Sean A. Murphy

CELL ENGINEERING · BIOINFORMATICS DATA SCIENTIST

Education

PhD in Biomedical Engineering

Baltimore, MD

JOHNS HOPKINS UNIVERSITY GPA: 4.0

Aug. 2015 - Feb. 2021

- · Advisor: Dr. Chulan Kwon
- Heart Generation and Regeneration Laboratory

B.S. Bioengineering, B.A. Economics

Seattle, WA

University of Washington GPA: 3.84

Aug. 2011 - Jun. 2015

- Minor in Applied Mathematics
- · Magna Cum Laude

International Baccalaureate Diploma

Kenmore, WA

INGLEMOOR HIGH SCHOOL GPA: 3.97 Sept. 2008 — Jun. 2011

Experience

RESEARCH EXPERIENCE

Postdoctoral Research Fellow, Department of Cardiology, Johns Hopkins University

Jan. 2021 — Present

- Explored cell state stability related to cell fate reprogramming through multi-omic analysis.
- Investigated the role of key splicing factor in heart development and disease using a high-throughput robotic screen.
- Designed bioinformatics pipelines to rapidly perform upstream analysis of RNA-seq, ChIP-seq, and ATAC-seq.
- Created an engineered protein to treat atherosclerosis by reducing plaque size.
- Sequenced small RNA transcriptomes from multiple organs in time-series experiment then identified crucial miR for engineering stem cell-derived cardiomyocytes.

Graduate Research Assistant, Heart Generation and Regeneration Lab, Johns Hopkins University

Jan. 2016 — Dec. 2020

- Designed a research study to predict key transcriptional regulators of cardiomyocyte maturation and test their efficacy in promoting engineered heart tissue function.
- Analyzed single cell RNA-seq using custom pipeline and R to build a temporal transcriptome map of mouse heart development based on unsupervised learning clusters.
- Generated a genetic engineering system using adeno-associated virus to create a conditional mosaic knockout to understand the cell autonomous role of PGC-1a.
- Collaborated with researchers at UCSD to analyze ChIP-seq and ATAC-seq of fibroblast reprogramming into cardiomyocytes, yielding insights into reprogramming mechanism.
- Trained and supervised undergraduate students in cell culture, flow cytometry, and coding.

Undergraduate Researcher, Laflamme Lab, University of Washington

Apr. 2012 - Jun. 2015

- Developed immunohistochemistry protocols for GFP in paraffin-embedded tissue samples to visualize distribution of cell therapy graft in rat hearts.
- · Localized Ribonucleotide Reductase in human pluripotent stem cell-derived cardiomyocytes grafted into rat hearts using immunostaining.
- Identified off-target effects of antiarrhythmic peptide rotigaptide on hPSC-CMs, showing viability of peptide to improve excitation contraction coupling of stem cell graft.

WORK EXPERIENCE

Bioinformatics Consultant, Vita Therapeutics

Sep. 2021 — Present

- · Performed a multi-omic data analysis using AWS pipeline with the goal of constructing a cell therapy product for use in humans.
- Compared transcriptomes of cell isolation strategies for pluripotent stem cell-derived muscle satellite cells.
- · Worked with CSO to design follow-up experiments to validate computational findings.

· SEAN MURPHY ·

Consultant, PipeBio Dec. 2021 — Apr. 2022

- Identified new machine learning tools that would be useful to client base.
- Profiled novel technologies in recent literature that are relevant to the platform.
- · Wrote analysis of the potential impact of a specific single cell sequencing system for rapid antibody profiling.

Chemistry Research Intern, Seattle Genetics

Jun. 2014 — Sep. 2014

- · Adapted protocol to magnetically isolate endosomes and lysosomes to characterize tumor microenvironment.
- Evaluated cytotoxicity and intracellular drug concentration of antibody drug conjugates across multiple cell lines and cancer indications.
- Investigated mechanism of action of novel antibody drug conjugates.

Business Development Intern, Knotis

Jun. 2012 — Sep. 2012

- · Worked at Seattle tech start up to improve product design of online small business tools and presented mobile strategy to leadership team.
- Designed marketing materials to increase client use of product following one-on-one meetings with local small businesses.

Global Marketing Intern, Microsoft

Aug. 2010 — Aug. 2011

- Developed metric scorecards, interpreting business intelligence to management.
- · Prepared and presented a competitive analysis presentation to the consumer engagement team.

Publications

Conserved transcription factors promote cell fate stability and restrict reprogramming potential in differentiated cells

2023

Maria Missinato*, **Sean Murphy***, Michaela Lynott*, Michael Yu, Anais Kervadec, Yu-Ling Chang, Suraj Kannan, Mafalda Loreti, Christopher Lee, Prashila Amatya, Hiroshi Tanaka, Chung-Teng Huang, Pier Lorenzo Puri, Chulan Kwon, Peter Adams, Li Quan, Alessandra Sacco, Peter Andersen, Alexandre Colas

Nature Communications

Cardiac progenitors instruct second heart field fate through Wnts

2022

Matthew Miyamoto, Suraj Kannan, Matthew Anderson, Xihe Liu, David Suh, Myo Htet, Biyi Li, Tejasvi Kakani, **Sean Murphy**, Emmanouil Tampakakis, Mark Lewandoski, Peter Andersen, Hideki Uosaki, Chulan Kwon

PNAS

Heart-on-a-chip platforms and biosensor integration for disease modeling and phenotypic drug screening

2022

Joseph Criscione*, Zahra Razaei*, Carol Hernandez Cantu, **Sean Murphy**, Su Ryon Shin, Deok-Ho Kim

