

CURRICULUM VITAE ~ Steve W Leung

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Date Prepared: Jun 26, 2020

CURRICULUM VITAE

**Steve W Leung, MD, FACC, FASE, FSCCT,
FSCMR**

**Associate Professor with Tenure, Special Title Series
Department of Medicine
Division of Cardiovascular Medicine
University of Kentucky College of Medicine
UK HealthCare**

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here**

I. GENERAL INFORMATION

Office Address **900 S. Limestone St, CT Wethington Bldg, Rm 324
Lexington, KY, 40536**

Email **steve.leung@uky.edu**
Twitter **@swleun2**
Telephone **859-323-8040**
Fax **859-323-6475**

Professional Licensure

06/2007-03/2021 **Kentucky Board of Medicine
#40902**

06/2007-03/2022 **Drug Enforcement Agency Controlled Substance Registration
#FL0343296**

12/1999-08/2020 **Basic Life Support Certification**
12/1999-10/2021 **Advanced Cardiac Life Support Certification**

Board Certification

American Board of Internal Medicine

12/2007-12/2017 Diplomate, Internal Medicine
12/2017-12/2027 Re-certification, Internal Medicine
12/2010-12/2020 Diplomate, Cardiovascular Medicine

National Board of Medical Examiners

05/2009-06/2019 Diplomate, Adult Comprehensive Echocardiography (ASC_Exam)
2019-12/31/2029 Recertified 2019

Council for Certification in Cardiovascular Imaging

01/2012-03/2022 Certification Board of Nuclear Cardiology Board (CBNC)
09/2012-12/2022 Certification Board of Cardiovascular Computed Tomography Board (CBCCT)

05/2019-05/2029 Certification Board of Cardiovascular Magnetic Resonance (CBCMR)
Inaugural exam

Research Certification

09/2007-03/2022 **University of Kentucky Collaborative Institutional Training Initiative**
Completion Certificate

II. EDUCATION

Undergraduate

08/1996-05/2000 **Johns Hopkins University**
Baltimore, MD
BA, Honors Biology, with General Honors
Minor: Mathematics

Professional/Graduate

08/2000-05/2004 **Vanderbilt University School of Medicine**
Nashville, TN
MD

Post-Graduate

06/2004-06/2005 **Duke University Medical Center**
Durham, NC
Internal Medicine Internship

07/2005-06/2007 **Duke University Medical Center**
Durham, NC
Internal Medicine Residency

07/2007-06/2010 **University of Kentucky Medical Center**
Lexington, KY
Adult Cardiovascular Medicine Fellowship

07/2010-06/2012 **National Institutes of Health, National Heart Blood Lung Institute**
Bethesda, MD
Advanced Cardiovascular Imaging Fellowship

Continuing

09/2013-12/2014 **University of Kentucky**
Lexington, KY
Graduate Certificate in Clinical and Translational Science

III. PROFESSIONAL EXPERIENCES

01/2010-06/2010	Veterans Affairs Medical Center Department of Medicine Lexington, KY Intensivist, part-time
07/2012-current	University of Kentucky Medical Center Lexington, KY Non-invasive cardiologist Department of Medicine and Radiology Full-time
07/2012-current	Veterans Affairs Medical Center Lexington, KY Staff Cardiologist Medicine Part-time

IV. ACADEMIC APPOINTMENTS

Faculty

07/2012-06/2015	National Institutes of Health, National Heart, Lung & Blood Institute Bethesda, MD Special Research Volunteer
07/2012-06/2017	University of Kentucky Medical Center Lexington, KY Assistant Professor of Medicine and Radiology, Special Title Series, tenure-track
07/2017-present	University of Kentucky Medical Center Lexington, KY Associate Professor of Medicine and Radiology with Tenure, Special Title Series

V. HOSPITAL or CLINICAL APPOINTMENTS

01/2010-06/2010	Veterans Affairs Medical Center Department of Medicine Lexington, KY Intensivist, part-time
07/2012-current	University of Kentucky Medical Center Department of Medicine/Division of Cardiovascular Medicine Gill Heart Institute Lexington, KY Non-Invasive Cardiologist, full-time Associate Director, Advanced Cardiovascular Imaging
07/2012-current	Veterans Affairs Medical Center Department of Medicine, Cardiology Lexington, KY Director of Cardiovascular Imaging Cardiologist, part-time
04/2013-current	Rockcastle Hospital Mount Vernon, KY Cardiologist, part-time, reading echocardiography/nuclear cardiology
11/2014-current	Select Specialty Hospital Lexington, KY Cardiologist, part-time, reading echocardiography
01/2015-current	Georgetown Community Hospital Georgetown, KY Cardiologist, part-time, reading echocardiography
03/2014-current	Harrison Memorial Hospital Cynthiana, KY Consulting staff, part-time, reading echocardiography
02/2019-current	Baptist Health Hospital Lexington, KY Cardiologist, part-time, reading cardiac MRI
04/2020-current	Frankfort Regional Medical Center Frankfort, KY Cardiologist, part-time, on-call coverage

VI. CONSULTING ACTIVITIES

None

VII. TEACHING ACTIVITIES

University Faculty

University of Kentucky Medical Center
Lexington, KY

Recurring Weekly Advanced Cardiovascular Imaging conference: 10/2015-current

Date	Course	Lecture	Trainee
11/07/2012		Pericardial Disease	Medicine Residents
11/21/2012		Echo in TAVR	Cardiology Fellows
01/14/2013		Research Conference	Cardiology Fellows
01/30/2013		Advanced Cardiac Imaging of Mitral Valve	Cardiology Fellows
02/13/2013		Cardiac Masses	Cardiology Fellows
03/11/2013		Research Conference	Cardiology Fellows
08/07/2013		Introduction to Cardiovascular MRI	Cardiology Fellows
08/14/2013		Cardiovascular MRI Research Imaging	Cardiology Fellows
08/19/2013		Research Conference	Cardiology Fellows
09/04/2013		Cardiac MRI and Viability	Cardiology Fellows
10/02/2013		Cardiac MRI in Cardiomyopathy	Cardiology Fellows
11/13/2013		Advanced Cardiovascular Imaging in Electrophysiology	Cardiology Fellows
12/11/2013		Cardiovascular MRI in Ventricular Tachycardia	Cardiology Fellows
01/06/2014	MD826	Cardiac Anatomy	Medical Students
01/08/2014		Stable Ischemic Heart Disease Appropriate Use Criteria	Cardiology Fellows
01/30/2014	MD826	Pericardial Disease, Mitral Valve Prolapse and Aortic Regurgitation	Medical Students
04/23/2014		Temporal Resolution in Cardiac Imaging	Cardiology Fellows
05/21/2014		Spatial Resolution in Cardiac Imaging	Cardiology Fellows
07/02/2014		Advanced Cardiovascular Imaging Case Conference	Cardiology Fellows
07/23/2014		Introduction to Cardiovascular MRI	Cardiology Fellows
07/30/2014		Cardiac Masses	Cardiology Fellows
08/13/2014		Pericardial Disease	Medicine Residents
08/27/2014		CMR in Cardiomyopathy	Cardiology Fellows
10/28/2014		CMR in Valvular Disease	Cardiology Fellows
11/03/2014		Various Research Methods	Cardiology Fellows
01/05/2015	MD826	Cardiac Anatomy	Medical Students
01/14/2015	MD826	Pericardial Diseases	Medical Students
01/21/2015		Submitting an IRB	Cardiology Fellows
04/27/2015		Quantification of Aortic Stenosis	Cardiology Fellows
05/13/2015		Aortic Assessment with CMR/CCT	Cardiology Fellows
07/22/2015		Introduction to CMR	Cardiology Fellows

07/24/2015		Introduction to Research	Cardiology Fellows
08/06/2015		Viability and Stress CMR	Cardiology Fellows
08/26/2015		Metals and Magnets	Cardiology Fellows
10/08/2015		Wide Complex Tachycardia	Medicine Residents
10/22/2015		Narrow Complex Tachycardia	Medicine Residents
10/29/2015		Imaging in TAVR	Cardiology Fellows
11/03/2015		Various Methods in Research	Cardiology Fellows
11/12/2015		Wide Complex Tachycardia	Medicine Residents
12/09/2015		Valvular Disorder	Medicine Residents
01/04/2016	MD826	Cardiac Anatomy	Medical Students
01/07/2016		Non-Invasive Cardiac Testing	Medicine Residents
01/13/2016	MD826	Pericardial Diseases	Medical Students
01/14/2016		Pericardial Diseases	Medicine Residents
01/19/2016		Submitting an IRB	Cardiology Fellows
02/01/2016	MD826	Valvular Heart Disease	Medical Students
02/02/2016	MD826	Aortic Disease	Medical Students
02/08/2016	PGY608	Ultrasound in Medicine	Graduate Students
03/10/2016		Non-invasive Imaging	Medicine Residents
04/25/2016		Quantification of Aortic Stenosis	Cardiology Fellows
05/09/2016		Advance Imaging in Aortic Disease	Cardiology Fellows
06/09/2016		Non-invasive Imaging	Medicine Residents
07/18/2016		Introduction to Research	Cardiology Fellows
07/27/2016		Acute Myocardial Infarction	Medicine Residents
08/01/2016		Introduction to CMR	Cardiology Fellows
09/15/2016		Echo Jeopardy	Cardiology Fellows
09/22/2016		Narrow Complex Tachycardia	Medicine Residents
10/27/2016		Acute Pulmonary Embolism	Medicine Residents
11/10/2016		Non-invasive Imaging	Medicine Residents
11/14/2016		Various Methods in Research	Cardiology Fellow
11/16/2016		CT/CMR Conference	Cardiology Fellow
12/08/2016		Valvular Heart Disease	Medicine Residents
01/03/2017	MD826	Cardiac Anatomy	Medical Students
01/04/2017		Non-invasive Imaging	Medicine Residents
01/17/2017		Updates on Heart Failure Management	VA PCPs
01/30/2017	MD826	Diseases of the Pericardium	Medical Students
01/31/2017		Submitting an IRB	Cardiology Fellows
03/27/2017		Aortic Stenosis Quantification	Cardiology Fellows
05/04/2017		Non-invasive Imaging	Medicine Residents
06/08/2017		Pulmonary Hypertension	Medicine Residents
07/18/2017		Introduction to CMR	Cardiology Fellows
08/29/2017		Imaging in Chest Pain Syndromes	Cardiology Fellows
10/02/2017	MD826	Cardiac Anatomy	Medical Students
10/27/2017	MD826	Diseases of the Pericardium	Medical Students
11/29/2017		Valvular Heart Disease	Medicine Residents
03/13/2018		ACI Conference - Parametric Mapping	ACI Fellow

03/19/2018		Myocarditis	Cardiology Fellows
06/05/2018		Congenital Heart Disease Jeopardy	Cardiology Fellows
07/30/2018		Introduction to CMR	Cardiology Fellows
10/08/2018	MD826	Cardiac Anatomy	Medical Students
11/03/2018	MD826	Clinical Presentation and Management of Pericardial Diseases	Medical Students
12/03/2018		Quantification of Aortic Stenosis	Cardiology Fellows
12/18/2018		Valvular Heart Disease	Medicine Residents
04/17/2019		Cardiac CT	Radiology Techs
07/08/2019		Introduction to Cardiac CT	Cardiology Fellows
07/29/2019		Introduction to Cardiovascular MRI	Cardiology Fellows
09/24/2019		Introduction to E-IRB	Cardiology Fellows
10/07/2019	MD826	Cardiac Anatomy	Medical Students
11/04/2019	MD826	Pericardial Disease	Medical Students
11/19/2019		CMR Viability/Scar Assessment	Cardiology Fellows
11/20/2019		Valvular Heart Disease	Medicine Residents
12/16/2019		Aortic Stenosis Workshop	Cardiology Fellows
04/19/2020		How to Review Non-Cardiac Chest CT	Cardiology Fellows
04/19/2020		How to Review Coronary CTA	Cardiology Fellows

Bedside Clinical Teaching

Years	Trainee	Rotation	Time
2012	Medicine Residents/ Cardiology Fellows	CCU Service	20 days/ 6 months
2012-2013	Medicine Residents/ Cardiology Fellows	Cardiology Consult Service	20 days/ 6 months
2012-2019	Cardiology Fellows	Echocardiography	1 day biweekly
2012-current	Cardiology Fellows/ Advanced Imaging Fellows/Radiology Residents	Cardiac MRI/Cardiac CT	1-3 days weekly
2013-2014	Medicine Interns/ Cardiology Fellows	Cardiology Floor/Observation Service	2 weeks/year
2013-current	Cardiology Fellows	Nuclear Cardiology	1 day weekly- biweekly
2015-2017	Cardiology Fellows	Outpatient Cardiology Clinic	half day/2 months
2015-current	Medicine Interns/ Cardiology Fellows	Cardiology Floor/Observation Service	6-8 weeks/year
2017-current	Medicine Residents/ Cardiology Fellows	Cardiology Consult Service	3-4 weeks/year
2019-current	Cardiology Fellows	Echocardiography	2 day weekly

Veterans Affairs Medical Center
Lexington, KY

Bedside Clinical Teaching

Years	Trainee	Rotation	Time
2012-Current	Cardiology Fellows	Nuclear Cardiology	1 hour weekly
2013-2014	3 rd year Cardiology Fellows	VA Senior Rotation	8 weeks/year
2015-current	3 rd year Cardiology Fellows	VA Senior Rotation	4 weeks/year

Cardiology Fellows, Outpatient Continuity Clinic Teaching, half day biweekly

Years	Fellow
2012-2013	Sam Aznaurov, MD
2012-2014	Paul Zellers, DO
2013-2015	Mohammad Metawee, MBBS
2014-2017	Andrew Burchett, MD
2015-2018	Nathan Kusterer, MD
2017-2019	Francis Benn, MD
2018-2019	Joshua Eason, DO
2019-2020	Karam Ayoub, MD
2019-present	Daniel Krause, DO

Medicine Residents, Outpatient Clinic Teaching, half day weekly

Years	Residents
01-2015, 04-2015, 04-2016	Michael Jesinger, MD
02-2015, 05-2015	Georges Lolay, MD
03-2015	Michael Vick, MD
07-2015	Christopher McKibbin, MD
08-2015	Matthew Brooks, MD
09-2015	Mohammad Mathbout, MBBS
10-2015	Benjamin Boral, DO
11-2015	Lyndsey Roesch, DO
01-2016	Jim Stone, MD
02-2016, 05-2016, 02-2017	Cameron Harding, MD
03-2016, 06-2016, 09-2016, 06-2017, 12-2017	Mariah Barlow (Pagath), MD
08-2016, 05-2017, 08-2017	Ameer Musa, MD
10-2016	George Carter, MD
11-2016	Matt Sousa, MD
01-2017	Julie Shelton, MD
04-2017, 10-2017, 01-2018, 04-2018, 07-2018, 10-2018, 01-2019, 04-2019	Marc Paranzino, MD
07-2017	Levi May, MD
09-2017, 03-2020	Taylor Walker, DO
12-2017	John Suffredini, DO
02-2018	William Wilson, DO
03-2018	Sarah Hunter, MD
11-2018	Roger Thompson, MD
02-2019	Sara Klinger, DO
05-2019	Bill Wilson
09-2019	Jeremy Swiney
10-2019	Ujas Patel, MD

