovery: Clinical and Translational Perspective", May 17, 2018, Athens, Greece
- 2018 Favaloro University Cardiovascular Symposium, "Heart recovery after LVAD Support", August 18, 2018, Buenos Aires, Argentina
- 2018 European Society of Cardiology (ESC) Annual Conference, "Shock Team approach in managing cardiogenic shock", August 26, 2018, Munich, Germany
- 2018 European Society of Cardiology (ESC) Annual Conference, "Mechanical circulatory support: indications and outcomes", August 26, 2018, Munich, Germany
- 2018 Sichuan Academy of Medical Sciences, "Management of cardiogenic shock", Oct 24, 2018, Chengdu, Sichuan, China
- 2018 University of Hannover Medical School International Conference on Cardiac and Pulmonary Failure, "Reverse remodeling and myocardial recovery of the failing heart", November 24, 2018, Hannover, Germany
- 2019 International Society of Heart and Lung Transplantation (ISHLT) Annual Conference, "Present and Future of Cardiac Recovery and Durable MCS", April 5, 2019, Orlando, Florida
- 2019 Heart Failure Association (HFA) of the European Society of Cardiology (ESC) Annual Conference, "Myocardial Cardiac Recovery: Bench to Bedside", May 22, 2019
- 2019 Gordon Research Conference – Assisted Circulation 2019, "Discussion Leader: MCS and Myocardial Recovery", June 12, 2019, Barcelona, Spain
- 2019 European Society of Cardiology Annual Congress. "Predicting Myocardial Recovery", Sept 1, 2019, Paris, France
- 2019 International Society of Mechanical Circulatory Support (ISMCS), "Myocardial Recovery: Bedside to Bench and Back", Oct 23, 2019, Bologna, Italy

- 2019 Myocardial Recovery: What Have We Learned and Future Directions, December 14, 2019, Surabaya International Conference, Surabaya, Indonesia
- 2019 SHOCK TEAM Approach to Cardiogenic Shock, December 15, 2019, Surabaya International Conference, Surabaya, Indonesia
- 2020 Israel-Cyprus Conference: Advances in Heart Failure, "Cardiac Recovery", Dec 17, 2020, Virtual Conference
- 2021 International Society of Heart and Lung Transplantation (ISHLT) Annual Scientific Conference, CardioMEMS and LVAD, April 27, 2021
- 2021 Sichuan Annual Scientific Conference, VAD Patient Selection, June 17, 2021, China
- 2021 Onassis Cardiac Center Annual International Conference, "Myocardial Recovery", July 10, 2021, Virtual Conference
- 2021 Israel Heart Failure Congress 2021 (organized by the Israel Working Group in Heart Failure), "Emerging Therapies for Myocardial Recovery", June 25, 2021, Jerusalem, Israel
- 2022 Universitas Airlanga, Indonesia, 6/21/2022
- 2022 ISHLT, "Post Cardiac Recovery: Now What?", Boston, April 2022
- 2022 International Cardiovascular Olympiad, Crete, Greece, May 2022

Visiting Professor Presentations & Grand Rounds at US Academic Institutions

- 2013 University of Kentucky Muscle Biology Center Grand Rounds, "Biological changes in the human myocardium during mechanical unloading", Lexington, KY
- 2013 University of Kentucky Cardiology Grand Rounds, Cardiac Mechanical Support and Chronic Heart Failure, Lexington, KY
- 2014 University of Colorado Cardiology Grand Rounds, "Cardiac Mechanical Support: From bridge to transplant to bridge to recovery", August 4, 2014, Denver, CO
- 2015 University of Wisconsin Cardiovascular Medicine Grand Rounds, "Cardiac Mechanical Support: Bridge to transplant, destination, bridge to recovery", Madison, Wisconsin
- 2015 University Medical Center of Southern Nevada, 7th Annual Cardiovascular Symposium, "Myocardial Infarction and Cardiogenic Shock: Door-to-Unloading and Other New Concepts", March 14, 2015, Las Vegas, Nevada
- 2015 Medical University of South Carolina (MUSC) Cardiology Grand Rounds, "Chronic Cardiac Mechanical Support", March 5, 2015, Charleston, SC