Biosensors and Bioelectronics

Oxysterol misbalance critically contributes to Wilson disease pathogenesis

2022

Som Dev, Abigael Muchenditsi, Aline Gottlieb, Pragney Deme, **Sean Murphy**, Kathleen Gabrielson, Yixuan Dong, Robert Hughes, Norman Haughey, James Hamilton, Svetlana Lutsenko

Science Advances

Multi-organ in vivo maturation comparison identifies transcriptomic similarities

2022

Sandeep Kambhampati*, **Sean Murphy***, Hideki Uosaki, Chulan Kwon

Journal of Computational Biology

Heart neurons use clock genes to control myocyte proliferation

2021

Emmanouil Tampakakis, Harshi Gangrade, Stephanie Glavaris, Myo Htet, **Sean Murphy**, Brian Leei Lin, Ting Liu, Amir Saberi, Matthew Miyamoto, William Kowalski, Yoh-Suke Mukouyama, Gabsang Lee, Liliana Minichiello, Chulan Kwon

Science Advances

Maturing stem cell-derived cardiac muscle: mechanisms and transcriptomic insights

2021

SEAN MURPHY*, ELAINE CHEN*, KENNETH, BOHELER, LESLIE TUNG, CHULAN KWON

Seminars in Cell Developmental Biology

Inhibition of phosphodiesterase type 9 reduces obesity and cardiometabolic syndrome in mice

2021

Sumita Mishra, Nandhini Sadagopan, Brittany Dunkerly-Eyring, Susana Rodriguez, Dylan C Sarver, Ryan P Ceddia, **Sean Murphy**, Hildur Knutsdottir, Vivek Jani, Deepthi Ashok, Christian U Oeing, Brian O'Rourke, Kavita Sharma, Jon Gangoiti, Dorothy D Sears, G. William Wong, Sheila Collins, David A Kass