11-2019	Rachel Goodwin, DO
01-2020	Ben Breazile, MD

Professional Course/Program Faculty

11/22-23/2014	2014 Fall Echocardiography Workshop for Technologists Lexington, KY Left Ventricular Volume/Function/Mass Left Ventricular Diastolic Function Valvular Regurgitation 3D and Strain Imaging
04/25-26/2015	2015 Spring Echocardiography Workshop for Technologists Lexington, KY Left Ventricular Volume/Function/Mass Left Ventricular Diastolic Function Valvular Regurgitation 3D and Strain Imaging
04/26-28/2019	2019 Society of Cardiovascular Computed Tomography Workshop Procedural Planning with Cardiovascular CT: Focus on TAVR and LAA Lexington, KY

VIII. ADVISING ACTIVITIES

Student Advising

University of Kentucky, Lexington, KY

01/2014-05/2014	Faculty Mentor/Alex Fletcher/Undergraduate/Senior/Biology/Research/20 hours, shadowing/research/discuss career. Wrote letter of recommendation for medical school.
07/2013-05/2014	Faculty Mentor/Aaron Bisig/Undergraduate/Senior/Chemical Engineering/20 hours, shadowing/discuss career. Wrote letter of recommendation for medical school.
07/2013-06/2014	Faculty Mentor/Ahmed Asfour, MD/Clinician Scientist Fellow/40+ hours, teaching cardiac MRI especially regarding advanced techniques such as T1 mapping and late gadolinium enhancement. Wrote letter of recommendation for his advanced cardiovascular imaging fellowship, which he completed in 2015.
09/2013-08/2015	Faculty Mentor/Georges Lolay, MD/Medicine Resident/80+ hours, research in coronary calcification on cardiac CTA
02/2014-04/2017	Faculty Mentor/Tori Stromp/Graduate Student/1 st year/80+ hours, teaching her how to perform cardiac MRI, cardiac MRI research
07/2014-06/2017	Faculty Mentor/Greg Sinner, MD/Medicine Resident/1 st year/80+ hours, mentor in research related to echocardiography
07/2014-06/2016	Faculty Mentor/Michael Jesinger, MD/Medicine Resident/2 nd year/80+ hours, mentor in research related to stress cardiac MRI
09/2014-06/2016	Faculty Mentor/Amina Anwar/High School Student/Junior/40 hours, research in cardiac MR perfusion imaging
07/2015-06/2016	Faculty/Tyler Spears/Graduate Student/1 st year/40 hours, shadowing in clinical CMR, teaching how to perform cardiac MRI
11/09/2015	Invited Faculty/Undergraduate Research Certificate Program/Undergraduate students/2 hours, discussed cardiology practice and importance of research
07/2016-current	Faculty PhD Mentor/Vedant Gupta, MD/Cardiology Fellow/PhD student/PhD project
08/2016-04/2017	Faculty Mentor/Wissam Hameed/Graduate Student/teaching him how to perform cardiac MRI, cardiac MRI research (CEST)
12/2016-current	Faculty Mentor/Matthew Sousa, MD/Medicine Resident/Cardiology Fellow/TL1 Research project (Coronary calcification in peri-operative patients)
01/2017-2019	Faculty Mentor (career)/Sreeja Sanampudi/Medical Student
08/2017-current	Faculty Mentor/Julie Shelton/Cardiology Fellow/1:1 Assigned Fellowship faculty mentor
07/2017-current	Faculty Mentor/Greg Sinner, MD/Cardiology Fellow/Fellowship Research mentor (Resynchronization echo project, VOTE project, Endocarditis project, Liver Transplant CCTA project)
11/2017-current	Faculty Mentor/Dustin Hillerson, MD/Cardiology Fellow/Fellowship Research mentor (Coronary calcification in atrial fibrillation project)
12/2017-06/2018	Faculty Mentor/Suartcha Prueksaritanond, MD/Cardiology Fellow/1:1 Assigned Fellowship faculty mentor
2018-current	Faculty Mentor/Talal Alnabelsi, MBBS/Cardiology Fellow/Fellowship Research mentor (Endocarditis project, Liver Transplant CCTA project)
07/2019-current	Faculty Mentor/Daniel Krause/Cardiology Fellow/1:1 Assigned Fellowship faculty mentor

02/2020-current Faculty Mentor/Joseph Angileri/Medicine Resident/1:1 Assigned Faculty Mentor regarding career cardiology

Fellow advising – I have given advice to a majority of the general cardiology fellows; however, below are specific fellows that I have advised regarding their imaging career.

Year	Fellow	Fellowship	Post-graduation position
2012-2013	Kunal Bodiwala	Imaging	Private Practice in IL, now PA
2012-2016	Arash Seratnahaei	Cardiology/Imaging	Private Practice in KY
2012-2016	Michael Mikolaj	Cardiology/Imaging	Academic Cardiologist at UT Chattanooga
2013-2014	Vrinda Sardana	Imaging	Private Practice in ME, now KY
2013-2017	Vedant Gupta	Cardiology	Academic Cardiologist at UK
2015-2016	Ashley Nickerson	Imaging	Private practice in MS, now TN
2017-2018	Amornpol Anuwatworn	Imaging	Academic Cardiologist at LSU
2015-2019	Patrick Hurley	Cardiology/Imaging	Private practice in SC
2018-2019	Ahmad Elashery	Imaging	Academic Cardiologist at WV
2019-2020	Teresa Ratajczak	Imaging	TBD
2019-2020	Wael Abusnina	Imaging	Creighton Cardiology Fellowship

Directed Student Learning

01/2014 Faculty/Brian Atkins/Medical Student/4th Year/Medicine/4 hours, shadowing in clinical CMR

01/2014 Faculty/Paul Hennig/Medical Student/4th Year/Medicine/4 hours, shadowing in clinical CMR

05/2014 Faculty/Jonathan Grabau/MD-PhD Student/2nd year/4 hours, shadowing in clinical CMR

10/2014 Faculty/Liu Jiawen/Undergraduate/Senior/4 hours, shadowing in clinical CMR

04/2015 Faculty/Milos Spacek/Visiting Cardiologist from Prague/20 hours, shadowing in clinical CMR

10/2015 Faculty/Faiyad Mannan/Medical Student/1st year/8 hours, shadowing in clinic and clinical CMR

Thesis & Dissertation

None

Invited Referee for Academic Appointment, Promotion or Tenure

University of Kentucky

Lexington, KY

Letters of recommendations written for:

Date	Name	Type	Rank
04/2013	Jason Brandon, PhD	Promotion	Assistant Professor
04/2013	Srini Appakondur, MD	Adjunct Appointment	Assistant Professor
04/2013	N. Rao Podapati, MD	Adjunct Appointment	Assistant Professor
04/2013	Vidya Yalamanchi, MD	Adjunct Appointment	Assistant Professor
04/2013	John Aumiller, MD	Adjunct Appointment	Assistant Professor

04/2013	Hassam Hamdalla, MD	Adjunct Appointment	Assistant Professor
04/2013	Sharat Koul, MD	Adjunct Appointment	Assistant Professor
04/2013	Charles Salters Jr, MD	Initial Appointment	Assistant Professor
10/2013	Joseph Thomas, MD	Initial Appointment	Assistant Professor
06/2014	Binggang Xiang, PhD	Initial Appointment	Assistant Professor
09/2014	Andrew McKinney, MD	Initial Appointment	Assistant Professor
09/2014	Yousef Darrat, MD	Initial Appointment	Assistant Professor
09/2014	Ahmed Abdel-Latif, MD PhD	Promotion	Associate Professor
09/2014	Gustavo Morales, MD	Promotion	Associate Professor
09/2014	Navin Rajagopalan, MD	Promotion	Associate Professor
09/2014	Vicky King, PhD	Promotion	Associate Professor
09/2014	Zhenyu Li, PhD	Promotion	Associate Professor
09/2014	Hong Lu, PhD	Promotion	Associate Professor
01/2015	Kenneth Campbell, PhD	Joint Appointment	Associate Professor
03/2015	John Kotter, MD	Initial Appointment	Assistant Professor
04/2015	Vidya Nadig, MD	Initial Appointment	Assistant Professor
01/2015	Charles Campbell, MD	Adjunct Appointment	Professor
07/2015	Frederick Onono, MD	Initial Appointment	Research Assistant Professor
11/2015	Andrew Leventhal, MD	Initial Appointment	Assistant Professor
03/2016	Meenakshi Bhalla, MD	Initial Appointment	Associate Professor
09/2016	Peter Hardy, PhD	Promotion	Associate Professor
10/2016	Samy Claude Elayi, MD	Promotion	Professor
10/2016	Sarah Rugg, MD	Promotion	Associate Professor
11/2016	Mitchel Stacy, PhD	Initial Appointment	Assistant Professor
04/2017	Vedant Gupta, MD	Initial Appointment	Assistant Professor
04/2017	Andrew Kolodziej, MD	Initial Appointment	Assistant Professor
06/2017	Vikas Bhalla, MD	Initial Appointment	Assistant Professor
06/2017	Aaron Hesselson, MD	Initial Appointment	Associate Professor
08/2017	M. Abdul Mottaleb, PhD	Initial Appointment	Assistant Professor
08/2017	Melina Aguinaga-Mesa, MD	Initial Appointment	Assistant Professor
04/2018	Luis Francisco Hidalgo Ponce, MD	Initial Appointment	Assistant Professor
05/2018	Stephen Hobbs, MD	Promotion	Associate Professor
05/2018	Paul Spicer, MD	Promotion	Associate Professor
08/2018	John Kotter, MD	Promotion	Associate Professor
08/2018	Adrian Messerli, MD	Promotion	Professor
10/2018	Majd Makhoul, MD	Promotion	Associate Professor
10/2018	Yousef Darrat, MD	Promotion	Associate Professor
03/2019	Alexis Fenton, MD	Adjunct Appointment	Locums Tenen
03/2019	Walter Kerwin, MD	Adjunct Appointment	Locums Tenen
04/2019	Mohammed Kazimuddin, MD	Adjunct Appointment	Associate Professor
07/2019	Marianna Zagurovskaya, MD	Promotion	Associate Professor
07/2019	Tariq Siddiqui, MD	Promotion (External)	Associate Professor
07/2019	Kristin Ellison, MD	Initial Appointment	Associate Professor
09/2019	Joseph Thomas, MD	Promotion	Associate Professor
09/2019	Zhenyu Li, PhD	Promotion	Professor
09/2019	Ahmed Abdel-Latif, MD PhD	Promotion	Professor

09/2019	Aaron Hesselson, MD	Promotion	Professor
09/2019	W Lane Duvall, MD	Promotion (External)	Professor
01/2020	Naoki Misumida, MD	Initial Appointment	Assistant Professor
01/2020	Gaurang N Vaidya, MD	Initial Appointment	Assistant Professor
02/2020	Mohammed Al-Yafi, MD	Initial Appointment	Clinical Instructor
02/2020	Neeti Reddy, MD	Initial Appointment	Assistant Professor
05/2020	Gbolahan Ogunbayo, MD	Initial Appointment	Assistant Professor
05/2020	Yuri Boyechko, MD	Initial Appointment	Assistant Professor

IX. ADMINISTRATIVE ACTIVITIES & UNIVERSITY SERVICE

University

None

College

University of Kentucky College of Medicine
Lexington, KY

Administration & Clinical Operations

08/2019-present Member, Appointments, Promotion and Tenure Committee

Medical Center

University of Kentucky Medical Center
Lexington, KY

Administration & Clinical Operations

12/2015-12/2016 Member, Powerscribe 360 Implementation Team
06/2017-05/2018 Member, UKHC Data Governance, Research Subcommittee
11/2018-04/2019 Member, Electronic Health Record Vendor Selection Steering Committee
- Cardiology and GME Representative
07/2019-present Subject Matter Expert Champion, Medicine Subspecialty, EPIC team (15% DOE)

Education & Research

2012-present Member, Center for Muscle Biology
2012-2015 Member, Heart Working Group
2012-present Member, Saha Cardiovascular Research Center
2012-present Member, UK Structural Heart Team
2013-2015 Member, Cardiovascular Imaging Research Team (CVIRT)
2013-present Reviewer, UK Internal Advisory Committee, NIH CTS T32 Award
2015-present Member, UK GME Educational Development Subcommittee
2016-present Member, UK GME Program Review Subcommittee
2017-present Member, CV Research Incubator

Department

University of Kentucky Medical Center
Department of Medicine
Lexington, KY

Administration & Clinical Operations

07/2012-06/2015 Associate Program Director, Advanced Cardiovascular Imaging Fellowship
2014-present Member, UK Cardiovascular Executive Council Committee
01/2015-present Associate Program Director, Cardiovascular Medicine Fellowship
07-2015-present Program Director, Advanced Cardiovascular Imaging Fellowship
2017-present Member, Cardiovascular Service Line Imaging Directors Council
2017-present Member, Joint Pediatric Heart Care Program – Imaging

Education & Research

2014-present	Member, Clinical Competency Committee, Cardiovascular Medicine Fellowship
2015-present	Chair, Program Evaluation Committee, Cardiovascular Medicine Fellowship
2017-present	Member, Cardiovascular Service Line Training and Education Committee
2015-present	Interview, Cardiovascular Fellowship Candidates
2018	Interview, Medicine Residency Candidates

X. SPECIAL ASSIGNMENTS

None

XI. HONORS & AWARDS

1998	Golden Key Honor Society
2000	Phi Beta Kappa Honor Society
2003	Alpha Omega Alpha Honor Medical Society
06/2009	Outstanding Fellow Teaching Award University of Kentucky Department of Medicine
06/2010	Teresa Hignite Award University of Kentucky, Division of Cardiovascular Medicine In recognition of the cardiology fellow who despite long hours, frequent sleep deprivation and the daily challenges of patient care, teaching and learning, is able to maintain a friendly, helpful and cheerful attitude that positively influences everyone they encounter.
10/2010	Poster Presentation 2 nd Place North American Society of Cardiovascular Imaging 38 th Meeting
06/2015	Michael G. Spain Award University of Kentucky, Division of Cardiovascular Medicine In recognition of his extraordinary contributions to the betterment of the Cardiovascular Disease Fellowship at the Lexington Veterans Administration Hospital and the University of Kentucky, Division of Cardiovascular Medicine
2015-2019	Best Doctors in America
2018	Program Director Award – Advanced Cardiovascular Imaging Team

XII. PROFESSIONAL ACTIVITIES, PUBLIC SERVICE & PROFESSIONAL DEVELOPMENT

Memberships

2007-present	American Heart Association
2007-present	American College of Cardiology, Fellow (2014)
2010-present	Society for Cardiovascular Magnetic Resonance, Fellow (2018 – first class)
2010-present	Society for Cardiovascular Computed Tomography, Fellow (2019)
2010-2011	North America Society of Cardiovascular Imaging
2013-present	American Society of Echocardiography, Fellow (2016)

