**CURRICULUM VITAE**

# Harpreet Singh Ph.D. FAHA

**A.** Present address

Department of Physiology and Cell Biology
The Ohio State University
IBMR 425C, 460 Medical Ctr. Drive
Columbus OH 43210
Phone (Mobile): 310 923 0651
Phone (Office): 614 293 5915
Email: harpreet.singh@osumc.edu

Home address 10168 Archer Ln, Dublin, OH 43017

## B. EDUCATION AND TRAINING

**2003-2007** **Ph.D.** in Biomedical Sciences, College of Medicine, University of Edinburgh, UK. (Advisors: Dr. Richard Ashley and Prof. Michael Cousin)
*Thesis: "Single channel properties of chloride intracellular channel proteins"*

**2001-2003** **M.Sc.** Biotechnology, JB Campus, Bangalore University, India
*Dissertation: "Cloning of N- and C- terminus of Kv1.4 channels"*

**2002** **Trainee** (M.Sc. Dissertation), National Centre for Biological Sciences Bangalore India

**1998-2001** **B.Sc.** St. Joseph's College, Bangalore, India

**2000-2001** **Honours** Genetics (Gold medal), St Joseph's College, Bangalore, India. *Independent of B.Sc.*
*Dissertation: "Dermatoglyphic and genetic analysis of inborn blind children"*

**1999-2000** **Honours** Entomology (Gold medal), St Joseph's College, Bangalore, India. *Independent of B.Sc.*
*Dissertation: "Comparative analysis of butterflies of Bangalore and Jammu region"*

## C. POSTGRADUATE TRAINING

**2020-2021** **Faculty Leadership Institute**, The Ohio State University Columbus OH, USA

**2007-2011** **Postdoctoral fellow**, University of California Los Angeles, U.S.A. (Advisors: Profs. Ligia Toro and Enrico Stefani)

## D. ACADEMIC POSITIONS

| | |
|---|---|
| **07/2018-** | **Investigator,** Dorthory Heart & Lung Research Institute, OSU, USA |
| **07/2018-** | **Associate Professor** at the Ohio State University (Dept. of Physiology and Cell Biology), USA |
| **07/2017-06/2018** | **Associate Professor** at the Sidney Kimmel Cancer Center, Gastrointestinal Program, Thomas Jefferson University, USA |
| **07/2017-06/2018** | **Associate Professor** at the Drexel University College of Medicine Philadelphia (Dept. of Medicine), USA |
| **07/2017-06/2018** | **Associate Professor** at the Drexel University College of Medicine, Philadelphia (Dept. of Pharmacology and Physiology), USA |
| **10/2016-06/2017** | **Assistant Professor** at the Drexel University College of Medicine Philadelphia (Dept. of Medicine), USA |
| **06/2013-06/2017** | **Assistant Professor** at the Drexel University College of Medicine Philadelphia (Dept. of Pharmacology and Physiology), USA |
| **2011-2013** | **Research Assistant Professor** at the David Geffen School of Medicine at UCLA, USA (National SDG-funded) |

## E. HONORS AND AWARDS

| | |
|---|---|
| **2021** | **Co-Chair, Gordon Research Conference,** Organellar Channels & Transporters |
| **2021** | FASEB invited speaker |
| **2020** | **Executive Council Member,** Biophysical Society, Bioenergetic subgroup |
| **2019** | **Chair, Ion Channels Symposium, Ohio Physiological Society** |
| **2019** | **Co-Vice Chair, Gordon Research Conference**, Organellar Channels & Transporters |
| **2019** | **Advisory Editor**, CRC Methods in Signal Transduction series |
| **2018** | **Fellow of the American Heart Association (FAHA)** |
| **2018** | **Grand rounds invited speaker**, Heart and Vascular Institute, Penn State College of Medicine. |
| **2018** | **Elected Member**, Early Career Committee, **Biophysical Society** |
| **2017** | **Early Career Investigator Award**, Drexel University College of Medicine |
| **2017** | **Session Chair** and Invited speaker, International Symposium on the future of regenerative medicine, Tuscania, **Italy** |
| **2017** | Invited panelist (Academic Career), STEM Peers, Boston, USA |
| **2016** | Invited Speaker in Korea Sejong-Drexel Cardiology Conference |