Journal of Clinical Investigation

· SEAN MURPHY · 2

Noncanonical Notch signals have opposing roles during cardiac development Matters Minwardto, Petter Araberssus, Estencis Sustation, Sined Liu, Stank Munerine, Subusi Manual, Liucy Man, Williams Monwardto, Enthanoduri, Thaterswardts, Mearitores Hithingo, Hiteeru Usosea, Cerulaan Woon PGCJ/PPAR drive cardiomyocyte maturation through regulation of Yap1 and Sf3b2 Stank Munerine, Minwardto, Awals Kerwardt, Subusi Manual, Sank Estender, Subusi Manual, Stank Liu, Enthanoduri, Enthanoduri, Tardhawakas, Sand Pauk, Petter Araberssus, Donoi, Lie, Strews Mi, Down Rass, Horent Usosea, Alexander Colus, Chullara Rwool Large particle fluorescence-activated cell sorting enables high quality single cell RWA-sequencing and functional analysis of adult cardiomyocytes Subusi Araber, Enthanoduri, Tardhawakas, Sand Pauk, Petter Araberssus, Donoi, Lie, Strews Minwardto, Haush Kimano, Barring Minwardto, Sank Munering, Petter Araberssus, Steam Munering, S		
MITTATE FOR MITTATE MODERBER, EDRIECT SCIENTED, KIRRL LIU, SEAR MURPHY, SCIPLLY KANDON (COMMUNICATION MORNOUS, PRIVATE ON MITTATE MORNOUS, PRIVATE ON MORNOUS, SAND PRICE, PETER AND ERBER, DONG LEE, STEVEN AND, DANIO KASS, HIDERA UDSANI, ALEXANDRE COLAS, CHULLAN KINOU. Large particle fluorescence-activated cell sorting enables high quality single cell RNA-sequencing and functional analysis of adult cardiomyocytes SUBJA KARIARA, MATTHEW MINIMARD, BRAND LIN, RENUM PRIVATE, NEW KASS, PETER AND ERBER, CHULLAN KINOU. Precardiac organoids form two heart fields via Bmp/Wnt signaling PRETE AND ESSAN, DAMMONIT, TAMPHANAS, DEMINSES, SUBJA KARIARA, KONNO KASS, PETER AND ERBER, CHULLAN KINOU. PRECARD ESSAN, DAMMONIT, TAMPHANAS, DEMINSES, SUBJA KARIARA, KONNO KASS, PETER AND ERBER, CHULLAN KINOU. PRECARD ESSAN, DAMMONIT, TAMPHANAS, DEMINSES, JIMENEZ, SUBJA KARIARA, KONNO KASS, PETER AND ERBER, CHULLAN KINOU. PRECARD ESSAN, DAMMONIT, TAMPHANAS, DEMINSES, JIMENEZ, SUBJA KARIARA, KONNO KASS, PETER AND ERBER, CHULLAN KINOU. PRECARD ESSAN, DAMMONIT, EDRICK SUUSTIO, STEPHEN CHELKO, CHULAN KINOU. RECORD ESSAN, DAMMONIT, EDRICK SUUSTIO, STEPHEN CHELKO, CHULAN KINOU. PRECARD ESSAN, SEAM MURPHY, EDRICK SUUSTIO, STEPHEN CHELKO, CHULAN KINOU. PRECARD ESSAN, SEAM MURPHY, SARRH DUPRAS, JEDAN MURPHY, PETER AND ESSAN, STEVEN HOUSER, GORDON TOMASELL, BEINA O'ROUSER, DAMMON JUDGE, CHULAN KINOU. PRECARD ESSAN SEAM MURPHY, SARRH DUPRAS, JEDAN KINOUR, MICHAEL LALAMME, MICHAEL REGIER. J. of Mostevice and Celeber Certificity NOR CHELD, SARRH MURPHY, SARRH DUPRAS, JEDAN KINOUR, MICHAEL LALAMME, MICHAEL REGIER. J. of Mostevice and Celeber Certificity SONG RESSON SEAM MURPHY, SARRH DUPRAS, JEDAN KINOUR, MICHAEL LALAMME, MICHAEL REGIER. J. of Mostevice and Celeber Certificity SONG RESSON SEAM MURPHY, SARRH DUPRAS, JEDAN SEA, SARRH MURPHY, SARRH DUPRAS, JEDAN SEA, SARRH MURPHY	Noncanonical Notch signals have opposing roles during cardiac development	2021
PCGL/PPAR drive cardiomyocyte maturation through regulation of Yap1 and Sf3b2 SAM MURPHY, MITTHEW MYMANOTO, AMAS KERNADEC, SURAL KANNAN, SANDEEP KAMBIANDARI, BRIAN LIN, EMANADOLI TAMPANAKS, SAM BARS, PETER ANDERSERS, DONG LEF, STYNER AND, DANIR KASS, HEIDER UDGARI, ALEXANDRE COLAS, CHULAN KINON Large particle fluorescence-activated cell sorting enables high quality single cell RNA-sequencing and functional analysis of adult cardiomyocytes SURAL KANNAN, MATTHEW MYMANOTO, BRIAN LIN, RENJUN ZHU, SEAN MURPHY, DANID KASS, PETER ANDERSERS, CHULAN KINON. PCECARGIA CORGANISTIC MANADOLI TAMPANAKS, DIRINARS JURINER, SURAL KANNAN, MATTHEW MYMANOTO, HELEN SHIN, AMB PETER ANDERSERS, IL MANADOLI TAMPANAKS, DIRINARS JURINER, SURAL KANNAN, MATTHEW MYMANOTO, HELEN SHIN, AMB NEURO-COMMUNICATION Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modelling cardiomyopathy CUITAI CHO, DONG LEE, EMANDOLI TAMPANAKS, SEAN MURPHY, PETER ANDERSERS, STEPHEN CHELKO, KMALID CHANIR, INGIE HONG, KIMAN SOL, DIVING-SHENS CHIRIN, KONGWAN CHIRI, CRISTINA BASSO, STEVEN HOUSER, GORGON TOMASELL, BRIAN CROUDER, DANIE JUDGE, DANIE KASS, CHULAN KWON CELl-based delivery of dATP via gap junctions enhances cardiac contractility LUNGY SO, SEAN MURPHY, SARAH DUPRAS, JIN DAY, CHARLES MURPH, MICHAEL LEFLAMMS, MICHAEL RENNER. LEAD TEACHING INSTRUCTOR OF REgenerative Medicine Seging, Chira VIA CELL AND TOSSUE ENGINEERING LAB COURSE (BME SBO.ASI) CELL AND TOSSUE ENGINEERING LAB COUR		
Part Murphery Minymoto, Amus Kermbee, Surau Kannam, Sander Konstammer, Brain Link, Emanwoll Tampanards, Sand Pack, Peter Bandessen, Dona Lete, Streek And, Darko Nass, Hibbert Ocean, Alexander Colus, Chulan Roma Rha-Sequencing and functional analysis of adult cardiomyocytes Surau Kannam, Martinew Minymoto, Brain Link, Reinjum Zhu, Sasan Murphyr, Dinio Kass, Peter Andersen, Chulan Rivon Peter Andersen, Ichmanouii Tampanards, Dennises Jimenetz, Supai, Kannam, Martinew Minymoto, Helen Shin, Amir Peter Andersen, Ichmanouii Tampanards, Dennises Jimenetz, Supai, Kannam, Martinew Minymoto, Helen Shin, Amir Raining, Saan Murphyr, Emeric Sultano, Streems Centure, Cultural Rivon Nocinatal transplantation confers maturation of PSC-derived cardiomyocytes conductive to modelling cardiomyopathy Goussic Cho, Done Lete, Emanyoui Tampanards, Saen Murphyr, Peter Andersen, Stephen Chelko, Rivalla Chansin, Hone Rows, Kanna Sach, Unitudi-Sielas Chelko, Kostitha Basso, Steven Houser, Gorson Tomsella, Brain Rows, Kanna Sach, Unitudi-Sielas Chelko, Kostitha Basso, Steven Houser, Gorson Tomsella, Brain Rows, Kanna Sach, Stema Murphyr, Peter Andersen, Steven Houser, Gorson Tomsella, Brain Rows, Kanna Sach, Stema Murphyr, Saenah Durpas, Jin Day, Chantes Murphy, Michael Larlamme, Michael Reioner, Rows, Kanna Sach, Stema Murphyr, Saenah Durpas, Jin Day, Chantes Murphy, Michael Larlamme, Michael Reioner, Rows Sach, Sean Murphyr, Saenah Durpas, Jin Day, Chantes Murphy, Michael Larlamme, Michael Reioner, Rows Satter Biolendinerming Lan Course (BME son. 41) Peter Allower Commenced Presentations Roser Biolinerming Lan Course (BME son. 41) Ros	Miyamoto, Emmanouil Tampakakis, Narutoshi Hibino, Hideki Uosaki, Chulan Kwon	Communications