Positions Held

Local

University of Kentucky

2014, 2018	Reviewer, CCTS Pilot Grant Review
2016-2018	Reviewer, Gill Clinical and Translational Research Support Fund

State/Regional

Veterans Affairs Medical Center VISN 9

2015-2016	Member, VISN9 Cardiology Committee
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Kentucky American College of Cardiology

2016	Co-Chair, Abstract Review
2017-2018	Co-Chair, Echocardiography Session Planning
2018-2019	Co-Chair, Scientific Session Planning
2019-2020	Chair, Scientific Session Planning

National/International

Society for Cardiovascular Magnetic Resonance

2011-2015	Teacher, Introductory Online Training Course
2011-2020	Member, Web/Communications Committee
2015-present	Member, Education Committee
2019-present	Co-Chair, Introductory Online Training Course Update
2020-present	Member, Program Planning Committee

American College of Cardiology

2015-2019	Member, Jeopardy Question Writing Work Group
2015-present	Member, Academic Workgroup of the Early Career Section
2015-present	Member, Imaging Section
2015-present	Member, Academic Section
2015-present	Member, Cardiovascular Training Section
2018-present	Abstract Review, Annual Meeting Scientific Session

2016-present	American Heart Association Abstract Review, Annual Meeting Scientific Session
2018-present	American College of Radiology Representative member of SCMR for Syncope Appropriate Use Criteria Workgroup

Moderator

State/Regional

	Kentucky American College of Cardiology
2016	Co-chair, Scientific Poster Session Moderator, Breakout Session 3B: Echocardiography - Didactics Moderator, Breakout Session 5: FIT Presentations & Jeopardy
2017	Chair, FIT Research Presentations
2018	Judge, Scientific Poster Session Moderator, Breakout Session 1: Echocardiography
2019	Judge, Scientific Poster Session Moderator, Presidential Speaker Session

National/International

	American College of Cardiology
2016	Moderator, FIT Jeopardy
2017	Moderator, FIT Jeopardy (Finals)
2018	Moderator, FIT Jeopardy (Finals)
2019	Moderator, FIT Jeopardy (Finals)
	Society of Cardiovascular Computed Tomography
2019	Faculty, Procedural Planning with Cardiovascular CT: Focus on TAVR and LAA (4/26-4/28)
	SCMR and EuroCMR Joint Meeting
2018	Moderator, eCases 1 – Ischemic Heart Disease and Acute Chest Pain

XII. PROFESSIONAL ACTIVITIES, PUBLIC SERVICE & PROFESSIONAL DEVELOPMENT - *continued*

Advisory Groups

None

Review Panels

None

Editorial Boards

None

Journal Peer-Reviewing

2010-2012	Open Cardiovascular Imaging Journal
2012	Journal of Thrombosis and Thrombolysis
2013-2017	Echocardiography
2015	NMR in Biomedicine
2015-present	Journal of Magnetic Resonance Imaging
2015	Angiography
2016-present	Heart
2016-present	Journal of Cardiovascular Computed Tomography
2016-present	Journal of Cardiovascular Magnetic Resonance
2016-present	Magnetic Resonance Imaging
2018-present	Journal of the American Society of Echocardiography
2018	BMC Pediatrics
2020	Clinical Imaging

Media Contributions

01/18/2002	Vanderbilt University Medical Center – Reporter School of Medicine launches new Web site, Newspaper, Nashville, TN, Nancy Humphrey http://www.mc.vanderbilt.edu/reporter/index.html?ID=1903
07/25/2014	University of Kentucky News - UKNow New Technology Helps Gill Heart Institute Physicians Unmask Artifacts Left by Implantable Cardiac Devices, Online News, Lexington, KY, Laura Dawahare, Allison Perry http://uknow.uky.edu/content/new-technology-helps-gill-heart-institute-physicians-unmask-artifacts-left-implantable-cardi

03/16/2015 New Biomedical Informatics Tool Allows Self-Service Data Access for Researchers, Online News, Lexington, KY, Mallory Powell
<http://uknow.uky.edu/content/new-biomedical-informatics-tool-allows-self-service-data-access-researchers>

Professional Development

Local

University of Kentucky
Lexington, KY

Recurring CME Conferences

2013-current KCH Heart Center Patient Management Conference (1 hr/week)

2013-current Cardiovascular Imaging Conference (1 hr/week)

Date	Title	Hours
11/02/2012	Cardiology Grand Rounds 2012	1.00
05/14/2013	Initial Visit Documentation	3.00
05/14/2013	Assessment and Simulation	2.00
08/03/2013	The Good, Bad, and Ugly of Addiction	5.25
09/06/2013	Cardiovascular Seminar Series Grand Rounds 2014	1.00
09/25/2013	Research Ethics Lecture Series Grand Rounds 2014	1.00
10/15/2013	Clinical Research Update Grand Rounds 2014	1.00
11/08/2013	Cardiovascular Seminar Series Grand Rounds 2014	1.00
11/19/2013	Clinical Research Update Grand Rounds 2014	1.00
11/21/2013	Cardiovascular Seminar Series Grand Rounds 2014	1.00
01/10/2014	Internal Medicine Grand Rounds 2014	1.00
02/06/2014	Dean's Distinguished Lecture Series 2014	1.00
02/07/2014	Cardiovascular Seminar Series Grand Rounds 2014	1.00
04/25/2014	Cardiovascular Seminar Series Grand Rounds 2014	1.00
09/26/2014	Internal Medicine Grand Rounds 2015	1.00
11/06/2014	Dean's Distinguished Lecture Series 2015	1.00
12/02/2014	Strategies & Ideas for Enhancing Faculty Development Related to GME Training Programs	3.50
03/06/2015	Preparing for ICD-10: Provider Documentation Improvement	0.50
08/07/2015	Internal Medicine Grand Rounds 2016	1.00
09/25/2015	Internal Medicine Grand Rounds 2016	1.00
10/14/2015	Heart Code ACLS Part 1	9.75
10/30/2015	Internal Medicine Grand Rounds 2016	1.00
03/18/2016	Internal Medicine Grand Rounds 2016	1.00
08/05/2016	Internal Medicine Grand Rounds	1.00
03/15/2017	CMR for Thalassemia – Changing Clinical Outcomes Through Cardiac Imaging (Dr. Dudley Pennell)	1.00
09/20/2018	40 yrs of Perioperative Cardiac Assessment - A Piece of Mind (Dr. Kim Eagle)	1.00

UK GME: Quality Improvement/Patient Safety Workshop Series, Lexington, KY

11/16/2015	Integrating QI Projects Into Your Existing Curriculum/Practice	1.50
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02/15/2016	Developing QI/PS Projects as Scholarly Work Products - Part I	1.50
02/23/2016	Integrating Patient Safety Topics into Your Existing Curriculum/Practice	1.50
03/21/2016	Developing QI/PS Projects as Scholarly Work Products - Part II	1.50

Sponsor: Potomac Center for Medical Education, UK, Lexington, KY

12/12/2013	Rethinking Stable Ischemic Heart Disease - Assessment, Therapeutic Decision-Making, and New Standards for Optimal Care	1.00
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Sponsor: The Kentucky AIDS Education Training Center, UK, Lexington, KY

07/08/2014	2hr. Kentucky State HIV Certification for Medical Professionals	2.00
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Other Professional Development (Non-CEU credits)

12/11/2013	<i>Strategies & Ideas for Enhancing Faculty Development Related to GME Training Programs</i>	1.00
12/02/2014	<i>Post-Doctoral Development Seminar – Leadership, UK</i>	1.00
05/12/2015	<i>Faculty Development - Promotion and Tenure Beginnings, UK</i>	1.00
03/09/2016	<i>Faculty Development Workshop – Promotion for Special Title Series</i>	1.00
04/14/2016	<i>Faculty Development Workshop - Leadership Skills</i>	1.00
04/25/2016	<i>Clinical Competency Committee: Best Practice Forum</i>	1.00
06/02/2016	<i>Alan Alda for Communication Science Workshop – Distilling Your Message</i>	5.00
06/20/2018	<i>PD/APD Training with UK IEEO Office</i>	1.00
12/10/2018	<i>How to Navigate Early and Mid-Career Positions in Academia Lessons Learned in Leadership – UK WIMS</i>	1.00
03/07/2019	<i>How to Review a Paper – David Moliterno</i>	1.00
03/07/2019	<i>2019 Quadruple Aim: The Role of the Administrator – ACC Webinar</i>	1.00

Regional

ACGME-Vanderbilt Faculty Development Course

09/2016	ACGME-Vanderbilt Faculty Development Course	22.25
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Cincinnati Children’s Hospital Medical Center

5/9-10/2018	Quality Improvement Open House	
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Kentucky American College of Cardiology

10/2013	Annual Scientific Session, Lexington, KY	7.25
10/2014	Annual Scientific Session, Lexington, KY	7.25
10/2016	Annual Scientific Session, Lexington, KY	6.5
10/2017	Annual Scientific Session, Louisville, KY	8.5
10/2018	Annual Scientific Session, Lexington, KY	8.5
10/2019	Annual Scientific Session, Lexington, KY	6

Kentucky Nuclear Medicine Technologist

10/2014	Annual Meeting, Lexington, KY	7.50
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Kentucky Regional Cardiovascular Limb Preservation Symposium: 6.0

National/International

Edwards Transcatheter Heart Valve Training (*non-CEU*)

10/2012	Initial Training, New York, NY	12.00
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04/2015	<i>Midwest Advanced TAVR Imaging Program, Chicago, IL</i>	7.00
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American College of Cardiology

03/2015	Annual Scientific Session, San Diego, CA	14.25
04/2016	Annual Scientific Session, Chicago, IL	7.00
03/2017	Annual Scientific Session, Washington, DC	9.75
03/2018	Annual Scientific Session, Orlando, FL	14.75
03/2019	Annual Scientific Session, New Orleans, LA	12.75

Association for Clinical and Translational Science

04/2013	Annual Meeting, Washington, DC	11.50
04/2014	Annual Meeting, Washington, DC	11.50

Society for Cardiovascular Magnetic Resonance

02/2012	Annual Scientific Session, Orlando FL	14.75
01/2013	Annual Scientific Session, San Francisco, CA	22.75
01/2014	Annual Scientific Session, New Orleans	17.75
02/2015	Joint ISMRM Meeting, Nice, France	10.5
02/2015	Annual Scientific Session, Nice, France	14.5
01/2016	Annual Scientific Session, Los Angeles, CA	17.5
02/2017	Annual Scientific Session, Washington, DC	18.5
01/2018	Annual Scientific Session, Barcelona, Spain	24
02/2019	Annual Scientific Session/CBCMR Review, Bellevue, WA	15.75
02/2020	Annual Scientific Session, Orlando, FL	11

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Society of Cardiovascular Computed Tomography

04/2019	Procedural Planning with Cardiovascular CT: Focus on TAVR and LAA	14.0
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Other (non-CEU in italics)

06/2013	ACC - Cardiac Computed Tomography Self-Assessment Program 2	34.50
06/2015	2014 Update in Cardiovascular Disease	10.00
06/2015	2013 Update in Cardiovascular Disease	10.00
05/13/2015	<i>ACC Webinar - Build Your Leadership Experience: Opportunities at ACC for FIT's and Early Career Members</i>	1.00
06/23/2015	<i>ACC Webinar - Key Financial Strategies for Physicians</i>	1.00
10/27/2015	<i>ACC Webinar - Compensation 101</i>	1.00
12/14/2015	<i>ACC Webinar - Contract Negotiation 101</i>	1.00
03/16/2015	<i>ACC Webinar – Three Essential Lessons for Career (Investment) Success</i>	1.00
05/18/2016	<i>Managing Patients with the CardioMEMS HF System: Putting It Into Practice</i>	1.00
06/28/2018	<i>The CCTA and FFRct Center of Excellence Program. Sponsored by: The Center for Innovation and Research in Cardiovascular Disease at Beaumont Hospital & Heartflow Inc.</i>	-
07/2019	ACC - Echo SAP	139
03/2020	ACC - 2018 Recent Advances in Clinical Nuclear Cardiology and Cardiac CT Meeting	12.25

XIII. SPEAKING ENGAGEMENTS

Local

	University of Kentucky Lexington, KY
02/04/2010	Cardiovascular Grand Rounds – Cardiac Magnetic Resonance Imaging in Acute Coronary Syndrome.
	University of Kentucky Lexington, KY
02/12/2010	Internal Medicine Grand Rounds – Cardiac Magnetic Resonance Imaging in Acute Coronary Syndrome.
	ARH, Mountain Comprehensive Health Corporation & Primary Care Centers of Eastern Kentucky Visit Lexington, KY
12/09/2012	Multimodal Cardiovascular Imaging
	Lake Cumberland Regional Hospital Visit Lexington, KY
06/20/2019	Advanced Cardiovascular Imaging

State/Regional

	Kentucky American College of Cardiology Annual Meeting Louisville, KY
10/11/2014	CMR in Aortic Disease
	Kentucky Nuclear Medicine Technologist Annual Meeting Lexington, KY
10/18/2014	Stress Cardiac MRI
	The Very Latest in Cardiovascular Medicine and Surgery Lexington, KY
04/23/2016	Frontiers in Advanced Cardiovascular Imaging
	Kentucky Regional Cardiovascular & Limb Preservation Symposium Danville, KY
04/22/2017	Advanced Imaging in Cardiac Disease
	Kentucky American College of Cardiology Annual Meeting Louisville, KY
10/07/2017	Role of Imaging in TAVR Planning
	Kentucky American College of Cardiology Annual Meeting Lexington, KY
10/12/2019	Adult Congenital Case Discussion – Severe Aortic Stenosis in L-TGA

12/03/2019 **Kentucky American College of Cardiology, Fellows-in-Training Dinner**
Louisville, KY
Advances in Cardiovascular Magnetic Resonance

National/International

03/14/2010 **American College of Cardiology**
Atlanta, GA
Case Presentation – ACC Spotlight: Clinical Challenges in Applying the Right Drug, Right Dose, Right Patient Paradigm

02/05/2011 **Society for Cardiovascular Magnetic Resonance**
Nice, France
Cases of Heart Failure from NIH and Cleveland Clinic

01/16/2014 **Society for Cardiovascular Magnetic Resonance**
New Orleans, LA
Case Review 9 – Novel Characterization of Cardiac Physiology by CMR: Too Short to Measure: Parametric Mapping in Severe Iron Overload.

02/06/2015 **Society for Cardiovascular Magnetic Resonance**
Nice, France
Case Review 7 – Potpourri Case Session: It's Complicated: Giant Left Ventricular Aneurysm, Pseudoaneurysm, and Ventricular Septal Defect.