- 2015 Albert Einstein College of Medicine/Montefiore Medical Center Annual Heart Failure Conference: "VAD bridge to recovery: It can be done", May 15, 2015, Bronx, New York
- 2016 University of Pittsburgh Medical Center (UPMC), Cardiology Grand Rounds, "Myocardial Recovery During VAD Unloading: What Have We Learned", Jan 20, 2016, Pittsburgh, Pennsylvania
- 2016 Baylor University Medical Center Cardiology Grand Rounds, "Myocardial Recovery", February 22, 2016, Dallas, Texas
- 2016 University of Chicago Cardiology Grand Rounds, "Mechanical Unloading and Cardiac Recovery: Challenges and Opportunities", March 4, 2016, Chicago, IL
- 2016 Columbia University, CATCH-UP 2016 Symposium: Heart Failure, Devices and Interventions, "Mechanisms of Reverse Remodeling and Cardiac Recovery", March 18-19, 2016, New York, NY
- 2017 Northwestern University, Division of Cardiology Grand Rounds: "Mechanical Circulatory Support and Cardiac Recovery", Monday, Nov 27, 2017, Chicago, IL
- 2018 Duke University Cardiology Grand Rounds, "Mechanical Circulatory Support and Cardiac Recovery: What Have We Learned and Future Directions", Feb 13, 2018, Durham, NC
- 2018 Duke University Cardiovascular Research Institute, "Advancing the Science of Reverse Remodeling and Myocardial Recovery with Mechanical Circulatory Support", Feb 14, 2018, Durham, NC
- 2018 Virginia Commonwealth University (VCU) Internal Medicine Grand Rounds, "Mechanical Circulatory Support: Bridge to Transplant, Destination Therapy & Bridge to Recovery", March 15, 2018
- 2018 Virginia Commonwealth University (VCU) Cardiovascular Grand Rounds, "Promoting Cardiac Recovery Through Mechanical Circulatory Support: Clinical and Translational Perspectives", March 15, 2018
- 2018 Virginia Commonwealth University (VCU) Heart Failure Conference, "Cardiogenic Shock: Shock Team Approach, Door to Unloading and Other New Ideas", March 16, 2018
- 2019 University of Miami Miller School of Medicine, "The Road to Myocardial Recovery", January 31, 2019, Miami, Florida
- 2019 Columbia University, State-of-the-Art Lecture: "VAD as a Bridge to Myocardial Recovery - What Have We Learned and Future Direction", May 3, 2019, New York, NY
- 2019 Houston Methodist Cardiovascular Grand Rounds, "Myocardial Recovery: Bedside to

- Bench and Back", Sept 26, 2019, Houston, TX
- 2020 University of Kansas Cardiology Grand Rounds, "Myocardial Recovery: What Have We Learned & Future Directions", 11/24/2020
 - 2021 University of Minnesota Cardiovascular Grand Rounds, "Myocardial Recovery: Bedside to Bench and Back", 1/20/2021
 - 2021 Stanford Cardiovascular Institute, "Myocardial Recovery: Bedside to Bench and Back", 3/9/21
 - 2021 Columbia University, "Myocardial Recovery and RESTAGE-HF in Context", 3/3/2021
 - 2021 University of Nebraska, SHOCK TEAM approach to cardiogenic shock management, 3/24/2021
 - 2021 University of New Mexico, Contemporary management of heart failure patients, 4/22/2021
 - 2021 University of Mississippi Cardiology Grand Rounds, SHOCK Team approach to cardiogenic shock management, 5/7/2021
 - 2021 Distinguished Keynote Speaker Tufts Molecular Cardiology Research Institute (MCRI), Myocardial Recovery: Bedside to Bench and Back, Sept 30, 2021
 - 2021 Dallas VA, Mechanical Circulatory Support in Chronic HF: Indications, Patient Selection and Management, 10/28/21
 - 2021 Houston Methodist, Dec 2021, Houston, Texas
 - 2022 Mayo Clinic, Myocardial Recovery: What Have We Learned & Future Directions, 3/1/2022, Rochester, Minnesota
 - 2022 U of Pittsburgh, Cardiology Grand Rounds, 3/5/2022, Pittsburgh, Pennsylvania
 - 2022 U of Rochester, Heart Failure Presentation, Rochester, NY