Large particle fluorescence-activated cell sorting enables high quality single cell RNA-sequencing and functional analysis of adult cardiomyocytes SURAL KANNAM, MATTHEW MIYAMOTO, BIRBAL Lin, REALUN ZHU, SEAM MURPHY, DANIO KASS, PETER ÁNDERSEN, CHULAN KWON. Circulation Research Precardiac organoids form two heart fields via Bmp/Mnt signaling 2018 PETER ANDRESSE, BAMAROUIL TARPARARIS, DENNISSE JIMENEZ, SURAL KANNAM, MATTHEW MIYAMOTO, HELEN SHIM, AMIR SABER, SEAM MURPHY, CRINIC SULUSTIO, STEPHENS CHELKO, CHULAN KWON Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy GUNSIK CHO, DONG LEE, BEMAROUIL TARPARARIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHARIR, INDIE HONG, KINN SEO, HUL-SHENG CHEN, KIONOWER CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRIAN Cell Face delivery of dATP via gap junctions enhances cardiac contractitity 2014 LINNY SO, SEAM MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MCHAEL LAFLAMME, MICHAEL REGINER. 1 of Molecular and Cellular Cordiology Teaching Instructor of Regenerative Medicine Vax Cet 2016—Dec 2019 Cet 2016—Dec 2019 Each Teaching Assistant ROBINORO, MO CELL AND TISSUE FROMERERING ILLA COURSE (BME SBO.424) 2 and 2017—Dec 2017 Conference Presentations U2 sinNP component SF3B2 regulates contractility Sort Diago, CA WEINSTEIN CONFERENCE ON CARDIOVASCOLAR DEVELOPMENT MORGENERATION NOVEL SIND SEAM MURPHY, MICHAEL LAVOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level Boltmore, MO School, Cerl PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Mortule for CARDIOSCIENCE AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy	PGC1/PPAR drive cardiomyocyte maturation through regulation of Yap1 and Sf3b2	2021
TABERSAUS, SAME PARE, PETER ANDERSEN, DOWN ELES, STEPHEN AND, DROWN KASS, HIBBERU UDSAKU, ALEXANDRE COLAS, CHULHAR KWON. ANDERS AND SEAR MURDEN, MATTHEW MINYANOTO, BRANE LIKE, RELIVED ZIVE, SEAM MURDEN, DAVID KASS, PETER ANDERSEN, CHULHAR KWON. PETER ANDERSEN, EDMANGUIL, TRANSPACKASS, DETER CHULHAR KWON. ANDERSEN, EDMANGUIL, TRANSPACKASS, DETER CHULHAR KWON. NEODATE CARROLL TRANSPACKASS, DENANSES JURENEZ, SURAN KANANAN, MATTHEW MINYANOTO, HELEN SHIN, AMMR ANDERSEN, EDMANGUIL, TRANSPACKASS, DENANSES JURENEZ, SURAN KANANAN, MATTHEW MINYANOTO, HELEN SHIN, AMMR ANDERSEN, SEAM MURDPHY, EDRICK SULISTIO, STEPHEN CHELKO, CHULHAR KWON NEONATAL TRANSPACH, SURANGUIL, TRANSPACKASS, DENANSES JURENEZ, CHULHAR KWON NEONATAL TRANSPACH, SULISTIO, STEPHEN CHELKO, CHULHAR KWON NEONATAL TRANSPACH, SULISTIO, STEPHEN CHER, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRINAN CHORG, KIRWA SEO, HUE-SHEIRG CHEN, KINGOWER CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRINAN CHURS SHEEL, DOED, DAVIN KASS, CHULHAR KWON CELL-based delivery of dATP via gap junctions enhances cardiac contractility LURDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DM, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGINER TEACHING INSTITUTE OF OR REGENERATIVE MEDICAL COURSE (BME SBO.424) TEACHING CEL 2013—100. LURDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DM, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGINER LEAD TO SEAM SESSISTAN SOUTH CONTROLLED COURSE (BME SBO.424) TEACHING ASSISTANT CELLARD TISSUE ENGINEERING LAR COURSE (BME SBO.426) AND 2017—100. CONFERENCE PRESENTATIONS LURDY SD, SEAN MURPHY, SARAH LAR COURSE (BME SBO.426) AND 2017—100. CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION AND 2018—100. AND	SEAN MURPHY, MATTHEW MIYAMOTO, ANAIS KERVADEC, SURAJ KANNAN, SANDEEP KAMBHAMPATI, BRIAN LIN, EMMANOUIL	
RNA-sequencing and functional analysis of adult cardiomyocytes SURAL KAMMAN, MATTHEM MINAMOTO, BIRNAL LIK, REN JUNE ZHU, SEAM MURPHY, DAVID KASE, PETER ANDERSEN, CHULAN KWON. Precardiac organoids form two heart fields via Bmp/Wnt signaling SABER, SEAM MURPHY, EDRICK SULISTIO, STEPHEN CHEEKO, CHULAN KWON. Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy GUNSIN CROD, DONG LEE, EMMANDUIL TAMPARANIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHEEKO, KHALID CHARRIR, INDIE HONG, KINNA SEO, HUEP-SHENO CHEN, KORONOWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GOBDON TOMASELLI, BRIAN CREIL-BASED delivery of dATP via gap junctions enhances cardiac contractility LONG JORN CHEN, SABON BURPARA, SHIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER PEACHING Instructor of Regenerative Medicine Begling, China CREL 70 JORN CHEN, SABON BURPARA, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER DEAD TO REGENERATIVE MEDICAL SHIP AND STATEM SHIP AND S	Tampakakis, Sam Paek, Peter Andersen, Dong Lee, Steven An, David Kass, Hideki Uosaki, Alexandre Colas, Chulan Kwon	
RNAs-equencing and functional analysis of adults cardiomyocytes Suriau Kannan, Marthew Minamoto, Brana Line, Remulur Zhu, Staam Murenty, Davide Kass, Peter Andersen, Chulam Kwon. Precardiac organoids form two heart fields via Bmp/Wnt signaling Peter Andersen, Emmandouit. Tamerkarks, Denniuszed Jamenez, Suriau Kannan, Marthew Minamotro, Helen Shini, Amir Saberi, Seam Murenty, Edrick Sulistio, Stephen Chielko, Chulam Kwon Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy Chursic Kord, Dodg Lee, Emmandouit. Tamerkarks, Seam Murenty, Peter Andersen, Stephen Chelko, Khalid Chakin, Indie Hong, Kiniva Seo, Huel-Sheno Chen, Xionowen Chen, Cristinia Basso, Steven Houser, Gordon Tomaselli, Brian Cell-based delivery of dATP via gap junctions enhances cardiac contractility Cell-based delivery of dATP via gap junctions enhances cardiac contractility Teaching Instructor of Regenerative Medicine Viax Co. 2018—Dec. 2019 Instructor of Regenerative Medicine Viax Cell-based Blockomicesinical Lika Course (BME 580.424) Eaching Assistant Balkimore, MD Systems Blockomicesinical Lika Course (BME 580.424) Cell-based Instructor of Regenerative Medicine Viax Conference Presentations Cell And Tissue Encineering Lab Course (BME 580.424) Cell And Tissue Encineering Lab	Large particle fluorescence-activated cell sorting enables high quality single cell	2010