03/14/2015 **American College of Cardiology**
San Diego, CA
Diabetology 101 - What the Cardiologist Needs to Know in Diabetes Management: Advanced Cardiovascular Imaging in Diabetes

02/06/2019 **Society for Cardiovascular Magnetic Resonance**
Bellevue, WA
CMR Certification Examination Preparatory Course: Session 4: Prepare for CMR Exam: Perform CMR Exams
Standardized Reporting Protocols and Reporting Guidelines

03/16/2019 **American College of Cardiology**
New Orleans, LA
Evaluation of Low Risk Chest Pain in the Emergency Department - Functional Imaging Evaluation for Low Risk Chest Pain

02/12/2020 **Society for Cardiovascular Magnetic Resonance**
Orlando, FL
CMR Certification Examination Preparatory Course: Session 2: Select and perform Patient-Specific Protocols
Cine Imaging

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS

A. PUBLICATIONS

Peer-Reviewed Original Research in Professional, Scientific or Educational Journals

1. Xu W, **Leung S**, Wright J, Guggino SE. Expression of Cyclic Nucleotide-Gated Cation Channels in Airway Epithelial Cells. *J Membr Biol*. 1999 Sep 15;171(2):117-26. PMID: 10489424
2. Qiu W, Lee B, Lancaster M, Xu W, **Leung S**, Guggino SE. Cyclic Nucleotide-Gated Cation Channels Mediate Sodium and Calcium Influx in Rat Colon. *Am J Physiol Cell Physiol*. 2000 Feb;278(2):C336-43. PMID: 10666029
3. Wang XT, Nagaba S, Nagaba Y, **Leung SW**, Wang J, Qiu W, Zhao PL, Guggino SE. Cardiac L-type Calcium Channel Alpha 1-subunit Is Increased by Cyclic Adenosine Monophosphate: Messenger RNA and Protein Expression in Intact Bone. *J Bone Miner Res*. 2000 Jul;15(7):1275-85. PMID: 10893676
4. Qiu W, Laheri A, **Leung S**, Guggino SE. Hormones Increase mRNA of Cyclic-nucleotide-gated Cation Channels in Airway Epithelia. *Pflugers Arch* 2000 Nov;441(1):69-77. PMID: 11205064
5. Ha HC, Juluri K, Zhou Y, **Leung S**, Hermankova M, Snyder SH. Poly(ADP-ribose) Polymerase-1 Is Required for Efficient HIV-1 Integration. *Proc Natl Acad Sci U S A* 2001 Mar 13;98(6):3364-3368. PMID: 11248084. PMCID: PMC30659
6. Zhang XM, Wang XT, Yue H, **Leung SW**, Thibodeau PH, Thomas PJ, Guggino SE. Organic Solutes Rescue the Functional Defect in $\Delta F508$ Cystic Fibrosis Transmembrane Conductance Regulator. *J Biol Chem*. 2003 Dec 19;278(51):51232-42. PMID: 14532265
7. Zhang XM, Wang XT, Cai H, **Leung SW**, Guggino SE. Characterization of Endogenous Betaine Gamma-Amino-N-Butyric Acid Cotransporter Glycoform and Its Hyperosmotic Regulation in MDCK Cells. *Pflugers Arch*. 2007 Apr;454(1):143-53. PMID: 17186307
8. **Leung SW**, Gallup D, Mahaffey KW, Cohen M, Antman EM, Goodman SG, Harrington RA, Langer A, Aylward P, Ferguson JJ, Califf RM. Smoking Status and Antithrombin Therapy in Patients with Non-ST-segment Elevation Acute Coronary Syndrome. *Am Heart J*. 2008;156(1):177-84. PMID: 18585514
9. Elayi SC, Allen CL, **Leung S**, Lusher S, Morales GX, Wiisanen M, Aikat S, Kakavand B, Shah JS, Moliterno DJ, Gurley JC. Inside-Out Access: A New Method of Lead Placement for Patients with Central Venous Occlusions. *Heart Rhythm*. 2011 Jun;8(6):851-7. PMID: 21237290
10. Selim S, Sunkara M, Salous AK, **Leung SW**, Berdyshev EV, Bailey A, Campbell CL, Charnigo R, Morris AJ, Smyth SS. Plasma levels of sphingosine 1-phosphate are strongly correlated with haematocrit, but variably restored by red blood cell transfusions. *Clin Sci (Lond)*. 2011 Dec;121(12):565-72. PMID: 21749329. PMCID: PMC3174054
11. **Leung S**, Elayi SC, Charnigo RJ, Syed MA. Clinical Significance of Right Ventricular Dysfunction in Left Ventricular Non-compaction Cardiomyopathy. *Int J Cardiovasc Imaging*. 2012 Jun;28(5):1123-31. PMID: 21792620

-- Assistant Professor --

12. Bandettini WP, Kellman P, Mancini C, Booker OJ, Vasu S, **Leung SW**, Wilson JR, Shanbhag SM, Chen MY, Arai AE. MultiContrast Enhancement (MCOE) Improves Detection of Subendocardial Myocardial Infarction by Late Gadolinium Enhancement Cardiovascular Magnetic Resonance (CMR) Imaging: A Clinical Validation Study. *J Cardiovasc Magn Reson*. 2012 Nov 30;14(1):83. PMID: 23199362. PMCID: PMC3552709
13. Chen MY, Steigner ML, **Leung SW**, Kumamaru KK, Schultz K, Mather RT, Arai AE, Rybicki FJ. Simulated 50% Radiation Dose Reduction in Coronary CT Angiography Using Adaptive Iterative Dose Reduction in Three-Dimensions (AIDR3D). *Int J Cardiovasc Imaging* 2013 Jun;29(5):1167-75. PMID: 23404384. PMCID: PMC3701132
14. Vasu S, Bandettini WP, Hsu LY, Kellman P, **Leung S**, Mancini C, Shanbhag S, Wilson J, Booker OJ, Arai AE. Regadenoson is a Better Vasodilator than Dipyridamole and Adenosine – A Study of First Pass Quantitative Perfusion Using Cardiac MRI. *J Cardiovasc Magn Reson* 2013 Sep 25;15(1)85. PMID: 24063278. PMCID: PMC3851492
15. Chen MY, Bandettini WP, Shanbhag SM, Vasu S, Booker OJ, **Leung SW**, Wilson JR, Kellman P, Hsu LY, Lederman RJ, Arai AE. Concordance and Diagnostic Accuracy of Vasodilator Stress Cardiac MRI and 320-row Coronary CTA. *Int J Cardiovasc Imaging*. 2014 Jan;30(1):109-19. PMID: 24122452. PMCID: PMC3905179
16. Whitbeck MG, Charnigo RJ, Shah J, Morales G, **Leung SW**, Fornwalt B, Bailey AL, Ziada K, Sorrell VL, Zegarra MM, Thompson J, Hosn NA, Campbell CL, Gurley J, Anaya P, Booth DC, Biase LD, Natale A, Smyth S, Moliterno DJ, Elayi CS; the AFFIRM investigators. QRS duration predicts death and hospitalization among patients with atrial fibrillation irrespective of heart failure: evidence from the AFFIRM study. *Europace*. 2014 Jun;16(6):803-11. PMID: 24368753. PMCID: PMC4305520
17. Nguyen KL, Bandettini WP, Shanbhag S, **Leung SW**, Wilson JR, Arai AE. Safety and Tolerability of Regadenoson Cardiac Magnetic Resonance. *Eur Heart J Cardiovasc Imaging*. 2014 Jul;15(7):753-60. PMID: 24451179. PMCID: PMC4060784.
18. Seratnahaei A, **Leung SW**, Charnigo RJ, Cummings MS, Sorrell VL, Smith MD. The Changing “Face” of Endocarditis in Kentucky: A Rise in Tricuspid Cases. *Am J Med*. 2014 Aug;127(8):786.e1-6. PMID: 24769025. PMCID: PMC4384329
19. Winkler MA, Hobbs SB, Charnigo RJ, Hall M, Embertson R, Daugherty MW, Brooks MA, **Leung SW**, Sorrell VL. Identification of Coronary Artery Calcification and Diagnosis of Coronary Artery Disease by Abdominal CT; A Resident Education Continuous Quality Improvement Project. *Acad Radiol*. 2015 Jun;22(6):704-7. PMID: 25579636. PMCID: PMC4428981
20. Martucci VL, Emaminia A, Del Rivero J, Lechan RM, Magoon BT, Galia A, Fojo T, **Leung S**, Lorusso R, Jimenez C, Shulkin BL, Audibert JL, Adams KT, Rosing DR, Vaidya A, Dluhy RG, Horvath KA, Pacak K. Succinate Dehydrogenase Gene Mutations in Cardiac Paragangliomas. *Am J Cardiol*. 2015 Jun 15;115(12):1753-9. PMID: 25896150. PMCID: PMC4450109
21. Ertel A, Pratt D, Kellman P, **Leung S**, Bandettini P, Long LM, Young M, Nelson C, Arai AE, Druey KM. Increased myocardial extracellular volume in active idiopathic systemic capillary leak syndrome. *J Cardiovasc Magn Reson*. 2015 Aug 27;17(1):76. PMID: 26310790. PMCID: PMC4551171
22. Stromp TA, **Leung SW**, Andres K, Jing L, Fornwalt BK, Charnigo RJ, Sorrell VL, Vandsburger MV. Gadolinium Free Cardiovascular Magnetic Resonance with 2-point Cine Balanced Steady State Free Precession. *J Cardiovasc Magn Reson*. 2015 Oct 29;17(1):90. PMID: 26520782. PMCID: PMC4628395

23. Hammer-Hansen S, Bandettini WP, Hsu LY, **Leung SW**, Shanbhag S, Mancini C, Greve AM, Kober L, Thune JJ, Kellman P, Arai AE. Mechanisms for Overestimating Acute Myocardial Infarct Size with Gadolinium Enhanced Cardiovascular Magnetic Resonance Imaging in Humans: A Quantitative and Kinetic Study. *Eur Heart J Cardiovasc Img* 2016 Jan;17(1):76-84. PMID: 25983233. PMCID: PMC4684160
24. Nguyen KL, Alam S, Tian X, Mehari A, **Leung SW**, Seamon C, Allen D, Minniti CP, Sachdev V, Arai AE, Kato GJ. Elevated Transpulmonary Gradient and Cardiac Magnetic Resonance-Derived Right Ventricular Remodeling Predict Poor Outcomes in Sickle Cell Disease. *Haematologica*. 2016;101(2):e40-3. PMID: 26589907. PMCID: PMC4938326
25. Hammer-Hansen S, **Leung SW**, Hsu LY, Wilson JR, Taylor J, Greve AM, Thune JJ, Kober L, Kellman P, Arai AE. Early Gadolinium Enhancement for Area at Risk Determination: a Preclinical Validation Study. *J Am Coll Cardiol Img* Sep 6, 2016 PMID: 27665165.
26. Kotter J, Lolay G, Charnigo R, **Leung S**, McKibbin C, Sousa M, Jimenez L, Gurley J, Di Biase L, Natale A, Smyth S, Darrat Y, Morales G, Elayi, CS. Predictors, Morbidity and Costs Associated with Pneumothorax during Electronic Cardiac Device Implantation. *Pacing Clin Electrophysiol* 2016 Sep;39(9):985-91. PMID: 27230623
27. Sinner GJ, Gupta VA, Seratnahaei A, Charnigo RJ, Darrat YH, Elayi SC, **Leung SW**, Sorrell VL. Atrioventricular Dyssynchrony from Empiric Device Settings is Common in Cardiac Resynchronization Therapy and Adversely Impacts Left Ventricular Morphology and Function. *Echocardiography*. 2017 Apr;34(4):496-503. PMID: 28247588

-- Associate Professor --

28. Tong CW, Madhur MS, Rzeszut AK, Abdalla M, Abudayyeh I, Alexanderson E, Buber J, Feldman DN, Gopinathannair R, Hira RS, Kates AM, Kessler T, **Leung SW**, Raj SR, Spatz ES, Turner MB, Valente AM, West K, Sivaram CA, Hill JA, Mann DL, Freeman AM. Status of Early-Career Academic Cardiology - A Global Perspective. *J Am Coll Cardiol*. 2017 Oct. 31:70(18):2290-2303. PMID: 29073958. PMCID: PMC5665176
29. Spear TJ, Stromp TA, **Leung SW**, Vandsburger MH. Influence of longitudinal position on the evolution of steady-state signal in cardiac cine balanced steady-state free precession imaging. *Acta Radiol Open*. 2017 Nov 21;6(11):2058460117729186. PMID: 29201434. PMCID: PMC5700791
30. Gupta VA, Sousa M, Kraitman N, Annabathula R, Vsevolozhskaya O, **Leung SW**, Sorrell VL. Coronary artery calcification predicts cardiovascular complications after sepsis. *J Crit Care*. 2018 Apr;44:261-266. PMID: 29220755
31. Gupta VA, **Leung SW**, Winkler MA, Sorrell VL. Identifying Coronary Artery Calcification on Non-gated Computed Tomography Scans. *J Vis Exp*. 2018 Aug 28;138. PMID: 30222151 PMCID: PMC6231920
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33. Shafer KM, Hira RS, Sinha SS, Pfeiffer M, Abudayyeh I, Feldman DN, **Leung S**, Damp J, Gopinathannair R, Valente AM, Sivaram CA, Freeman AM. Academic Advancement in the Current Era: Integrating and Empowering Clinician Educators. *J Am Coll Cardiol*. 2019 Feb 12;73(5):620-623. PMID: 30732717
34. Johnson N, Gold BT, Ross D, Bailey A, Clasey A, Gupta V, **Leung S**, Powell D. Non-Fasting High-Density Lipoprotein is Associated with White Matter Microstructure in Healthy Older Adults. *Frontiers in Aging Neuroscience*. *Front Aging Neurosci*. 2019 May 7;11:100. PMID: 31133843 PMCID: PMC6513892
35. AlGhuraibawi W, Stromp TA, Holtkamp RM, Lam B, Rehwald W, **Leung SW**, Vandsburger MA. CEST MRI Reveals a Correlation Between Visceral Fat Mass and Reduced Myocardial Creatine in Obese Individuals Despite Preserved Ventricular Structure and Function. *NMR Biomed*. 2019 Jul;32(7):e4104. PMID: 31094042 PMCID: PMC6581603
36. Kwong RY, Ge Y, Steel K, Bingham S, Abdullah S, Fujikura K, Wang W, Pandya A, Chen YY, Mikolich JR, Boland S, Arai AE, Bandettini WP, Shanbhag SM, Patel AR, Narang A, Farzaneh-Far A, Romer B, Heitner JF, Ho JY, Singh J, Shenoy C, Hughes A, **Leung SW**, Marji M, Gonzalez JA, Mehta S, Shah DJ, Debs D, Raman SV, Guha A, Ferrari VA, Schulz-Menger J, Hachamovitch R, Stuber M, Simonetti OP. Stress CMR Perfusion Imaging in the United States (SPINS) Study of the Society for Cardiovascular Magnetic Resonance (SCMR) Registry. *J Am Coll Cardiol* 2019;74:1741–55. PMID: 31582133 – **Editor-in-Chief's Top Pick From 2019**
37. Elayi CS, Parrott K, Etace F, Shah J, **Leung S**, Guglin M, Elayi E, Jessinger M, Ogunbayo G, Catanzaro J, Morales G, Darrat Y. Randomized Trial Comparing the Effectiveness of Internal (Through Implantable Cardioverter Defibrillator) Versus External Cardioversion of Atrial Fibrillation. *J Interv Card Electrophysiol*. 2020 Jan 11. PMID: 31927665
38. Hillerson D, Wool T, Ogunbayo GO, Sorrell VL, **Leung SW**. Incidental Coronary Artery Calcium and Stroke Risk in Patients with Atrial Fibrillation. *AJR Am J Roentgenol*. 2020 Apr 29;1-7. PMID: 32348185
39. Ge Y, Pandya A, Steel K, Bingham S, Jerosch-Herold M, Chen YY, Mikolich JR, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, Gonzalez JA, Shah DJ, Raman SV, Ferrari VA, Schulz-Menger J, Hachamovitch R, Stuber M, Simonetti OP, Kwong RY. Cost Effectiveness Analysis of Stress Cardiac Magnetic Resonance Imaging for Stable Chest Pain Syndromes. *JACC Cardiovasc Imaging*. 2020 May 8. PMID: 32417337
40. Alnabelsi TS, Gupta VA, Su LC, Thompson KL, **Leung SW**, Sorrell VL. Usefulness of Findings by Multimodality Imaging to Stratify Risk of Major Adverse Cardiac Events After Sepsis at 1 and 12 months. *Am J Cardiol*. 2020 Jun 1;125(11):1732-1737. PMID: 32291093
41. Captur G, Bhandari A, Brühl R, Ittermann B, Keenan KE, Yang Y, Eames RJ, Benedetti G, Torlasco C, Ricketts L, Boubertakh R, Fatih N, Greenwood JP, Paulis LEM, Lawton CB, Bucciarelli-Ducci C, Lamb HJ, Steeds R, **Leung SW**, Berry C, Valentin S, Flett A, de Lange C, DeCobelli F, Viallon M, Croisille P, Higgins DM, Greiser A, Pang W, Hamilton-Craig C, Strugnell WE, Dresselaers T, Barison A, Dawson D, Taylor AJ, Mongeon FP, Plein S, Messroghli D, Al-Mallah M, Grieve SM, Lombardi M, Jang J, Salerno M, Chaturvedi N, Kellman P, Bluemke DA, Nezafat R, Gatehouse P, Moon JC; T1MES Consortium. T1 Mapping Performance and Measurement Repeatability: Results from the Multi-National T1 Mapping Standardization Phantom Program (T1MES). *J Cardiovasc Magn Reson* 2020 May 7;22(1):31. PMID: 32375896 PMCID: PMC7204222