Invited Presentations at National US Conferences

- 2013 1st Annual Utah Cardiac Recovery Symposium (UCARS); Mechanical unloading of the failing human heart – atrophy or recovery? Salt Lake City, Utah
- 2013 6th Western Atrial Fibrillation Symposium: "Atrial fibrillation and myocardial recovery of the failing heart". Park City, Utah.

- 2013 Thoratec National Users Scientific Meeting, "Strategies for myocardial recovery", Orlando, Florida
- 2013 2nd Annual Utah Cardiac Recovery Symposium (UCARS). Mechanical unloading and recovery of the failing human heart: the Utah approach, Salt Lake City, Utah
- 2014 Thoratec National Users Scientific Meeting, "Bridge to recovery", May 2-4, 2014
- 2014 Thoratec National Users Scientific Meeting. "Shared Care Networks for Chronic Mechanical Support Patients", May 2-4, 2014
- 2014 Heart Failure Society of America (HFSA) Annual Meeting, "Mechanical Unloading of the Failing Human Heart: Atrophy or Recovery?" , September 14-17, 2014, Las Vegas, NV
- 2014 American Heart Association (AHA) Annual Scientific Meetings, "Reverse Remodeling, Remission and Recovery: How to Make Sense of a Growing Field", November 15-19, Chicago, IL
- 2014 Doris Duke Foundation Annual Clinical Scientist Meeting 2015, "Understanding Cardiac Recovery Through Metabolism", April 23-24, Chicago, IL
- 2014 3rd Annual Utah Cardiac Recovery Symposium (U-CARS). 'Understanding Myocardial Recovery: Clinical and Translational Perspective', January 16-17, Salt Lake City, Utah
- 2015 Heart Failure Society of America (HFSA), 19th Annual Scientific Meeting, "Mechanical Ventricular Unloading and Reverse Remodeling: From VAD Registries to Prospective Investigations", September 26-29, 2015, Washington, DC.
- 2015 4th Annual Utah Cardiac Recovery Symposium (U-CARS). 'Understanding Myocardial Recovery: Clinical and Translational Perspective', January 14-15, Salt Lake City, Utah
- 2016 American Society Artificial Internal Organs (ASAIO) Annual Conference, "Early and Late RV Failure After LVAD Implantation", May 2016, San Francisco, CA
- 2016 Heart Failure Society of America (HFSA) Annual Scientific Conference, "The Role of Cellular and Metabolic Function in Myocardial Recovery in HFrEF", Orlando, Florida
- 2016 American Heart Association (AHA) Annual Scientific Sessions, "Reverse Remodeling and Recovery - Biological Characteristics", New Orleans, Louisiana
- 2016 A-CURE (Acute Unloading and Recovery) Group Investigators Meeting, "Cardiogenic Shock: Multidisciplinary Team Approach and Other Concepts", November 18, 2015, Boston, MA
- 2016 5th Annual Utah Cardiac Recovery Symposium (U-CARS). 'UCAR: clinical and translational perspective', January 12-13, Salt Lake City, Utah
- 2017 Interagency Registry for Mechanically Assisted Circulation (Intermacs) 11th Annual Meeting and Scientific Sessions, Keynote Address: "Myocardial Recovery and