Percardiac organoids form two heart fields via Bmp/Wnt signaling Petra Amoersen, Emanacour, Tamoracaus, Dennisse Jimenez, Surea Kannan, Marthew Mivanoto, Helen Shin, Amir Saberi, Sean Murphy, Edrick Sulistio, Stephen Chelko, Chulan Kwon Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy Guissic Cho, Dong Lee, Emanacour, Tamoracaus, Sean Murphy, Petra Andersen, Stephen Chelko, Khalio Chanir, Ingia Hone, Kinna Seo, Hule-Sheina Cerler, Xionawee Chen, Cristina Basso, Steven Houser, Gordon Tomasell, Brian Cell Peports O'ROUrke, Daniel Judge, David Kass, Chulan Kwon Cell-based delivery of dATP via gap junctions enhances cardiac contractility Cell-based delivery of dATP via gap junctions enhances cardiac contractility Teaching Instructor of Regenerative Medicine Beijing, China Vax Cel 2018—Dec 2019 Lead Teaching Assistant Baltimore, MD Setting Assistant Baltimore, MD Cell And Tissue Engineering II Lan Course (BME 580.424) Teaching Assistant Baltimore, MD Cell And Tissue Engineering Lan Course (BME 580.424) Sens Presentations U2 sinRNP component SF3B2 regulates contractility Son Diego, CA Winstructor Cardiotogoura Development and Regeneration My 2023 Conference Presentations U2 sinRNP component SF3B2 regulates contractility PCC1 a drives cardiomyocyte maturation at the single cell level School of Mispicine and School of Engineering Retreat at Johns Hopkins University The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Instructe for Cardioscience at Johns Hopkins University Nov. 2019 Baltimore, MD School of Mispicine and School of Engineering Retreat at Johns Hopkins University The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Baltimore, MD	RNA-sequencing and functional analysis of adult cardiomyocytes	2019
PETER ANDERSEN, EMMANOUIL TAMPAKANIS, DENNISSE JIMENEZ, SURJU KANNAN, MATTHEW MIYAMOTO, HELEN SHIN, AMIR SABERI, SEAN MURPHY, EDRICK SULISTIO, STEPHEN CHELKO, CHULAN KWON Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy GINSIA CHO, DONG LEE, EMMANOUIL TAMPAKANIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHAKIR, INGIE HONG, KINKA SEO, HUEL-SHENG CHEN, XIONOWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELII, BRIAN O'ROURKE, DANIEL JUDGE, DANID KASS, CHULAN KWON Cell-based delivery of dATP via gap junctions enhances cardiac contractility LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. Jof Molecular and Cellular Cardiology Teaching Instructor of Regenerative Medicine Beijing, China VAX Cet. 2018—Dec. 2019 Lead Teaching Assistant Beitimore, MD SYSTEMS BIOENCINEERING LILLS COURSE (BME 580.424) Jan. 2019—Moy 2019 Teaching Assistant Boltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.424) SARD PROSPORTION CARDIOVASCULAR DEVELOPMENT AND REGENERATION CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION MOY 2023 SEAN MURPHY, MICHAELA LYNOTT, CHYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKARIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardiologicience at Johns Hopkins University Nov. 2019	Suraj Kannan, Matthew Miyamoto, Brian Lin, Renjun Zhu, Sean Murphy , David Kass, Peter Andersen, Chulan Kwon.	Circulation Research
SABERI, SEAN MURPHY, EDRICK SULISTIO, STEPHEN CHELKO, CHULAN KWON Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy GUNSIK CHO, DONG LEE, EMMANGUIL TAMPAKANIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHAKIR, INGIE HONG, KINWA SEO, HULEN SHENG CHEN, XIONOWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRIAN O'ROUMKE, DANIEL JUGGE, DANID KASS, CHULAN KWON Cell-based delivery of dATP via gap junctions enhances cardiac contractility LINDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAN, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. Jof Molecular and Cellular Cordiclogy Teaching Instructor of Regenerative Medicine VIAX Oct. 2018—Dec. 2019 Lead Teaching Assistant Boltimore, MD SYSTEMS BIGDENGINEERING III LAB COURSE (BME 580-424) Jan. 2017—Dec. 2017 Cell AND TISSUEE ENGINEERING LAB COURSE (BME 580-451) CELL AND TISSUEE ENGINEERING LAB COURSE (BME 580-451) Jan. 2017—Dec. 2017 CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKANIS, ALEXANDRE COLAS, CYULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level Boltimore, MD SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHN'S HOPKINS UNIVERSITY Moc. 2023 The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Carbiocockince at John's Hopkins University Nov. 2031	Precardiac organoids form two heart fields via Bmp/Wnt signaling	2018
Neonatal transplantation confers maturation of PSC-derived cardiomyocytes conducive to modeling cardiomyopathy (DNSIAC CAD, DONG LEE, EMMAROUIL TAMPAKARIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHAKIR, INGE HONG, KINKA SEO, HUEL-SHENG CHEN, XIONGWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELII, BRIAN COER REPORTS O'ROUBKE, DANIEL JUDGE, DANID KASS, CHULAN KWON Cell-based delivery of dATP via gap junctions enhances cardiac contractility 2014 LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER 2 of Molecular and Cellular Cardiology Teaching Instructor of Regenerative Medicine 8 Beijing, China VIAX 0CL 2018 — Doc. 2019 Leed Teaching Assistant Beldimore, MD SYSTEMS Block Noine Fering ILLAS COURSE (BME 580.424) Jan 2019 — Moy 2013 Teaching Assistant Beldimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.424) Jan 2019 — Moy 2013 Teaching Assistant Bornones F53B2 regulates contractility San Diego, CA Weinstein Conference Presentations U2 sinRNP component SF3B2 regulates contractility San Diego, CA Weinstein Conference On Cardiovascular Development And Regeneration May 2023 SEAN MURPHY, MICHAELAL WONT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKARIS, ALEXANDER COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level Boltmore, MD SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY BOLTON TO SEM MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Nov. 2019	Peter Andersen, Emmanouil Tampakakis, Dennisse Jimenez, Suraj Kannan, Matthew Miyamoto, Helen Shin, Amir	Natura Canana vaigatia na