42. Gupta VA, Alnabelsi T, Shringi S, **Leung SW**, Sorrell VL. Cardiovascular Risk After Sepsis: Understanding The Role Of Statin Indications And the Impact Of Clinical Inertia On Prescribing Patterns. *J Cardiovasc Pharmacol Ther*. Accepted 5/1/2020 PMID: 32291093
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44. Ge Y, Pandya A, Steel K, Bingham S, Abdullah S, Chen YY, Mikolich JR, Arai AE, Bandettini WP, Shanbhag SM, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, Gonzalez JA, Shah DJ, Raman SV, Ferrari VA, Schulz-Menger J, Stuber M, Simonetti OP, Kwong RY. Prognostic Value of Stress CMR Perfusion Imaging in Patients With Reduced Left Ventricular Function. *JACC Cardiovasc Imaging*. 2020 Accepted 5/18/2020.
45. Antiochos P, Ge Y, Steel K, Bingham S, Abdullah S, Mikolich JR, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, Gonzalez JA, Shah DJ, Raman SV, Ferrari VA, Schulz-Menger J, Stuber M, Simonetti OP, Kwong RY. Impact of Unrecognized Myocardial Scar by Stress Cardiac Magnetic Resonance in Suspected Coronary Artery Disease. *J Am Coll Cardiol* Accepted 6/25/2020

Peer-Reviewed Case Reports in Professional, Scientific or Educational Journals

1. Thompson JJ, Wallace EL, Winkler MA, Bodiwala KN, **Leung SW**. Tearing into the Heart: Dissociation of Aortic Cusp with Rupture of Interventricular Septum. *J Am Coll Cardio* 2013 Oct 8;62(15):e143. PMID: 23954340
2. George B, Ruiz-Rodriguez E, Campbell CL, **Leung SW**, Sorrell VL. Acute myocardial injury from carbon monoxide poisoning by cardiac magnetic resonance imaging. *Eur Heart J Cardiovasc Imaging* 2014 Apr;15(4):466. PMID: 24142404; PMCID: PMC4305519
3. **Leung SW**, Gurley JC, Ziada KM, Reda HK, Smith MD, Sorrell VL. Open Wide: Transient Wide-Open Mitral Regurgitation During Transcatheter Aortic Valve Implantation. *J Am Coll Cardiol* 2014 May 6;63(17):e45. PMID: 24632285; PMCID: PMC4142192
4. Morales GX, Darrat Y, **Leung SW**, Elayi CS. Left atrial access via an unroofed coronary sinus to eliminate fast/slow atypical AVNRT: a case report. *Heart Rhythm Case Report*. 2015 Nov 1(6):457-460. PMID: 28491606 PMCID: PMC5419727
5. Bidwell K, Bradley B, Kusterer N, **Leung SW**. An atypical cause of ST elevation. *Eur Heart J Cardiovasc Imaging*. 2018 Jan 1;19(1):66. PMID: 29028994

Non-Peer-Reviewed Articles, Editorials, Reviews in Professional, Scientific or Educational Journals

1. **Leung S**, Bailey AL, Rao SV. Bleeding and Transfusion in the Setting of ACS. *Acute Coronary Syndrome* 2008;9(2):50-58
2. **Leung S**, Mukherjee D. Contemporary Management of Hypertension – How to Optimize Therapy. *Cardiovascular & Haematological Disorders – Drug Targets*. 2009;9:181-192. PMID: 19534660

3. Arai AE, **Leung S**, Kellman P. Controversies in Cardiovascular MRI: Reasons Why Imaging Myocardial T2 Has Clinical and Pathophysiological Value. *Radiology* 2012 Oct;265(1):23-32. PMID: 22993218; PMCID: PMC3447177

Books, Book Chapters, Monographs

1. **Leung SW**, Sorrell VL. Cardiovascular MRI. In: Moliterno DJ, ed. *CathSAP4*. Washington, DC: American College of Cardiology; 2013:5.7.1-5.7.9.
2. **Leung SW**, Chen MY, Sorrell VL. Cardiovascular CT. In: Moliterno D J, ed. *CathSAP4*. Washington, DC: American College of Cardiology; 2013:5.8.1-5.8.14
3. **Leung SW**, Syed MA. Ebstein's Anomaly and Other Tricuspid Valve Anomalies. In: Syed MA, Mohiaddin RH, eds. *Magnetic Resonance Imaging of Congenital Heart Disease*. London, UK: Springer-Verlag; 2012: 133-142.
4. Sorrell VL, Fornwalt BK, **Leung SW**. Echocardiography of the Right Ventricle. In: Navin C. Nanda, ed. *Comprehensive Textbook of Echocardiography*. New Dehli, India: Jaypee Brothers Medical; 2013:1134-1148.
5. **Leung SW**. Normal and Abnormal Pericardial Findings. In: Sorrell VL, Jayasuriya S, ed. *Tricks, Tips and Questions for Echocardiography Boards*. Philadelphia, PA: Lippincott Williams and Wilkins; 2014:361-365.
6. Sorrell VL, Sardana V, **Leung SW**. Right Ventricular Masses. In: Lang R, Goldstein SA, Kronzon I, Khandheria BK, Mor-Avi V, eds. *ASE's Comprehensive Echocardiography 2nd ed*. Philadelphia, PA: Elsevier; 2015:633-640.
7. **Leung SW**, Sorrell VL. Endocrine Diseases. In: Lang R, Goldstein SA, Kronzon I, Khandheria BK, Mor-Avi V, eds. *ASE's Comprehensive Echocardiography 2nd ed*. Philadelphia, PA: Elsevier; 2015:776-780.
8. **Leung SW**, Chen MY. CT: Patient Selection. In: Tilkemeier P, Hendel R, Heller G, Case JA, eds. *Quality Evaluation in Non-Invasive Cardiovascular Imaging*. Switzerland: Springer; 2016: 55-69.
9. Sorrell VL, **Leung SW**, Cao J. Cardiovascular MRI/CT. *CathSAP5 Updates*. Washington, DC. American College of Cardiology; 2019.
10. **Leung SW**. Chapters 46: Normal and Abnormal Pericardial Findings, In: Sorrell VL, Jayasuriya S, ed. *Tricks, Tips and Questions for Echocardiography Boards 2nd edition*. Philadelphia, PA: Lippincott Williams and Wilkins; 2019:391-395
11. **Leung SW**. Chapter 47: Pericardial Effusion, In: Sorrell VL, Jayasuriya S, ed. *Tricks, Tips and Questions for Echocardiography Boards 2nd edition*. Philadelphia, PA: Lippincott Williams and Wilkins; 2019:396-404.
12. **Leung SW**. Chapter 49: Echo of Normal and Diseased Aorta, In: Sorrell VL, Jayasuriya S, ed. *Tricks, Tips and Questions for Echocardiography Boards 2nd edition*. Philadelphia, PA: Lippincott Williams and Wilkins; 2019:423-428.
13. **Leung SW**. Chapter 50: Acute Aortic Syndrome. In: Sorrell VL, Jayasuriya S, ed. *Tricks, Tips and Questions for Echocardiography Boards 2nd edition*. Philadelphia, PA: Lippincott Williams and Wilkins; 2019:429-438.

14. Sinner G, **Leung SW**, Sorrell VL. Right Ventricular Masses. In: Lang R, Goldstein SA, Kronzon I, Khandheria BK, Mor-Avi V, eds. *ASE's Comprehensive Echocardiography 3rd ed.* Philadelphia, PA: Elsevier; Pending 2020
15. Alnabelsi T, **Leung SW**, Sorrell VL. Endocrine Diseases. In: Lang R, Goldstein SA, Kronzon I, Khandheria BK, Mor-Avi V, eds. *ASE's Comprehensive Echocardiography 3rd ed.* Philadelphia, PA: Elsevier; Pending 2020
16. Sorrell VL, **Leung SW**, Cao J. Cardiovascular MRI/CT. CathSAP - Collaborative Maintenance Pathway. Washington, DC. American College of Cardiology; 2020.

Letters, Book Reviews, Lay Press

1. Seratnahaei A, Sorrell VL, Powell D, Hardy PA, Spottiswoode B, **Leung SW**. Case Report: Detection of Myocardial Changes in a Patient Undergoing Chemotherapy. Magnetom Flash Issue #63 RSNA Edition, 2015: 78-79. Magnetom Flash Issue #64 SCMR Edition, 2016: 20-21.
4. Seratnahaei A, **Leung SW**, Sorrell VL, Smith MD. When in Rome (Kentucky), Do (Not) What the Romans Do. J Am Coll Cardiol. 2018 Apr 3;71(13):1494. PMID: 29598872

Electronic Media

1. Seratnahaei A, Bodiwala KN, **Leung SW**, Sorrell VL. Times They Are [A] Changin. Society for Cardiovascular Magnetic Resonance Case of the Week Number 13-14, 2013. Best Case of the Week finalist of 2013. <http://scmr.site-ym.com/?page=COW1314>
2. Kolodziej AR, Mikolaj MB, **Leung SW**, Sorrell VL. Metastatic Renal Cell Carcinoma Presenting as ST-Segment Elevation Myocardial Infarction. Society for Cardiovascular Magnetic Resonance Case of the Week Number 15-04. Best Case of the Week finalist of 2015. <http://scmr.site-ym.com/?page=COW1504>
3. SCMR Online Learning, CME Courses – Physics: Device Imaging and High Field Imaging – 11/1/2016
4. SCMR Online Learning, CME Courses – Cardiac Amyloidosis – 7/23/2017
5. SCMR Online Learning, CME Courses – Iron Overload – 7/23/2017
6. SCMR Website: Why CMR – Cardiac MRI in Right Ventricle – 10/16/2017
7. SCMR Website: Patient Information – What Are Some Common Uses of Cardiac MRI – 11/5/2017
8. SCMR Website: Why CMR – Radiation Free – 12/21/2017
9. SCMR Website: Why CMR - Devices – 12/21/2017
10. SCMR Online Learning, CME Courses – Chronic Myocardial Infarction and Viability – 2/23/2018
11. SCMR Website: Why CMR – Coronary Artery Disease – 9/21/2018
12. SCMR Online Learning, CME Courses – Viability – 10/28/2019

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

B. ABSTRACT PRESENTATIONS

Local/State/Regional Meetings

1. Oct 12th, 2013. Aznaurov S, Sardana V, **Leung SW**. The Disappearing Coronary Artery – A Rare Coronary Anomaly Discovered on Routine Cardiac CT Angiography. Kentucky ACC. Lexington, KY. Poster.
2. Aug 2014. Stromp T, **Leung SW**, Jing L, Fornwalt BK, Charnigo RJ, Sorrell VL, Vandsburger MH. Gadolinium Free 2-point Balanced SSFP MRI Correctly Identifies Cardiac Fibrosis and Edema. UK Physiology Department Research Retreat, Jabez, KY. Poster.
3. Oct 17, 2014. Stromp T, **Leung SW**, Jing L, Fornwalt BK, Sorrell VL, Charnigo RJ, Vandsburger MH. Exploiting Endogenous Magnetization Transfer Contrast in Clinical Standard MRI to Identify Cardiac Fibrosis and Edema without Gadolinium. Invited trainee talk: University of Kentucky/Gill Heart Institute 17th Annual Cardiovascular Research Day, Lexington, KY. Podium.
4. Oct 11, 2014. Stromp TA, **Leung SW**, Sorrell VL, Charnigo RJ, Vandsburger MH. Two-Point Balanced Steady State Free Precession MRI Detects Cardiac Fibrosis and Edema Without Gadolinium. American College of Cardiology—Kentucky Chapter 10th Annual Meeting and Scientific Session: Valvular Summit 2014 with Emphasis on the Left Heart, Louisville, KY. Poster.
5. Dec 11, 2014. Lolay G, **Leung SW**, Sorrell VL. Utility of Coronary Artery Calcium Scoring Prior to Appropriately Requested Coronary Computed Tomography Angiography. 2014 House Staff Quality Improvement and Safety Poster Forum. University of Kentucky, Lexington, KY. Poster.
6. Feb 21, 2015. Kaine J, Stromp T, Jing L, **Leung S**, Sorrell V, Vandsburger M. MRI of Cardiac Mechanics Reveals Normal Mechanical Function in Patients with Chronic Kidney Disease. University of Kentucky College of Medicine Alpha Omega Alpha Groves Memorial MD/PhD Student Research Symposium. Lexington, KY. Poster.
7. Sept 26, 2015. Sinner G, Gupta VA, Parrott KW, Seratnaehai A, Darrat YH, Elayi SC, **Leung SW**, Sorrell VL. 30% of Biventricular Pacemakers May Benefit From Additional AV Optimization. Kentucky Chapter 11th Annual Meeting and Scientific Session: Lexington, KY. Poster.
8. Sept 26, 2015. Sinner G, Seratnaehai A, Parrott KW, Gupta VA, Darrat YH, Elayi SC, **Leung SW**, Sorrell VL. Real-World Comparison of Hemodynamic Response and Reverse Remodeling in Patients Who Meet Class I and IIa Indications for CRT. Kentucky Chapter 11th Annual Meeting and Scientific Session: Lexington, KY. Poster.
9. Sept 26, 2015. Bradley B, Aboul-Hosn N, Fisher MB, Bailey AL, **Leung SW**. Left Ventricular Wall Sarcoma Masquerading as Acute Myocardial Infarction. Kentucky Chapter 11th Annual Meeting and Scientific Session: Lexington, KY. Poster.
10. Sept 26, 2015. Seratnaehai A, Mikolaj M, Nickerson A, Sorrell VL, **Leung SW**. Cardiovascular MR – A Non-Invasive Approach for Cardiac Amyloid Diagnosis. Kentucky Chapter 11th Annual Meeting and Scientific Session: Lexington, KY. Poster.