- Mechanical Circulatory Support”, March 3-4, 2017, Atlanta, Georgia
- 2017 Cardiovascular Innovations Conference – CVI 2017, “Team Approach to Cardiogenic Shock: When and How?”, 8/3/2017, Denver, Colorado
 - 2017 Heart Failure Society of America Annual Conference, “Cardiac Recovery: Which Are The Right Tests?”, September 2017, Dallas, Texas
 - 2017 American Heart Association Scientific Sessions, “Understanding and Predicting Myocardial Recovery”, November 2017, Anaheim, California
 - 2017 6th Annual Utah Cardiac Recovery Symposium (U-CARS). ‘Utah Cardiac Recovery Program: what have we learned?’, January 11-12, 2018, Salt Lake City, Utah
 - 2018 “Bronx Heart” 4th Annual Heart Failure Conference, Albert Einstein College of Medicine, Montefiore Hospital, “State of the Art Lecture: Recovering the Heart on LVAD – How Are We Doing?”, June 7, 2018, Bronx, New York
 - 2018 Heart Failure Society of America Annual Conference, “Mechanical Support and Cardiac Recovery: What Have We Learned and Future Directions”, September 17, 2018, Nashville, TN.
 - 2018 7th Annual Utah Cardiac Recovery Symposium (U-CARS). ‘Myocardial Recovery: Bench to Bedside and Back’, January 2019, Salt Lake City, Utah
 - 2019 Heart Rhythm Society Annual Scientific Conference, May 2019, San Francisco, CA
 - 2019 SCAI SHOCK, “Institutional Culture Change: How To Build a Shock Team”, Sept 8, 2019, Boston, MA
 - 2019 Heart Failure Society of America Annual Conference, “Molecular Mechanisms of Myocardial Recovery: Lessons Learned from Acute and Chronic Settings”, September 14, 2019, Philadelphia, PA
 - 2020 American College of Cardiology Annual Conference, “Bridge to Recovery: Emerging Paradigms For Survivors of Cardiogenic Shock”, March 30, 2020, Chicago, Illinois
 - 2020 SCAI SHOCK, “Heart Failure: VAD and Transplant”, Virtual Conference, October 30, 2020
 - 2021 American College of Cardiology, Annual Virtual Scientific Conference, SHOCK TEAM Approach to Cardiogenic Shock: Who, When And Why?, 5/16/2021,
 - 2021 ASAIO 2021, “Report from UCARS: Cardiac Recovery”, 6/3/2021, Virtual Conference
 - 2021 AHA Basic Cardiovascular Science (BCVS) annual conference, Myocardial Recovery in Chronic HF, 8/25/2021, Virtual Conference
 - 2021 Heart Failure Society of America, “Hemodynamic monitoring in LVAD patients”, 9/1/2021, Denver, Colorado

- 2022 THT National Conference, “What is the Role of LVADs for BTR?” New York, February 1, 2022
- 2022 ACTION Pediatric US National Network, “Utah Cardiac Recovery Program Adult Experience Guidance for Aiding Recovery on VAD Support”, March 1, 2022