MODELING CARDIONOPORTHY CUNSIK CHO, DONG LEE, EMMANOUIL TAMPAKAKIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHAKIR, INGIE HONG, KINYA SEO, HUEC-SHENG CHEN, XIONGWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRIAN CPÉI REPORTS O'ROURKE, DANIEL JUGGE, DAVID KASS, CHULAN KWON CEll-based delivery of dATP via gap junctions enhances cardiac contractility LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. J. of Molecular and Cellular Cordialogy TEACHING Instructor of Regenerative Medicine VIAX Oct. 2018 — Dec. 2019 Lead Teaching Assistant Baltimore, MD SYSTEMS BIODENGINEERING ILLAG COURSE (BME S80.424) Teaching Assistant CELL AND TISSUE ENGINEERING LAG COURSE (BME S80.424) Aug. 2017 — Dec. 2017 COnference Presentations U2 snRNP component SF3B2 regulates contractility Son Diego, CA WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION MOY 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKANIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of MEDICINE AND SCHOOL OF ENGINEERING RETERAT AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Carbioscience at Johns Hopkins University Nov. 2019	Saberi, Sean Murphy , Edrick Sulistio, Stephen Chelko, Chulan Kwon	Nature Communications
GUNSIK CHO, DONG LEE, EMMANOUIL TAMPAKARIS, SEAN MURPHY, PETER ANDERSEN, STEPHEN CHELKO, KHALID CHARIR, INGIE HONG, KINYA SEO, HUEF-SHENG CHEN, XIONGWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELL, BRIAN Cell-based delivery of dATP via gap junctions enhances cardiac contractility LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. LONDY SD, SEAN MURPHY, BLOCKLES (BME SBD. 424) LONDY SD, SEAN MURPHY, BLOCKLES (BME SBD. 424) LONDY SD, SEAN MURPHY, MICHAELA CHORT ST, SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL LAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY MGC. 2022 SEAN MURPHY, MICHAELA CHORT SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY THE role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Rollimore, MD RISCHIER SCHOOL OF SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY THE ROLL SHOW THE SCHOOL OF SCH		2017
HONG, KINYA SEO, HUEI-SHENG CHEN, XIONOWEN CHEN, CRISTINA BASSO, STEVEN HOUSER, GORDON TOMASELLI, BRIAN O'ROURKE, DANIEL JUDGE, DAVID KASS, CHULAN KWON Cell-based delivery of dATP via gap junctions enhances cardiac contractility LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. Instructor of Regenerative Medicine VIAX OCL 2018—Dec. 2019 Lead Teaching Assistant Baltimore, MD SYSTEMS BIOENGINEERING II LAB COURSE (BME 580.424) Jan. 2019—May 2019 Teaching Assistant Baltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.425) Conference Presentations U2 snRNP component SF3B2 regulates contractility Weinstein Conference on Cardiovascular Development and Regeneration May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Baltimore, MD School of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		
O'ROURKE, DANIEL JUDGE, DAVID KASS, CHULAN KWON Cell-based delivery of dATP via gap junctions enhances cardiac contractility LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. Teaching Instructor of Regenerative Medicine NAX Oct. 2018 — Dec. 2019 Lead Teaching Assistant Boltimore, MD SYSTEMS BIOENGINEERING II LAB COURSE (BME 580.424) Teaching Assistant Boltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451) CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451) COnference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION MOY 2023 EAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKARIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		Call Danasta
Cell-based delivery of dATP via gap junctions enhances cardiac contractility Lundy SD, Sean Murphy, Sarah Dupras, Jin Dai, Charles Murry, Michael Laflamme, Michael Regnier. Teaching Instructor of Regenerative Medicine Nax Cct. 2018 — Dec. 2019 Lead Teaching Assistant Ballimore, MD Systems Bioengineering II Lab Course (BME 580.424) Teaching Assistant Ballimore, MD Cell and Tissue Engineering Lab Course (BME 580.451) Cell and Tissue Engineering Charles Course (BME 580.451) Conference Presentations U2 sinRNP component SF3B2 regulates contractility Son Diego, CA Weinstein Conference on Cardiovascular Development And Regeneration May 2023 Sean Murphy, Michaela Lynott, Crystal Martinez, Myo Htet, Daniel Lee, Christine Miller, Emmanouil Tamparkaris, Alexander Colas, Chulan Kwon PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		Cell Reports
LUNDY SD, SEAN MURPHY, SARAH DUPRAS, JIN DAI, CHARLES MURRY, MICHAEL LAFLAMME, MICHAEL REGNIER. J. of Molecular and Cellular Cardiology Teaching Instructor of Regenerative Medicine Viax Oct. 2018 — Dec. 2019 Lead Teaching Assistant Baltimore, MD SYSTEMS BIOENGINEERING II LAB COURSE (BME 580.424) Jan. 2019 — May 2019 Teaching Assistant Baltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451) Conference Presentations U2 snRNP component SF3B2 regulates contractility Son Diego, CA WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION MOY 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		