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|---|---|
| **2014** | The Children's Hospital of Philadelphia (CHOP)–Drexel–Hebrew University Symposium, invited speaker. "Developing New Treatments for Children's Diseases" (Dream team project) |
| **2013** | Invited seminar at Ion Channel Symposium, Royal Danish Society of Sciences and Letters Copenhagen **Denmark**. |
| **2011-2015** | National Scientist Development Grant (SDG), American Heart Association, USA |
| **2011** | Society of General Physiologists (SGP) symposium award to attend mitochondrial physiology and medicine conference at Woods Hole, MA, USA |
| **2011** | Electron micrograph of mitochondria published in the UCLA-BRI annual calendar |
| **2006** | Pfizer Prize, the Physiological Society (London), UK |
| **2006** | Promega UK Young Biochemist of the Year, UK (2nd), UK |
| **2006** | George Boyd Grant, UK (for the Physiological Society Meeting) |
| **2006** | Student bursary for attending Biosciences, UK |
| **2003-2006** | Overseas Research Students Award Scheme (ORSAS), UK |
| **2003-2006** | Faculty of Medicine and Veterinary Medicine Scholarship (MVM), University of Edinburgh, UK |
| **2005** | Student bursary for attending Biosciences, UK |
| **2005** | George Boyd Grant, UK (for FEBS meeting) |
| **2004** | Curzon Wylie Memorial Fund Award, UK |
| **2003** | Scholarship (travel) by Director of Ranbaxy (RRL), India (for UK) |
| **2003** | Junior research fellowship (CSIR-JRF-NET) and nominated for the SPM fellowship India |
| **2003** | Junior research fellowship (ICMR-JRF), Indian Council of Medical Research, India |
| **2003** | Junior research fellowship (JRF), GATE, India |
| **2001** | Grade 'O' Legal Literacy Course, NLSIU & St. Josephs' College, Bangalore, India |
| **2001** | Honors in Psychology, St. Josephs' College, Bangalore, India |
| **2001** | Gold medal in genetics honors, St. Josephs' College, Bangalore, India |
| **2000** | Gold medal in entomology honors, St. Josephs' College, Bangalore, India |

## F. MEMBERSHIPS

| | |
|---|---|
| **2003 - 2008** | Biochemical Society, UK |
| **2003 - 2010** | The Physiological Society (London), UK |

| | |
|---|---|
| **2003 - present** | Biophysical Society, USA |
| **2008 - present** | The American Physiological Society, USA |
| **2009 - present** | Life member, Physiological Society of India |
| **2011 - present** | Society of General Physiologists, USA |
| **2012 - present** | American Heart Association, USA |
| **2015 - present** | Genetics Society, USA |

## G. PROFESSIONAL SERVICES

### 1. INSTITUTIONAL (OSU)

| | |
|---|---|
| **2020-** | Director, Physiology 3200 Course |
| **2020-** | MD Applications Screening Committee |
| **2020-** | MSTP and BME mentor |
| **2019-** | BSGP mentor |
| **2018-** | Organizer, Departmental Distinguished Seminar Series |
| **2018-** | MCDB Mentor |