11. Oct 2, 2015. Stromp TA, Kaine JC, Andres KN, **Leung SW**, Sorrell VL, Vandsburger MH. Identifying Cardiac Remodeling in Patients with End Stage Renal Disease: A Non-Contrast MRI Study. 18th Annual Gill Heart Institute Cardiovascular Research Day. Lexington, KY. Poster.
12. Oct 2, 2015. Kaine J, Stromp T, Jing L, **Leung S**, Sorrell V, Vandsburger M. Chronic Kidney Disease Patients Found to Have Near Normal Cardiac Mechanics Using Standard cardiac CINE MRI. 18th Annual Gill Cardiovascular Research Day. Lexington, KY. Poster.
13. Oct 2, 2015. Andres K, Stromp T, Spear T, **Leung S**, Sorrell V, Vandsburger M. Non-contrast Cardiac Magnetic Resonance Imaging of Myocardial Fibrosis in Type 2 Diabetes Mellitus. 18th Annual Gill Cardiovascular Research Day. Lexington, KY. Poster.
14. Jun 8, 2016. Sinner GJ, **Leung SW**, Wells GL, Kotter JR, Nadig V, Smith MD, Sorrell VL. The Value of Transthoracic Echocardiography (VOTE) Today! House Staff 2016 Quality and Patient Safety Poster Forum. Lexington, KY, e-Poster.
15. Oct 8, 2016. Annabathula R, Gupta VA, Sousa MJ, Kraitman N, Wingerter KE, Jesinger ME, Charnigo RJ, **Leung SW**, Sorrell VL. Reduced Mortality in Sepsis-Related Troponin Elevation with Statin and Beta Adrenergic Blockade. Kentucky Chapter 12th Annual Meeting and Scientific Session: Lexington, KY. Oral (2nd place Young Investigator's Award)
16. Oct 8, 2016. Bradley BE, Fenwick A, **Leung SW**. Recurrent Septic Emboli Following Atrial Fibrillation Ablation. Kentucky Chapter 12th Annual Meeting and Scientific Session: Lexington, KY. Poster.
17. Oct 8, 2016. Sousa MJ, Gupta VA, Jesinger ME, Kraitman N, Wingerter KE, Charnigo RJ, **Leung SW**, Sorrell VL. Troponin elevation is more predictive than clinical risk scores alone in predicting mortality in septic patients with Type II NSTEMI. Kentucky Chapter 12th Annual Meeting and Scientific Session: Lexington, KY. Poster.
18. Oct 8, 2016. Sousa MJ, Gupta VA, Jesinger ME, Kraitman N, Wingerter KE, Charnigo RJ, **Leung SW**, Sorrell VL. The pattern of troponin release in sepsis-related type II myocardial infarction predicts mortality. Kentucky Chapter 12th Annual Meeting and Scientific Session: Lexington, KY. Poster.
19. Oct 7, 2017. Annabathula R, Sousa MJ, Gupta VA, Kraitman N, Charnigo RJ, **Leung SW**, Sorrell VL. Coronary Artery Calcification Predicts Cardiovascular Complications After Sepsis. Kentucky Chapter 13th Annual Meeting and Scientific Session: Louisville, KY. Poster.
20. Oct 7, 2017. Bidwell K, Suffredini JM, **Leung SW**. All That Elevates Is Not STEMI. Kentucky Chapter 13th Annual Meeting and Scientific Session: Louisville, KY. Poster.
21. Oct 13, 2018. Sousa MJ, Thompson R, **Leung SW**, Sorrell VL, Gupta VA. Coronary Artery Calcification As a Risk Stratification Tool for Intermediate Risk Surgical Procedures. Kentucky Chapter 14th Annual Meeting and Scientific Session: Lexington, KY. Poster
22. Oct 13, 2018. Harrell J, Sorrell VL, Leventhal A, **Leung SW**, Gupta VA, Ramachandran P. An Unusual Cause of a Dilated Cardiomyopathy with Profound Consequences for a Correct Diagnosis: Advanced Cardiac Imaging to the Rescue. Kentucky Chapter 14th Annual Meeting and Scientific Session: Lexington, KY. Poster
23. Oct 12, 2019. Sinner G, Goodwin E, Klinger S, **Leung SW**, Kotter J, Smith MD. Prioritizing Echocardiogram Orders: Discordance Between Ordering Providers and Echocardiographers. Kentucky Chapter 15th Annual Meeting and Scientific Session: Lexington, KY. Poster

24. Oct 12, 2019. Ratajczak T, Shelton J, Abusnina W, Elayi CS, **Leung SW**. It's Not What You Think. Non-Scar Mediated VT Identified on CMR. Kentucky Chapter 15th Annual Meeting and Scientific Session: Lexington, KY. Poster
25. Oct 12, 2019. Abusnina W, Ratajczak T, Ramachandran P, **Leung SW**. Role of Cardiac Magnetic Resonance in Assessing Myocardial Infarction with Non-Obstructive Coronary Arteries in a Young Patient. Kentucky Chapter 15th Annual Meeting and Scientific Session: Lexington, KY. Poster

National/International Meetings

1. Oct. 7-10, 1999. Wang XT, **Leung SW**, Guggino SE. Organic Solutes Repair the Processing Defect of the $\Delta F508$ CFTR Protein. 13th Annual North American Cystic Fibrosis Conference, Seattle, WA. Poster.
2. Apr. 29-May 1, 2009. Selim S, **Leung SW**, Dasgupta A, Haughton M, Caicedo J, Bailey AL, Campbell CL, Smyth SS, Morris AJ. Plasma levels of the bioactive lipid mediator sphingosine-1-phosphate correlate with hematocrit, but are variably affected by red blood cell transfusion. Arteriosclerosis, Thrombosis, and Vascular Biology Conference, Washington, DC. Poster.
3. Oct. 3-5, 2010. **Leung SW**, Elayi CS, Charnigo RJ, Syed MA. Clinical Significance of Right Ventricular Dysfunction in Left Ventricular Non-Compaction Cardiomyopathy. North American Society of Cardiac Imaging 38th Conference, Seattle, WA. Poster. 2nd place Abstract Award
4. Nov. 13-17, 2010. Allen CL, Elayi CS, **Leung SW**, Aikat S, Wiisanen ME, Morales GX, Kakavand B, Shah JS, Moliterno DJ, Gurley JC. Inside-Out Access: A New Method of Lead Placement for Patients with Central Venous Occlusions. American Heart Association, Chicago, IL. Poster. Circulation, 2010;122:21 A15458.
5. Feb. 3-6, 2011. Vasu S, Bandettini WP, Hsu LY, Kellman P, Wilson JR, **Leung SW**, Shanbhag SM, Booker OJ, Mancini C, Henry J, Lowrey T, Arai AE. Optimal Timing of Rest Perfusion with Regadenoson Stress Testing - Normal Volunteer Study of Quantitative MRI Perfusion. Society for Cardiovascular Magnetic Resonance, Nice, France. Poster. J Cardiovasc Magn Reson. 2011;13(Suppl 1):P128.
6. Feb. 3-6, 2011. Vasu S, Bandettini WP, Hsu LY, Kellman P, Chen MY, Wilson JR, **Leung SW**, Shanbhag SM, Booker OJ, Mancini C, Henry J, Lowrey T, Arai AE. Regadenoson Is a Better Myocardial Vasodilator Than Dipyridamole in Normal Volunteers, But the Data Is Less Compelling in Patients. Society for Cardiovascular Magnetic Resonance, Nice, France. Poster. J Cardiovasc Magn Reson. 2011;13(Suppl 1):P124.
7. Feb. 3-6, 2011. Vasu S, Bandettini WP, Hsu LY, Kellman P, Chen MY, Wilson JR, **Leung SW**, Shanbhag SM, Booker OJ, Mancini C, Henry J, Lowrey T, Arai AE. Impaired coronary vasodilation with Regadenoson in patients with angiographically normal coronaries when compared to normal volunteers - Insights from Quantitative MRI Perfusion. Society for Cardiovascular Magnetic Resonance, Nice, France. Podium. J Cardiovasc Magn Reson. 2011;13(Suppl 1):O66.
8. Feb. 3-6, 2011. Booker OJ, Bandettini WP, Mancini C, Kellman P, Wilson JR, **Leung SW**, Vasu S, Henry J, Lowrey T, Arai AE. Time Resolved Measure of Coronary Sinus Flow Following Regadenoson Administration. Society for Cardiovascular Magnetic Resonance, Nice, France. Podium. J Cardiovasc Magn Reson. 2011;13(Suppl 1):O74.
9. Feb. 3-6, 2011. Syed MA, **Leung SW**, Elayi CS, Charnigo RJ. CMR of LV non-compaction cardiomyopathy: association of clinical presentation and prognosis with cardiac phenotype. Society for

Cardiovascular Magnetic Resonance, Nice, France. Poster. J Cardiovasc Magn Reson. 2011;13(Suppl 1):P291.

10. Apr. 2-5, 2011. Seratnahaei A, Cummings MS, **Leung SW**, Schumaker S, Smith MD. Infective Endocarditis: A Plague for the 21st Century? American College of Cardiology, New Orleans, LA. Poster. J Am Coll Cardiol. 2011; 57(14s1):E1390-E1390.
11. May 7-13, 2011. Bandettini WP, Kellman P, Mancini C, Booker OJ, Vasu S, **Leung SW**, Wilson JR, Vincent P, Shanbhag SM, Chen MY, Arai AE. MultiContrast Delayed Enhancement (MCOE) Improves Interpretation of Cardiac MRI Delayed Enhancement: A Clinical Validation Study. International Society of Magnetic Resonance in Medicine, Montreal, Canada. Poster.
12. Jul. 14-15, 2011. Chen MY, **Leung SW**, Shanbhag SM, Vasu S, OJ Booker, Wilson JR, Bandettini WP, Arai AE. Low-Dose Radiation Exposure with High Diagnostic Quality using 320-slice Cardiac CT Angiography in 564 Consecutive Exams. Society of Cardiovascular Computed Tomography, Denver, CO. Poster. J Cardiovasc Comput Tomogr. 2011;5(4):S24.
13. Sept. 24-27, 2011. Emaminia A, **Leung SW**, Chen MY, Bandettini WP, Javan R, Arai AE, Horvath KA. Cardiac Paragangliomas as Seen on Cardiac Magnetic Resonance Imaging. North American Society of Cardiovascular Imaging 39th Conference, Baltimore, MD. Poster. J Cardiovasc Comput Tomogr. 2011;5(4):S24.
14. Nov. 12-16, 2011. **Leung SW**, Hsu LY, Berry C, Wilson JR, Kellman P, Arai AE. Early Gadolinium Enhancement Represents Area at Risk Not Infarct Size: Timing and Kinetics are Critical in Interpreting MRI of Acute Myocardial Infarction. American Heart Association, Orlando, FL. Podium. Circulation 2011;124:A16686.
15. Nov. 12-16, 2011. Chen MY, Bandettini WP, Shanbhag SM, Vasu S, Booker OJ, **Leung SW**, Wilson JR, Kellman P, Hsu LY, Arai AE. Prognostic Value and Accuracy of Vasodilator Stress Cardiac MRI and 320-Row Coronary CTA. American Heart Association, Orlando, FL. Poster. Circulation. 2011;124:21 A15490.
16. Feb. 1-5, 2012. **Leung SW**, Ugander M, Kellman P, Arai AE, Druey KM. Evaluation of Systemic Capillary Leak Syndrome with Cardiac Magnetic Resonance Imaging. Society for Cardiovascular Magnetic Resonance, Orlando, FL. Podium. J Cardiovasc Magn Reson. 2012;14(Suppl 1):O26.

-- Assistant Professor --

17. July 19-22, 2012. Chen MY, **Leung SW**, Shanbhag SM, Mather RT, Arai AE. Iterative Reconstruction Combined with Automated Dose Selection and Appropriate Scan Coverage Dramatically Reduces Radiation Exposure for Coronary CTA. Society of Cardiovascular Computed Tomography, Baltimore, MD. Poster. J Cardiovasc Comput Tomogr. 2012;6(4):S48.
18. Nov. 3-7, 2012. Nguyen KL, Bandettini WP, Shanbhag SM, **Leung SW**, Wilson JR, Arai AE, Safety and Tolerability of Regadenoson Stress CMR. American Heart Association, Los Angeles, CA. Poster. Circulation. 2012;126:21 A17636.
19. Dec 8-11, 2012. Nguyen KL, Alam S, Tian X, **Leung SL**, Seamon C, Minniti CP, Taylor VI JG, Sachdev V, Arai AE, Kato GJ. Increased Transpulmonary Gradient Predicts Functional Class, Mortality, and RV Dysfunction by MRI in Patients with Sickle Cell Associated Pulmonary Hypertension. American Society of Hematology. Atlanta, GA. Podium. Blood 2012;120(21):89.
20. Jan 31-Feb 3, 2013. Nguyen KL, Alam S, Tian X, **Leung SL**, Seamon C, Minniti CP, Taylor VI JG, Sachdev V, Arai AE, Kato GJ. Right Ventricular Dysfunction by MRI is Associated with Elevated

Transpulmonary Gradient and Poor Prognosis in Patients with Sick Cell Associated Pulmonary Hypertension. Society for Cardiovascular Magnetic Resonance, San Francisco, CA. Podium. J Cardiovasc Magn Reson. 2013;15(Suppl 1):O43.