Instructor of Regenerative Medicine VIAX Coct. 2018 — Dec. 2019 Lead Teaching Assistant Baltimore, MD SYSTEMS BIOENGINEERING II LAB COURSE (BME 580.424) Jan. 2019 — May 2019 Teaching Assistant Baltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451) Conference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION MAY 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Baltimore, MD INSTITUTE FOR CARDIOSCIENCE AT JOHNS HOPKINS UNIVERSITY Nov. 2019	Cell-based delivery of dATP via gap junctions enhances cardiac contractility	2014
Instructor of Regenerative Medicine VIAX Oct. 2018 — Dec. 2019 Lead Teaching Assistant SYSTEMS BIOENGINEERING II LAB COURSE (BME 580.424) Teaching Assistant Baltimore, MD CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.424) CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451) CONFERENCE Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY AMAC 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute For Cardiooscience at Johns Hopkins University Nov. 2019	EUROT 30, SEAR MORPHY, SAKAH DON KAS, SIN DAI, CHARLES MORKI, MICHAEL LAI LAMME, MICHAEL REUMER.	3. Of Molecular and Cellular Cardiology
Viax Oct. 2018 — Dec. 2019 Lead Teaching Assistant Baltimore, MD Systems Bioengineering II Lab Course (BME 580.424) Jan. 2019 — May 2019 Teaching Assistant Baltimore, MD Cell And Tissue Engineering Lab Course (BME 580.451) Aug. 2017 — Dec. 2017 Conference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA Weinstein Conference on Cardiovascular Development and Regeneration May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level Baltimore, MD School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 Sean Murphy The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Baltimore, MD Institute for Cardioscience at Johns Hopkins University Nov. 2019	Teaching	
Lead Teaching Assistant Source (BME 580.424) Teaching Assistant Baltimore, MD Cell and Tissue Engineering Lab Course (BME 580.451) Conference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA Weinstein Conference on Cardiovascular Development and Regeneration May 2023 Sean Murphy, Michaela Lynott, Crystal Martinez, Myo Htet, Daniel Lee, Christine Miller, Emmanouil Tampakakis, Alexandre Colas, Chulan Kwon PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 Sean Murphy The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	Instructor of Regenerative Medicine	Beijing, China
Teaching Assistant Cell and Tissue Engineering Lab Course (BME 580.424) Dan. 2019 — May 2019 Conference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA Weinstein Conference on Cardiovascular Development and Regeneration May 2023 Sean Murphy, Michaela Lynott, Crystal Martinez, Myo Htet, Daniel Lee, Christine Miller, Emmanouil Tampakakis, Alexandre Colas, Chulan Kwon PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 Sean Murphy The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	VIAX	Oct. 2018 — Dec. 2019
Teaching Assistant Cell and Tissue Engineering Lab Course (BME 580.451) Conference Presentations U2 snRNP component SF3B2 regulates contractility San Diego, CA Weinstein Conference on Cardiovascular Development and Regeneration May 2023 Sean Murphy, Michaela Lynott, Crystal Martinez, Myo Htet, Daniel Lee, Christine Miller, Emmanouil Tampakakis, Alexandre Colas, Chulan Kwon PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 Sean Murphy The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	Lead Teaching Assistant	Baltimore, MD
Conference Presentations U2 snRNP component SF3B2 regulates contractility Weinstein Conference on Cardiovascular Development and Regeneration May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	Systems Bioengineering II Lab Course (BME 580.424)	Jan. 2019 — May 2019
Conference Presentations U2 snRNP component SF3B2 regulates contractility WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	Teaching Assistant	Baltimore, MD
U2 snRNP component SF3B2 regulates contractility Weinstein Conference on Cardiovascular Development and Regeneration May 2023 SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHNS HOPKINS UNIVERSITY Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	CELL AND TISSUE ENGINEERING LAB COURSE (BME 580.451)	Aug. 2017 — Dec. 2017
WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	Conference Presentations	
WEINSTEIN CONFERENCE ON CARDIOVASCULAR DEVELOPMENT AND REGENERATION SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019	U2 snRNP component SE3R2 regulates contractility	San Diego, CA
SEAN MURPHY, MICHAELA LYNOTT, CRYSTAL MARTINEZ, MYO HTET, DANIEL LEE, CHRISTINE MILLER, EMMANOUIL TAMPAKAKIS, ALEXANDRE COLAS, CHULAN KWON PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		· · · · · · · · · · · · · · · · · · ·
PGC1a drives cardiomyocyte maturation at the single cell level School of Medicine and School of Engineering Retreat at Johns Hopkins University Mar. 2022 SEAN MURPHY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		May 2020
SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHN'S HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy INSTITUTE FOR CARDIOSCIENCE AT JOHN'S HOPKINS UNIVERSITY Mar. 2022 **Baltimore, MD Nov. 2019		
SCHOOL OF MEDICINE AND SCHOOL OF ENGINEERING RETREAT AT JOHN'S HOPKINS UNIVERSITY The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at John's Hopkins University Nov. 2019	PGC1a drives cardiomyocyte maturation at the single cell level	Baltimore. MD
The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy Institute for Cardioscience at Johns Hopkins University Nov. 2019		,
Institute for Cardioscience at Johns Hopkins University Nov. 2019	SEAN MURPHY	
Institute for Cardioscience at Johns Hopkins University Nov. 2019	The role of PGC1a/PPAR in in vivo heart maturation and applications to stem cell therapy	Baltimore MD
SEAN MURPHY		ŕ
	SEAN MURPHY	