### 2. INSTITUTIONAL (Drexel Medicine)

| | |
|---|---|
| **2017-2018** | Drexel University College of Medicine, Promotions committee |
| **2017-2018** | Drexel University College of Medicine, IT subcommittee |
| **2017-2018** | Drexel University College of Medicine, Faculty recruitment committee |
| **2016-2018** | Drexel University College of Medicine, Mediation and Grievance Panel |
| **2016-2018** | Continuing Medical Education (CME) Committee, Drexel University |
| **2015-2018** | Graduate admission committee, Dept. of Pharmacology and Physiology, Drexel University College of Medicine. |
| **2015** | Selection committee member for Director of graduate school of biomedical sciences |
| **201402018** | Faculty in charge, Imaging facility at the college of medicine |
| **2014- 2016** | Grant reviewer CTRI |
| **2013- 2018** | Judge Drexel Discovery Day |
| **2013-2018** | M.S., Ph.D., and M.D.-Ph.D. student admission (interviewer) Drexel University College of Medicine |

### 3. EXTRAMURAL

#### a. Peer reviewer grants/ committee member

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|---|---|
| **2020-** | Sharjah Research Council (UAE) |
| **2019-** | **AHA** Transformational Project Award Basic Cell Sciences 2 |
| **2019-** | **AHA** Transformational Project Award Basic Cardiac Sciences 2 |
| **2018-** | **NIH USA** Special Emphasis Panel (SEP), Academic Research Enhancement Awards (AREA) Cardiovascular and Respiratory Sciences |
| **2016-** | **AHA** Collaborative Sciences Award |
| **2016-2018** | **AHA** Fellowships Basic Cell CSS |

| | |
|---|---|
| **2017-2018** | **AHA** Transformational Project Award Basic Cell Sciences |
| **2017-2018** | **AHA** Career Development Award Basic Cell Sciences |
| **2017-** | **NIH USA** SEP (R15) AREA grants |
| **2016-2017** | **AHA** Fellowship Cardiac Elec BSc |
| **2015-** | Biotechnology and Biological Sciences Research Council (**BBSRC**) UK |
| **2015** | **NIH USA** ESTA study section early career reviewer (ECR) |

## b. Peer reviewer journals/ conference abstracts

American Heart Association Abstracts
BBA
Biological Psychiatry
Biophysical Journal
Brain Research
Cells
Cell Reports
Clinical Proteomics
Cytotherapy
European Journal of Biophysics
European Journal of Pharmacology
EMBO
FASEB Journal
FEBS Open Bio
FEBS letters
Frontiers in Cell and Developmental Biology
Frontiers in Physics
Frontier in Physiology
Heart Lung & Circulation
Heart and Vessels
Journal of Biological Chemistry
Journal of Cellular Biochemistry
Journal of Investigative Dermatology
Journal of Molecular and Cellular Cardiology
Journal of Molecular Neuroscience
Journal of Physiology (London)
Journal of Tissue Engineering and Regenerative Medicine
Journal of Visualized Experiments
International Review of Neurobiology (Elsevier)
IUPHAR
Mitochondrion
Pharmacology and Therapeutics
Physiological Reviews
Physiological Reports
PloS one
Redox Biology
Science Signaling
Scientific reports

### c. Editorial board/ Editor/ Associate Editor

Frontier in Physiology
Pharmacology of Mitochondria, Handbook of Experimental Pharmacology, Springer
CRC Taylor & Francis Signal Transduction Series

## H. COMMUNITY SERVICES

**2018-present** Red Saree Heart Awareness (Columbus representative, South Asian Cardiovascular Risk Awareness Program)

**2017-2018** Judge, Delaware County School Science festivals

**2011-present** The American Heart Association (fundraising walks)

## I. EDUCATIONAL ACTIVITIES

### 1. Courses/Clerkships/Programs

### a) Extramural activities (2014 onwards)

**2014-2017** Dept. of Physiology, University of Pennsylvania (invited faculty)
Journal club **-***1hr/y*

### b) University (OSU 2018 onwards and DUCoM 2013-2018)

### Teaching

**2020-** **Director, Physiology 3200**

**02/2019-** **OSU Pharmacy 3100**

**10/2018** **OSU PCB Graduate student seminar**

**2013-2018** **Graduate Pharmacology & Physiology**
*Advanced Topics in Pharmacology (PHARM 517S)- 2hr/y*
*Advanced Topics in Physiology (503)- 2hr/y*