Local/Regional Grand Rounds Presentations

- 2002 Cardiology Grand Rounds, Division of Cardiology, University of Utah: “Pulsatile versus non pulsatile flow: review of a continuing controversy”. Salt Lake City, Utah
- 2003 Cardiovascular Grand Rounds, LDS Hospital: “Cardiac mechanical support with non-pulsatile assist devices”. Salt Lake City, Utah
- 2009 Cardiology Grand Rounds, Division of Cardiology, University of Utah: “Reverse remodeling during LVAD unloading: Clinical and translational insights”. Salt Lake City, Utah
- 2009 Cardiovascular Grand Rounds, Intermountain Medical Center: Heart Failure reversal after LVAD unloading: background, design and preliminary results of the U of U–VAMC- IMC collaborative research project”. Salt Lake City, Utah
- 2010 LVAD-induced unloading: therapeutic research opportunities, Division of Cardiology, University of Utah, Salt Lake City
- 2011 “Mechanical Unloading (LVAD) & Cardiac Remodeling” , IMC grand rounds, Salt Lake City, Utah
- 2012 CV Grand Rounds, Doty Education Center, “VAD’s : Bridge to Transplant, Destination, Bridge to Recovery”, Intermountain Healthcare, Murray, Utah
- 2012 Internal Medicine Grand Rounds, “Chronic heart failure and mechanical circulatory support”, University of Utah, Salt Lake City, Utah
- 2013 Cardiovascular Medicine Grand Rounds, “From IABP to Artificial Heart and VADs: Utah’s continuing contributions to the field”, University of Utah, Salt Lake City
- 2016 Internal Medicine Grand Rounds, “Heart Failure Reversal Through Mechanical Assist 2001-2016: What Have We Learned”, University of Utah, Salt Lake City
- 2017 CV Grand Rounds, Doty Education Center, “Advanced Heart Failure Therapies”, Intermountain Healthcare, Murray, Utah
- 2018 Seminars in Metabolism, University of Utah Metabolism Interest Group, “Myocardial Recovery and Mechanical Circulatory Support: Translational Perspective”, 4/26/18
- 2018 Primary Children’s Hospital Heart Center, Department of Pediatrics, “Myocardial Recovery in Adult and Pediatric Heart Failure”, 10/12/2018, Salt Lake City

- 2018 Grand Rounds, Division of Nephrology University of Utah, "Heart Failure and Myocardial Recovery", 12/12/2018, Salt Lake City, Utah
- 2019 Department of Internal Medicine Research Grand Rounds, "Myocardial Recovery: Bench to Bedside", University of Utah, March 6, 2019, Salt Lake City, Utah
- 2021 Octoberfest, SGLT2 inhibitors in heart failure therapy, University of Utah, October 27, 2021

Other Local/Regional Invited Presentations

- 2011 University of Utah Molecular Medicine / CVRTI symposium. "Left Ventricular Assist Device (LVAD)-Induced Unloading, Cardiac Remodeling & Heart Failure". Eccles Institute of Human Genetics, Salt Lake City, Utah
- 2012 National Advisory Council of the University of Utah – 'Getting personal about medicine', University of Utah, Salt Lake City, Utah
- 2012 Half-Century Society Annual Meeting – 'Personalized medicine and heart failure', University of Utah SOM, Salt Lake City, Utah
- 2012 Heart failure: new therapeutic opportunities", Educational Resource Development Council, SLC, Utah
- 2013 St. Alphonsus Hospital, "End-stage Heart Failure Therapies", Boise, Idaho
- 2014 East Idaho Medical Center – "Cardiogenic shock and Temporary Mechanical Circulatory Support", Idaho Falls, Idaho
- 2014 San Juan Regional Medical Center Cardiology Grand Rounds, "Advanced Heart Failure Therapies", Farmington, New Mexico
- 2015 Primary Children's Medical Center Cardiology Grand Rounds, "Collaborative Clinical Research Opportunities in Heart Failure", Salt Lake City, Utah
- 2018 San Juan Regional Medical Center Cardiology Grand Rounds, "Cardiogenic Shock Therapies", Farmington, New Mexico
- 2018 American College of Cardiology (ACC) Rockies Chapter, "Heart Failure and Myocardial Recovery", 8/4/2018, Park City, Utah
- 2019 St Marks Hospital, "Advanced heart failure therapies", June 2019, Salt Lake City, Utah
- 2019 Boise VA Hospital, "Advanced heart failure therapies", June 2019, Boise, Utah
- 2019 St Alphonsus Hospital, "Advanced heart failure therapies", June 2019, Boise, Utah
- 2019 Mechanical Circulatory Support for Acute & Chronic Heart Failure, Carson City

Hospital, Cardiovascular Grand Rounds, Oct 3, 2019 Carson City, Nevada

2021 Native American Research Internship, "Myocardial Recovery: Bedside to Bench and Back", July 15, 2021