Profiling microRNA expression during organ maturation

WEINSTEIN CARDIOVASCULAR DEVELOPMENT AND REGENERATION CONFERENCE

Murphy SA, Sandeep Kambhampati, Chulan Kwon

· SEAN MURPHY ·

Indianapolis, IN

May 2019

Overcoming obstacles toward heart regeneration: maturing stem cells into cardiac tissue	Baltimore, MD
Partnering Towards Discovery Initiative	Mar. 2019
Sean Murphy, Suraj Kannan, Chulan Kwon	
PPAR/PGC1a activation promotes pluripotent stem cell-derived cardiomyocyte maturation	Nara, Japan
Weinstein Cardiovascular Development and Regeneration Conference	May 2018
Murphy SA, Miyamoto MK, Kannan S, Andersen P, Uosaki, H, Kwon C.	
Heart Fields Are Induced by Coordinated Activity of Wnt and Bmp Signaling and Identified by CD184 and EphA2 in PSC-Derived Organoids	Anaheim, CA
American Heart Association	Nov. 2017
Andersen, Peter, Dennisse Jimenez-Cyrus, Stephen P. Chelko, Suraj Kannan, Emmanouil Tampakakis, Amir Saberi,	
Sean Murphy, Matthew Miyamoto, and Chulan Kwon	
De novo reconstructed developmental trajectory of embryonic and post-natal hearts	Columbus, OH
WEINSTEIN CARDIOVASCULAR DEVELOPMENT AND REGENERATION CONFERENCE.	May 2017
Kannan S, Saberi A, Murphy SA , Kwon C.	
Rotigaptide modulation of human pluripotent stem cell-derived cardiomyocyte maturation and proliferation	Spokane, WA
National Council on Undergraduate Research Conference	Apr. 2015
Murphy SA, Filice D, Zhu WZ, MA Laflamme	
Quantification of Ribonucleotide Reductase in human embryonic stem cell derived	Seattle, WA
cardiomyocyte cell therapy	,
Undergraduate Research Symposium	May 2013
Murphy SA, SD Lundy, M Regnier, MA Laflamme	

Honors & Awards

2022	Maryland Stem Cell Research Fund, Postdoctoral Fellowship
2022	Blumenthal Award, Second Place
2021	NIH T32 Fellowship, Recipient
2019	Turock Award, Travel Scholarship
2018	American Heart Association, Predoctoral Fellowship
2017	T Rowe Price Biotech Stock Pitch Competition, First Place
2016	NSF, Graduate Research Fellowship
2015	Dean's List, 12-time recipient
2014	Art Levinson Emerging Scholars Award, Awardee
2014	Mary Gates Research Scholarship, Recipient
2014	Phi Beta Kappa, Inductee
2014	National Undergraduate Global Health Design Competition, Finalist
2013	William P Wood Bioengineering Scholarship, Awardee
2013	Mary Gates Research Scholarship, Recipient
2012	Bruno Strauss Business and Engineering Scholarship, Recipient
2011	Washington Scholar, Awardee
2011	Knopp Aerospace Scholarship, Recipient
2011	Rusty Young Community Leader Scholarship, Awardee
2011	Seattle ACE Engineering Scholarship, Awardee
2010	DECA International Business Case Study Competition , First Place
2010	Boy Scouts of America, Eagle Scout

Skills_____

Programming R, Bash, Python, MATLAB, LaTe
--

Laboratory

Single cell RNA seq, ChIP-seq, scATAC-Seq, qPCR, stem cell culture, flow cytometry, FACS, tissue and cell culture, mouse colony management, western blotting, fluorescent microscopy, paraffin embedded histology, molecular biology

Leadership and Volunteer Work _____

Thread

HEAD OF FAMILY 2015 — Present

• Mentored 2 young adults to help them develop their careers and support them through life challenges.

Johns Hopkins Ultimate

COACH 2019 — 2021

• Led competitive ultimate team in training and tournament play.

JH Biotech Investment Group

Member 2017 – 2020

· Analyzed biotech companies and attended seminars on biotech investment.

Modern Board Game Society

PRESIDENT 2016 – 2020

• Led student group that organizes events to play strategic board games.

BME PhD Council

VICE PRESIDENT OF COMMUNICATIONS 2016 — 2017

• Manage communications for the BME PhD student organization.

Graduate Student Association

BME Representative 2015 — 2017

• Served as liaison between BME PhD Council and JHU School of Medicine Graduate Student Association.

Book Thing of Baltimore

VOLUNTEER 2015 — 2016

• Organized used books for distribution to the Baltimore community.

Bioengineers Without Borders

VICE PRESIDENT AND PROJECT LEAD 2011 — 2015

- Developed ultrasound hydration monitor for use in low resource settings.
- Finalist at Rice 360 Institute for Global Health Technology Design Competition.

STEM Mentors

CO-FOUNDER AND PRESIDENT 2013 — 2015

- Identified need for and built STEM mentoring program at Seattle area high schools
- Planned collaborative design activities and presentations on STEM fields.

Roots Youth Shelter

VOLUNTEER 2013 — 2015

• 100+ hours of volunteer work in day-to-day operations at local youth shelter.

Engineering Ambassadors

K-12 OUTREACH COORDINATOR 2012 — 2015

• Set up outreach events and represented UW College of Engineering at local events.

Bioengineering Outreach

Team Lead 2013 — 2015

Organized and contributed to outreach events in Cardiovascular Engineering module at Seattle area high schools to generate interest in bioengineering careers.

· SEAN MURPHY · 5