**2014-2018** **Graduate Physiology**
*Cardiovascular physiology –8hr/y*
- *Introduction to Cardiovascular system*
- *Hemodynamics*
- *Cardiac mechanics (since 2016)*
- *Venous system*
- *Exercise and cardiovascular system*

**2014-2018** **Medical Physiology**
*Cardiovascular simulation- 10hr/y*
*Pulmonary simulation -10hr/y*

**2015-2018** **Methods in Biomedical Research (PHRM 519S)**
Microscopy and Mitochondrial Ion channels- 2hr/y

**2016-2018** **Confocal training (3hr) for faculty and trainees**

**2017-2018** **Graduate school Cells to Systems course (Core II)**

## 2. Advising/Mentoring/Tutoring

*Mentoring of graduate (and undergraduate) students, including different research-related activities. List of mentees follows.*

***Past and Current Students in the lab (next step):***

| | |
|---|---|
| **2011** | Arman Mashouf, (High School Student) Division of Molecular Medicine, Dept. of Anesthesiology, UCLA, USA.<br>(Undergraduate at University of California, Santa Barbara) |
| **2011-2012** | Lyra Hall, (Summer internship) Division of Molecular Medicine, Dept. of Anesthesiology, UCLA, USA<br>(Research Assistant, Emerald Therapeutics, San Francisco) |
| **2012-2013** | Scarlett Chen, (Summer internship) Division of Molecular Medicine, Dept. of Anesthesiology, UCLA, USA.<br>(MD student, University of California, San Diego) |
| **2013** | Wenyu Xin, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA |
| **2013** | Khyati Bhayana, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA<br>(Systems Engineer at Medtronic. India) |
| **2013** | Michelle Fleyshman, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA<br>(MD student, DUCoM) |
| **2014** | Kajol Shah, (Summer internship) Drexel University College of Medicine, Philadelphia, PA, USA<br>(MD student, DUCoM) |
| **2014** | Jason Farber, (SURF student) Bucknell University, PA, USA<br>(MD student, Thomas Jefferson University) |
| **2014-2015** | Sanjay Chandrasekhar, (M.D. student) Drexel University College of Medicine, Philadelphia, PA, USA.<br>(Internal medicine residency at University of Florida) |
| **2014-2015** | Rushi Thanawala, (Student volunteer) Drexel University College of Medicine, Philadelphia, PA, USA |
| **2015** | Girija Hariharan, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA<br>(MD student, Robert Wood Johnson University Hospital) |
| **2015** | Sneha Arjun, M.D. (Medical student) Drexel University College of Medicine, Philadelphia, PA, USA<br>(Internal medicine residency at Cooper University Hospital.) |
| **2014-2016** | Sowmya Sukur, (Student volunteer) Drexel University College of Medicine, Philadelphia, PA, USA<br>(DO student, University of Florida) |