21. Feb 27-Mar 1, 2013. Nguyen KL, Alam S, Tian X, **Leung SL**, Seamon C, Minniti CP, Taylor VI JG, Sachdev V, Arai AE, Kato GJ. Increased Transpulmonary Gradient in Patients with Sick Cell Associated Pulmonary Hypertension Predicts Poor Prognosis and is Associated with Right Ventricular Dysfunction by MRI. 5th World Symposium on Pulmonary Hypertension, Nice, France. Poster.
22. June 15-18, 2013. Del Rivero J, Emaminia A, Galia AM, **Leung SW**, Lorusso R, Jimenez C, Shulkin BL, Audibert JL, Adams KT, Rosing D, Fojo A, Vaidya A, Loughran EG, Dluhy RG, Horvath KA, Pacak K. Cardiac Paragangliomas are Commonly Associated with Succinate Dehydrogenase Gene Mutations. The Endocrine Society's 95th Annual Meeting, San Francisco, CA. Poster. Endocrine Review 2013;34(3):Suppl,SUN-136.
23. July 11-14, 2013. von Hermann P, Kramer S, Brooks MA, **Leung S**, Zagurovskaya M, Sorrell VL, Winkler MA. CT of Mechanical Circulatory Support Devices: A Pictorial Review. Society of Cardiovascular Computed Tomography, Montreal, Canada. Poster. J Cardiovasc Comput Tomogr. 2013;7(3):S65.
24. July 11-14, 2013. Shanbhag SM, **Leung SW**, Arai AE, Chen MY. Adaptive Iterative Dose Reduction in 3-Dimensions (AIDR3D) Allows Diagnostic Image Quality with 80% Less Radiation in Dose Modulated Coronary CTA Exams. Society of Cardiovascular Computed Tomography, Montreal, Canada. Poster. J Cardiovasc Comput Tomogr. 2013;7(3):S52.
25. Jan 16-19, 2014. Sardana V, Wallace EL, White MS, Seratnahaei A, **Leung SW**. Right Ventricular Infarction Post-Alcohol Septal Ablation in Hypertrophic Cardiomyopathy: New Questions and Challenges. Society for Cardiovascular Magnetic Resonance, New Orleans, LA. Podium.
26. Jan 16-19, 2014. Hammer-Hansen S, Hsu LY, **Leung SW**, Taylor J, Ugander M, Arai AE. Severity of Blood Flow Reduction Associated with Detectable T2 Enhancement in the Area at Risk of a Reperfused Canine Model of Acute Myocardial Infarction. Society for Cardiovascular Magnetic Resonance, New Orleans, LA. Electronic Poster. J Cardiovasc Magn Reson. 2014;16(Suppl 1):M10.
27. May 10-16, 2014. Hardy PA, Sardana V, Spottiswoode B, Sorrell VL, **Leung SW**. Distortion of MOLLI Estimates of Myocardial T1 from Fatty Infiltration. International Society of Magnetic Resonance in Medicine. Milan, Italy. Poster.
28. May 10-16, 2014. **Leung SW**, Sorrell VL, Lawless R, Vandsburger M. Non-Contrast Myocardial Fibrosis Imaging Using MT-weighted Balanced Steady State Free Precession MRI. International Society of Magnetic Resonance in Medicine. Milan, Italy. Electronic Poster.
29. Mar 29-31, 2014. Aznaurov S, Wilson RE, Kusterer N, **Leung SW**, Elayi CS. The Use of Cardiac Magnetic Resonance Imaging to Identify Candidates for Primary Prevention Implantable Cardioverter-Defibrillator. American College of Cardiology. Washington, DC. Poster. J Am Coll Cardiol. 2014; 63(12_S) A385.
30. Jun 20-24, 2014. Seratnahaei A, **Leung SW**, Charnigo RJ, Cummings MS, Sorrell VL, Smith MD. The Changing "Face" of Endocarditis: A Rise in Tricuspid Cases. American Society of Echocardiography. Portland, OR. Poster. J Am Soc Echocardiogr. 2014;27(6):B18.
31. Nov 15-19, 2014. Stromp TA, **Leung SW**, Jing L, Fornwalt BK, Sorrell VL, Vandsburger MH. Clinical Gadolinium-Free Magnetic Resonance Imaging with Magnetization Transfer Contrast Detects Cardiac

Fibrosis with High Sensitivity and Specificity Compared to Late Gadolinium Enhanced Imaging. American Heart Association. Chicago, IL. Poster. Circulation. 2014;130:A11915.

32. March 14-16, 2015. Hammer-Hansen S, Bandettini WP, Hsu LY, **Leung SW**, Shanbhag S, Mancini C, Greve A, Kober L, Thune JJ, Kellman P, Arai AE. Early Gadolinium Enhancement Overestimates Human Infarct Size in Acute Myocardial Infarction: A Quantitative and Kinetic Study. American College of Cardiology. San Diego, CA. Poster. J Am Coll Cardiol. 2015; 65(10_S).
33. Nov 8-10, 2015. Asfour A, **Leung S**, Mathbout MF, Klyachkin YM, Abdel-Latif A, Ziada K. NT-proBNP Predicts Myocardial Damage and Correlates With Stem Cell Mobilization in Patients With ST-Elevation Myocardial Infarction. American Heart Association, Chicago, IL. Poster. Circulation. 2015; 132:A17995.
34. May 30-Jun 5, 2015. Stromp TA, **Leung SW**, Sorrell VL, Vandsburger MH. Non-contrast Characterization of Interstitial Cardiac remodeling in Chronic Kidney Disease Patients. International Society of Magnetic Resonance in Medicine. Toronto, Canada. Poster.
35. May 30-Jun 5, 2015. Lawless RD, **Leung SW**, Stromp TA, Thompson K, Vandsburger MH. Myocardial Tissue Characterization from cine bSSFP Signal Waveforms and Longitudinal Shortening Identifies Edematous and Fibrotic Myocardium in Agreement with Gadolinium Enhanced Imaging. International Society of Magnetic Resonance in Medicine. Toronto, Canada. Poster.
36. Jan 27-30, 2016. Jesinger M, Sorrell VL, **Leung SW**. LV Wall Motion Assessment During Regadenoson Vasodilator Stress CMR. Society for Cardiovascular Magnetic Resonance, Los Angeles, CA. Poster. J Cardiovasc Magn Reson. 2016;18(Suppl 1):P81
37. Jan 27-30, 2016. Nickerson A, **Leung SW**, Sorrell VL. Stress CMR in a device patient; a viable option? Society for Cardiovascular Magnetic Resonance, Los Angeles, CA. Podium.
38. Jan 27-30, 2016. Seratnaehai A, Mikolaj M, Nickerson A, Sardana V, **Leung SW**, Brooks MA, Sorrell VL. An extremely rare congenital cardiomyopathy presenting in an adult (<15 reported cases): "Apical Hypotrophy". Society for Cardiovascular Magnetic Resonance, Los Angeles, CA. Podium.
39. Jan 27-30, 2016. Stromp TA, Kaine JC, Andres KA, Jing L, Fornwalt BK, **Leung SW**, Sorrell VL, Vandsburger MA. Non-contrast Cardiac MRI for Tissue Characterization in Patients with End-Stage Renal Disease. Society for Cardiovascular Magnetic Resonance, Los Angeles, CA. Poster. J Cardiovasc Magn Reson. 2016;18(Suppl 1):P241.
40. Apr 2-4, 2016. Sinner G, Gupta V, Seratnaehai A, Parrott K, Charnigo RJ, Darrat Y, Elayi CS, **Leung SW**, Sorrell VL. 35% Of Empiric Atrioventricular Delay Settings May Benefit From Additional Optimization. American College of Cardiology, Chicago, IL. Poster. J Am Coll Cardiol. 2016; 67(13_S):780.
41. Apr 2-4, 2016. Sinner G, Gupta V, Seratnaehai A, Parrott K, Charnigo RJ, Darrat Y, Elayi CS, **Leung SW**, Sorrell VL. Do Patients Who Meet Class IIa Indications For Cardiac Resynchronization Therapy Attain A Therapeutic Benefit? American College of Cardiology, Chicago, IL. Poster. J Am Coll Cardiol. 2016; 67(13_S):1490.
42. May 7-13, 2016. Spear TJ, Stromp TA, **Leung SW**, Vandsburger MH. Comparing the impact of through-plane motion during the cardiac cycle on steady state signal evolution in cine 2D and 3D balanced steady state free precession. International Society of Magnetic Resonance in Medicine. Singapore. Poster.

43. May 7-13, 2016. Stromp TA, Kaine JC, Spear TJ, Andres KN, Fornwalt BK, Sorrell VL, **Leung SW**, Vandsburger MH. Cardiac Tissue Characterization in End Stage Renal Disease Patients with Non-Contrast MRI and Myocardial Mechanics. International Society of Magnetic Resonance in Medicine. Singapore. Poster.
44. Nov 12-16, 2016. Stromp TA, Spear TJ, Kidney RM, Andres KN, Kaine JC, Charnigo RJ, **Leung SW**, Sorrell VL, Vandsburger MH. Differentiating Cardiac Fibrosis From Hypertrophy in Chronic Kidney Disease Hemodialysis Patients Using Gadolinium-Free Imaging and Biomarkers of Extracellular Matrix Turnover. American Heart Association, New Orleans, LA. Poster. Circulation. 2016;134:A11276
45. Feb 1-4, 2017. Gupta V, Sorrell VL, Brooks, MA, **Leung SW**. Fatty RV...Thinking beyond ARVC. Society for Cardiovascular Magnetic Resonance, Washington, DC. Poster.
46. Mar 17-19, 2017. Tong C, Freeman A, Valente AM, Hira R, **Leung S**, Buber Y, Feldman D, Abudayyeh I, Madhur M, Spatz ES, Gopinathannair R, Abdallah M, Hill J, Kates A, Mann D, Sivaram CA. Status of Early Career Academic Cardiology, A Global Perspective. American College of Cardiology, Washington, DC. Poster.

-- Associate Professor --

47. Sep 13-16, 2017. AlGhuraibawi W, Stromp TA, Kidney RM, **Leung SW**, Vandsburger MA. Cardiac Chemical Exchange Saturation Transfer MRI Reveals Reduced Myocardial Creatine in Obese Individuals despite Preserved Ejection Fraction. World Molecular Imaging Congress, Philadelphia, PA. Podium.
48. Nov 11-15, 2017. AlGhuraibawi W, Kidney R, **Leung S**, Stromp T, Vandsburger M. Myocardial Creatine is Reduced in Obese Adults Despite Preserved Ejection Fraction and Global Longitudinal Shortening: A Cardiac Chemical Exchange Saturation Transfer MRI Study. American Heart Association, Anaheim, CA. Poster. Circulation 2017;136:A16962
49. Mar 9-12, 2018. Rutland JJ, Ayoub K, Ogunbayo G, Marji M, **Leung S**, Elayi S. CHADS-VASc To Predict Readmission to Predict Readmission with New-onset Atrial Fibrillation, Atrial Flutter, or Acute CVA. American College of Cardiology, Orlando, FL. J Am Coll Cardiol. 2018; 71(11 Supplement):A511.
50. Jun 22-26, 2018. Alnabelsi T, Annabathula R, Gupta VA, Sousa M, Vsevolozhskaya O, **Leung SW**, Sorrell VL. Echo Combined with Conventional Chest CT Predicts MACE in Septic Patients Better than Echo or CT Alone. American Society for Echocardiography, Nashville, NT. Poster.
51. Aug 25-29, 2018. **SPINS Study Investigator Group**. The Clinical Impact of Stress CMR Perfusion Imaging in the United States (SPINS): An SCMR Registry Study. European Society of Cardiology. Late Breaking Trial (Registry). Munich, Germany. Podium.
52. Nov 10-12, 2018. **SPINS Study Investigator Group**. The Clinical Impact of Stress CMR Perfusion Imaging in the United States (SPINS): An SCMR Registry Study. American Heart Association, Chicago, IL. Circulation 2018;138:A15179
53. Feb. 7-9, 2019. Hurley P, **Leung SW**, Gupta VA, Sorrell VL. Coronary Steal As Demonstrated by Regadenoson Stress Cardiac MRI Causing Myocardial Injury. Society for Cardiovascular Magnetic Resonance, Bellevue, WA. Podium.
54. Mar 15-18, 2019. Hillerson D, Wool T, Ogunbayo GO, **Leung SW**. Coronary Artery Calcium on Computed Tomography as an Adjunct to the CHADS2-VASc Stroke Risk Score in Patients with Atrial Fibrillation. American College of Cardiology, New Orleans, LA. Poster. J Am Coll Cardiol. 2019; 73(9 Supplement 1):1471.

55. Mar 15-18, 2019. May L, Parks A, Paranzino M, Mullis A, Kusterer N, **Leung S**, Sorrell V, Gupta V. Fourth Versus Fifth Generation Troponin in the Prediction of In-Hospital Mortality. American College of Cardiology, New Orleans, LA. Poster. J Am Coll Cardiol. 2019; 73(9 Supplement 1):104.
56. Mar 15-18, 2019. Ge Y, Steel K, Abdullah S, Bingham S, Mikolich JR, Heitner J, Arai A, Bandettini WP, Patel A, Farzaneh-Far A, Raman S, Shenoy C, Gonzalez J, **Leung S**, Shah D, Ferrari V, Schulz-Menger J, Hachamovitch, Stuber M, Simonetti O, Kwong R. Stress CMR in Abnormal LVEF: Clinical Impact and Cost Effectiveness. American College of Cardiology, New Orleans, LA. Poster. J Am Coll Cardiol. 2019; 73(9 Supplement 1):1431.
57. Nov. 14-16, 2019. Antiochos P, Ge Y, Seno A, Steel K, Shuaib A, Bingham SE, Mikolich JR, Heitner JF, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Raman SV, Shenoy C, Gonzalez J, **Leung SW**, Shah DJ, Ferrari VA, Schulz-Menger J, Hachamovitch R, Stuber M, Simonetti O, Kwong R. Stress Cardiac Magnetic Resonance Imaging Provides Incremental Prognostic Value in Patients With Suspected Stable Coronary Artery Disease: Results From the Multicenter Spins Trial. American Heart Association, Philadelphia, PA. Poster. Circulation 2019;140:A11510.
58. Feb 12-15, 2020. Abusnina W, Ratajczak T, Ramachandran P, **Leung SW**. CMR to the Rescue in Rare Diagnosis of Myocardial Infarction with Non-obstructive Coronary Arteries (MINOCA) in a Pediatric Patient. Society for Cardiovascular Magnetic Resonance, Orlando, FL. Poster.
59. Feb 12-15, 2020. Ratajczak T, Shelton J, Abusnina W, Elayi CS, **Leung SW**. It's Not What You Think. Non-scar mediated VT Identified on CMR. Society for Cardiovascular Magnetic Resonance, Orlando, FL. Poster.
60. Feb 12-15, 2020. Antiochos P, Ge Y, Steel K, Shuaib A, Bingham SE, Mikolich JR, Heitner JF, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Raman SV, Shenoy C, Gonzalez J, **Leung SW**, Shah DJ, Ferrari VA, Schulz-Menger J, Stuber M, Simonetti O, Kwong R. Prognostic Value of Unrecognized MI in Patients with Stable Chest Pain Syndromes: Results from the multicenter SCMR Registry Stress CMR Perfusion Imaging in the United States (SPINS) Study. Society of Cardiovascular Magnetic Resonance, Orlando, FL. Podium.
61. Feb 12-15, 2020. Antiochos P, Ge Y, Steel K, Shuaib A, Bingham SE, Mikolich JR, Heitner JF, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Raman SV, Shenoy C, Gonzalez J, **Leung SW**, Shah DJ, Ferrari VA, Schulz-Menger J, Stuber M, Simonetti O, Kwong R. Murthy VL. Stress Cardiac Magnetic Resonance Provides Effective Reclassification In Patients with Suspected Coronary Artery Disease: Results from the multicenter SCMR Stress CMR Imaging in the US (SPINS) Study. Society of Cardiovascular Magnetic Resonance, Orlando, FL. Podium.
62. Mar 28-30, 2020. Antiochos P, Ge Y, Steel K, Bingham SE, Shuaib A, Mikolich JR, Bandettini WP, Arai AE, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, Gonzalez J, Shah DJ, Raman SV, Ferrari VA, Schulz-Menger J, Stuber M, Simonetti O, Kwong R. Impact of Unrecognized Myocardial Scar Detected by Cardiac Magnetic Resonance Imaging in Patients Presenting with Symptoms of Coronary Artery Disease. American College of Cardiology, Orlando, FL. Podium. J Am Coll Cardiol. 2020; 75(11 Supplement 1):2652. (ACC Meeting Canceled due to Coronavirus Outbreak)
63. Mar 28-30, 2020. Viquez Beita K, Sinner G, Alnabelsi T, **Leung SW**. Outcomes of Infective Endocarditis in Pregnancy. American College of Cardiology, Chicago, IL. Poster. J Am Coll Cardiol. 2020; 75(11 Supplement 1):2125. (ACC Meeting Cancelled due to Coronavirus Outbreak)