**2016-2017** Alex Lam, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA

**2016** Priyanka Karekar, (Co-op student) Drexel University College of Medicine, Philadelphia, PA, USA

**2017** Yufan Shi, (Visiting student) China Pharmaceutical University, China

**2018-** Haley Jensen, The Ohio State University

**2018-** Taylor Rouse, The Ohio State University

**2019** TJ DeLuca, The Ohio State University

**2020-** Jindpreet Kaur, The Ohio State University

**2020-** Inderjot Kaur, The Ohio State University

**(Less than 10 weeks laboratory rotations)**

**2012** Peter Lee, (D. O. student) Division of Molecular Medicine, Dept. of Anesthesiology, UCLA, USA.

**2015** Dave Aigbe, STEMPREP (High School Student), Dallas Texas, USA

**2015** Yuka Hiroshima DDS Ph.D., (Postdoc) Tokushima University Hospital, Japan

**2016** Harmehak Kaur, (High school student) Haverford High School, Havertown, PA, USA

**2016** Sheryl Mathew, (M.D. student) Drexel University College of Medicine, Philadelphia, PA, USA

**2016** Aaron Wengrofsky, (M.D. student) Drexel University College of Medicine, Philadelphia, PA, USA

**2016** John George Curran (SURF student) Georgetown University Washington D.C., USA

**2016** Robert Bloom (undergraduate student) Lehigh University, PA, USA

**2018** Rebecca Chanin (undergraduate student**)** Rutgers University, New Brunswick, NJ, USA

**2018** Vivek Mohan (undergraduate student) Drexel University College of Medicine, Philadelphia, PA, USA (MD student at DUCoM)

**2018** Jahnavi Meka (undergraduate student) Drexel University College of Medicine, Philadelphia, PA, USA (MD student at DUCoM)

## Thesis Committees member

**2020** Thesis Committee (Ph.D.), Ohio State University, USA (Ruohan Zhang)

**2019** Graduate Faculty Representative (GFR). Department of Pharmacy.

**2019** University of the Witwatersrand (Ph.D.), Johannesburg, South Africa

| | |
|---|---|
| **2019** | Graduate Faculty Representative (GFR). Department of Physics (M. Chilcote). |
| **2018-present** | Thesis Committee (Ph.D.), Dept. of Nutrition Sciences, Drexel University College of Nursing, USA (Rose DeLuccia) |
| **2018** | External Ph.D. thesis examiner, GKVK UAS India (Ashwini Jayaraman) |
| **2017** | Thesis committee member (international) Tata Institute of Fundamental Research (NCBS) (Ph.D.), India (Farah Haque) |
| **2017-2018** | Scholarly Activity Committee, Fellow in Neonatology (Mitali Sahni M.D.) |
| **2017-present** | Thesis Committee (Ph.D.), Dept. of Microbiology and Immunology (Swati Dass) |
| **2017-present** | Thesis Committee (Ph.D.), Dept. of Nutrition Sciences (May Cheung) |
| **2016-present** | Thesis Committee (Ph.D.), Dept. of Biochemistry and Molecular Biology (Kristie Augustyn) |
| **2015-2018** | Thesis Committee (MD. Ph.D.), Dept. of Microbiology and Immunology (Eric LaBouff) |
| **2015-2018** | Thesis Committee (Ph.D.), Dept. of Pharmacology and Physiology (Dongyu Wei) |
| **2014-2018** | Thesis Committee (Ph.D.), Dept. of Microbiology and Immunology (Suyash Bhatnagar) |
| **2014** | Thesis committee (Ph.D.), Macquarie University, Australia (Elizabeth Daniel) |

## J. GRANT SUPPORT

***Active***

**Sponsor: NIH/NHLBI (RO1-HL133050-01)** Project period: 07/01/2016-06/30/2021
Principal investigator: Singh (4.8 Cal. Months) Direct Cost: $250,000/y
Project title: Molecular identity and role of Chloride intracellular channel (CLIC) proteins in mitochondrial function and cardioprotection

***Completed***

**Sponsor: AHA PDF (17POST33670360)** Project period: 07/01/2017-06/30/2019
Principal investigator: Devasena Ponnalagu Mentor: Singh
Project title: Splice variant chloride intracellular channel (CLIC) 5B determines mitochondrial localization and function of CLIC5 Direct Cost: $115,000

**Sponsor: NIH R41HL134435** Project period: 07/01/2017-06/30/2019
Principal investigator: Jorns Total Cost: $300,000
Co-investigator: Singh (0.5 Cal. Month)
Project Title: Inhibitors of hydrogen sulfide metabolism as a novel treatment for heart failure.