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

C. SPONSORED RESEARCH PROJECTS, GRANT & CONTRACT ACTIVITIES

Active - None

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

C. SPONSORED RESEARCH PROJECTS, GRANT & CONTRACT ACTIVITIES – *continued*

Inactive

Project Title: Organic Solutes Repair the Processing Defect of the DF508 CFTR Protein
Principal Investigator(s): Sandra Guggino, PhD.
Role in Project: Research Assistant
Institution/University: Johns Hopkins University
Source of Funding: Intramural, Provost Award for Research
Duration of Project: 05/1999-08/1999
Total Award: \$2,500

Project Title: Organic Solutes Repair the Processing Defect of the Δ F508 CFTR Protein
Principal Investigator(s): Sandra Guggino, PhD
Role in Project: Research Assistant
Institution/University: Johns Hopkins University
Source of Funding: Extramural, Cystic Fibrosis Foundation Student Research Trainee Grant
Duration of Project: 10/1999-08/2000
Total Award: \$1,500

Project Title: Characterization of Fe-ATPase Transporter
Principal Investigator(s): Christopher Ferris, MD PhD
Role in Project: Research Assistant
Institution/University: Vanderbilt University
Source of Funding: Intramural, Summer Fellowship with Diabetes Research and Training Center
Duration of Project: 05/2001-08/2001
Total Award: \$3,000

Project Title: Differentiating Athlete's Heart and Hypertrophic Cardiomyopathy with Cardiac MRI
Project Number: 2013-1077
Principal Investigator(s): Steve Leung, MD
Role in Project: Scholar
Effort: 75 %
Institution/University: University of Kentucky
Source of Funding: Intramural, KL2 Research Scholar Award
Duration of Project: 02/2013-01/2015
Total Award: \$224,000
Grant Number: 5KL2TR000116-03

Project Title: High-resolution magnetization transfer weighted cardiac MRI of myocardial fibrosis using endogenous contrast mechanisms.
Project Number: 14CRP20380071
Principal Investigator(s): Moriel Vandsburger, PhD
Role in Project: Co-Investigator
Effort: 5%
Institution/University: University of Kentucky
Source of Funding: Extramural, American Heart Association Mentored Clinical and Population Research Grant
Duration of Project: 07/2014-06/2016
Total Award: \$154,000

Grant Number:	14CRP20380071
Project Title:	Novel MRI Techniques for Imaging Cardiac Fibrosis to Improve Clinical Practice in Patients with Renal Failure.
Project Number:	R01-HL128592-01
Principal Investigator(s):	Moriel Vandsburger, PhD
Role in Project:	Co-Investigator
Effort:	10 %
Institution/University:	University of Kentucky
Source of Funding:	Extramural, NHLBI Research Grant
Duration of Project:	08/2015-04/2020 (Terminated 6/2017 when Dr. Vandsburger moved to Berkeley)
Total Award:	\$1,881,250
Grant Number:	1R01HL128592-01
Project Title:	Global CMR Registry Stress Perfusion Substudy (SPINS trial)
Project Number:	17-0401-P1G
Principal Investigator(s):	Raymond Kwong, MD
Role in Project:	Site Primary Investigator
Date Started:	07/2017
Date To Be Completed:	05/2018
Institution/University:	University of Kentucky

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

D. NON-SPONSORED RESEARCH PROJECTS

Active

Project Title: Advanced Cardiac MR Imaging
Project Number: 12-0795-F3R
Principal Investigator(s): Steve Leung, MD
Role in Project: Principal Investigator
Date Started: 09/2012
Date To Be Completed: 10/2023
Institution/University: University of Kentucky

Project Title: Global CMR Registry (GCMR)
Project Number: 16-0501-P2H
Principal Investigator(s): Raymond Kwong, MD
Role in Project: Site Primary Investigator
Date Started: 05/2016
Date To Be Completed: 06/2026
Institution/University: University of Kentucky

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

D. NON-SPONSORED RESEARCH PROJECTS – *continued*

Inactive

Project Title: Plasma levels of sphingosine 1-phosphate correlation with hematocrit and red blood cell transfusions
Project Number: N/A
Principal Investigator(s): Susan Smyth, MD PhD
Role in Project: Co-investigator – recruited patients, acquired blood samples, performed EndoPat
Date Started: 2008
Date Completed: 12/2011
Institution/University: University of Kentucky

Project Title: Right Ventricular Dysfunction in Non-Compaction Cardiomyopathy
Project Number: N/A
Principal Investigator(s): Mushabbar Syed, MD
Role in Project: Co-investigator – wrote IRB, obtained data, analyzed results, and drafted manuscript
Date Started: 2/2010
Date Completed: 1/2012
Institution/University: University of Kentucky

Project Title: Infective Endocarditis Trends in Kentucky
Project Number: 10-0307-P6H
Principal Investigator(s): Mikel Smith, MD
Role in Project: Co-investigator – planned, analyzed results, and revised manuscript
Date Started: 6/2010
Date Completed: 4/2014
Institution/University: University of Kentucky

Project Title: CMR in Systemic Capillary Leak Syndrome
Project Number: 02-H-0050
Principal Investigator(s): Andrew Arai, MD, Kirk Druey, MD
Role in Project: Co-investigator – obtained data, analyzed results, revised manuscript
Date Started: 06/2011
Date Completed: 06/2015
Institution/University: National Institutes of Health

Project Title: Early Gadolinium Enhancement in Acute Myocardial Infarction
Project Number: 02-H-0050
Principal Investigator(s): Andrew Arai, MD
Role in Project: Co-investigator – obtained data, analyzed results, revised manuscript
Date Started: 06/2011
Date Completed: 06/2015
Institution/University: National Institutes of Health

Project Title: Adaptive Iterative Dose Reduction and Image Quality in Coronary CTA
Project Number: 07-H-0157
Principal Investigator(s): Marcus Chen, MD
Role in Project: Co-investigator – obtained data, analyzed results, revised manuscript
Date Started: 12/2011

Date Completed:	06/2013
Institution/University:	National Institutes of Health
Project Title:	Incremental Prognostic Value of Coronary Artery Calcification among Symptomatic Patients Undergoing CR Scan of the Heart
Project Number:	13-0981-P6H
Principal Investigator(s):	Vincent Sorrell, MD
Role in Project:	Co-Investigator – reviewed results, revised abstract
Date Started:	9/2013
Date To Be Completed:	6/2015
Institution/University:	University of Kentucky
Project Title:	T1MES Phantom – T1 Mapping and ECV Standardisation – Improving Patient Care Through CMR Phantoms
Project Number:	None
Principal Investigator(s):	James Moon, Peter Gatehouse, Gaby Captur
Role in Project:	Site Principal Investigator
Date Started:	9/2015
Date To Be Completed:	12/2016
Institution/University:	University of Kentucky
Project Title:	The Use of Echocardiography Parameters to Optimize AV Synchrony and Predict Outcome in Cardiac Resynchronization Therapy
Project Number:	14-0750-P2H
Principal Investigator(s):	Vincent Sorrell, MD
Role in Project:	Co-Investigator – reviewed results, revise manuscript
Date Started:	7/2014
Date To Be Completed:	6/2017
Institution/University:	University of Kentucky
Project Title:	Value of Transthoracic Echocardiogram in Acute Ischemic Stroke
Project Number:	15-0259-P3H
Principal Investigator(s):	Steve Leung, MD
Role in Project:	Principal Investigator
Date Started:	7/2015
Date To Be Completed:	6/2017
Institution/University:	University of Kentucky
Project Title:	Cardiorespiratory Fitness and Cognition
Project Number:	15-0140-F2L
Principal Investigator(s):	Nathan Johnson, PT, DPT, PhD
Role in Project:	Co-Investigator
Date Started:	09/2015
Date To Be Completed:	07/2017
Institution/University:	University of Kentucky
Project Title:	VOTE – Value of Transthoracic Echocardiography
Project Number:	16-002-P3H
Principal Investigator(s):	Vincent Sorrell, MD
Role in Project:	Co-Investigator – obtaining data
Date Started:	12/2015
Date To Be Completed:	06/2017
Institution/University:	University of Kentucky

Project Title: Prognostic Information from Pre- and Post-Vasodilator Stress Function on Cardiac MRI
Project Number: 14-0196-P6J
Principal Investigator(s): Steve Leung, MD
Role in Project: Principal Investigator
Date Started: 02/2014
Date To Be Completed: 07/2017
Institution/University: University of Kentucky

Multi-center Sponsored Clinical Trials

Sub-Investigator for the following

2009-2010	ROCKET-AF - An Efficacy and Safety Study of Rivaroxaban With Warfarin for the Prevention of Stroke and Non-Central Nervous System Systemic Embolism in Patients With Non-Valvular Atrial Fibrillation
2012-2014	PROMISE - PROspective Multicenter Imaging Study for Evaluation of Chest Pain
2013-2014	PreSERVE-AMI – A Prospective Randomized Double Blinded Placebo Controlled Phase II Trial of Intra-coronary Infusion of AMR-001, a Bone Marrow Derived Autologous CD34+ Selected Cell Product, in Patients with Acute Myocardial Infarction
2012-2019	ISCHEMIA – International study of comparative health effectiveness with medical and invasive approaches
2015-2017	ALLSTAR - Allogeneic Heart Stem Cells to Achieve Myocardial Regeneration Core imaging Site for patients with cardiac implantable electronic devices
2015-2017	ABSORB IV (RESOLVe substudy) - A Clinical Evaluation of ABSORB™ BVS, the Everolimus Eluting Bioresorbable Vascular Scaffold in the Treatment of Subjects with de novo Native Coronary Artery Lesions
2017-2018	A Longitudinal Evaluation of Disease & Fibrosis Biomarkers in Different Groups of Heart Failure Patients to Enhance the Early Clinical Development of Compounds with Anti-fibrotic Activity in the Heart. (Bristol Myers Squibb, Protocol CV002004)
2017-present	COMPASSION 3 - Evaluation of the SAPIEN 3 Transcatheter Heart Valve in Patients With Pulmonary Valve Dysfunction
2018-present	aMAZE - LAA Ligation Adjunctive to PVI for Persistent or Longstanding Persistent Atrial Fibrillation (aMAZE)
2019-present	PRECISE - Prospective Randomized Trial of the Optimal Evaluation of Cardiac Symptoms and Revascularization

XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS - *continued*

E. OTHER CREATIVE ACTIVITIES

UKNow Publications – University of Kentucky

- 10/11/2011 Study: Transfusion Not Always Best Treatment for Anemia, Age of Stored Blood May Play a Role, Online News, Lexington, KY, Allison Elliott
<http://uknow.uky.edu/content/study-transfusion-not-always-best-treatment-anemia-age-stored-blood-may-play-role>
- 10/16/2012 UK Physicians Perform Transcatheter Aortic Valve Replacements, Online News, Lexington, KY, Jodi Whitaker
<http://uknow.uky.edu/content/uk-physicians-perform-transcatheter-aortic-valve-replacements>
- 06/24/2013 First Advanced Cardiac Imaging Fellowship Graduate Thankful for Doors Opened at UK, Online News, Lexington, KY, Jodi Whitaker
<http://uknow.uky.edu/content/first-advanced-cardiac-imaging-fellowship-graduate-thankful-doors-opened-uk>
- 01/10/2014 Creating a Culture of Collaboration for Research at UK and Beyond, Online News, Lexington, KY, Mallory Powell
<http://uknow.uky.edu/content/creating-culture-collaboration-research-uk-and-beyond>
- 02/11/2014 KL2 Program Creates Momentum for Junior Faculty and UK's Research Enterprise, Online News, Lexington, KY, Mallory Powell
<http://uknow.uky.edu/content/kl2-program-creates-momentum-junior-faculty-and-uks-research-enterprise>
- 8/11/2015 UK Study Will Explore Novel MRI Techniques Safe for Patients with Kidney Failure, Online News, Lexington, KY, Mallory Powell
<http://uknow.uky.edu/content/uk-study-will-explore-novel-mri-techniques-safe-patients-kidney-failure>
- 10/7/2015 UK Healthcare Physicians Named to 2015-2016 Best Doctors List, Online News, Lexington, KY, Kristi Lopez
<http://uknow.uky.edu/content/uk-healthcare-physicians-named-2015-16-best-doctors-list>

University of Kentucky Cardiovascular Fellowship

- 2010-current Created a website for cardiology fellows to access information, presentations. This contains a forum for which fellows can communicate with each other.
<http://www.ukcardiology.org>
- 2013-current Created an annual research curriculum in the fellowship. These are given by various expert faculty.
- What Makes a Good Clinical Trial (Dr. Susan Smyth, Cardiology)
 - Various Research Methods (Dr. Steve Leung, Cardiology)
 - Meta-Analysis (Dr. Ahmed Abdel-Latif, Cardiology)
 - Bioinformatic (Bioinformatics Division)
 - Biostatistics I – Planning (Dr. Richard Charnigo, Biostatistics)
 - VA Opportunities (VA representative)
 - Submitting an IRB (Dr. Steve Leung, Cardiology)

- Biostatistics II – Data Analysis (Dr. Richard Charnigo, Biostatistics)

- 2013-current Created small research groups for fellows at different levels with faculty mentor. This is to promote and improve progress of fellow research projects.
- 2015-current Designed an advanced cardiovascular imaging curriculum. These involve weekly rotating case presentation, MRI physics lectures, and journal club for advanced cardiovascular imaging fellows.

XV. OTHER ACTIVITIES

2013, 2017, 2018	Certification Board of Cardiovascular Computed Tomography Question Writer for Board Exam
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