**Sponsor: AHA Grant-in-Aid (16GRNT29430000)** Project period: 07/01/2016-06/30/2018
Principal investigator: Singh (1.2 Cal. Months) Total Cost: $154,000
Project title: Mechanism of Cardioprotection by mitochondrial CLIC5

**Sponsor: NIH/NIDA (1R21DA040519-01A1)** Project period: 07/01/2016-06/30/2018
Principal investigator: Meucci Total Cost: $275,000
Co-investigator: Singh (0.5 Cal. Months)
Project title: Effects of HIV-1 neurotoxins on lipid rafts associated proteins

**Sponsor: Commonwealth Universal Research Enhancement (CURE) Program Grant** Project period: 03/01/2017-12/28/2018
Principal investigator: Barrett Total Cost: $90,000
Co-investigator: Singh (0.3 Cal. Months)
Project title: Chronic Pain and Cardiovascular Disease

**Sponsor: Commonwealth Universal Research Enhancement (CURE) Program Grant** Project period: 03/01/2016-12/28/2017
Principal investigator: Gururaja Rao Total Cost: $90,000
Co-investigator: Singh (0.5 Cal. Months)
Project title: Role of Chloride Intracellular Channels in regulation of lifespan

**Sponsor: W. W. Smith Charitable Trust** Project period: 01/01/2017-12/30/2017
Principal investigator: Singh (1.2 Cal. Months) Total Cost: $108,000
Project title: Regulation of cardiac $BK_{Ca}$ channels and their role in cardioprotection from ischemia-reperfusion injury

**Sponsor: Commonwealth Universal Research Enhancement (CURE) Program Grant** Project period: 01/01/2016-12/30/2016
Principal investigator: Singh (0.6 Cal. Months) Total Cost: $75,000
Project Title: Direct Role and Mechanism of Activation and Expression of $BK_{Ca}$ Channel in Cardioprotection from Ischemia-Reperfusion Injury

**Sponsor: Clinical & Translational Research Institute (CTRI) (DUCoM)** Project period: 09/01/2015-08/31/2017
Principal investigator: Singh (0.5 Cal. Months) Total Cost: $50,000
Project title: CLICs as markers of hypertension

**Sponsor: AHA National SDG** Project period: 07/01/2011-06/30/2016
Principal investigator: Singh Total Cost: $308,000
Project Title: Molecular Identification and Cardioprotection Mechanisms of Mitochondrial $Ca^{2+}$ activated $K^+$ channels (mito$BK_{Ca}$)

**Sponsor: Faculty of Medicine and Veterinary Medicine Scholarship, University of Edinburgh, UK** Project period: 10/01/2003-12/30/2006
Principal investigator: Singh (Mentor: Ashley) Total Cost: Ph.D. studentship
Project Title: Single-Channel Properties and Regulation of ChLoride Intracellular Channel (CLIC) Proteins.

**Sponsor: Overseas Research Students Awards Scheme (ORSAS), UK** Project period: 10/01/2003-09/30/2006
Principal investigator: Singh (Mentor: Ashley) Total Cost: Ph.D. studentship (International)
Project Title: Single-Channel Properties and Regulation of ChLoride Intracellular Channel (CLIC) Proteins.

## K. GRADUATE STUDENTS/POSTDOCS/ RESEARH ASSISTANT/ FACULTY

### Graduate students trained at DUCoM

**2014-2015** Ahmed Tafsirul Hussain, (MMS student) Drexel University College of Medicine, Philadelphia, PA, USA
(Ph.D. student at University of Brisbane)

**2014-2015** Jamunabai Prakash, (IMS student) Drexel University College of Medicine, Philadelphia, PA, USA
(M.D student at University of Queensland-Oschner Clinical School)

**2016** Elizabeth Martin, (MLAS student) Drexel University College of Medicine, Philadelphia, PA, USA

**2016** Aurore Ravoninjohary (Ph.D. rotation student), MCBG, Drexel University College of Medicine, Philadelphia, PA, USA

**2016-2017** Yixao Mei (Ph.D. rotation student), Pharm & Phys, Drexel University College of Medicine, Philadelphia, PA, USA

**2017** Anh Tran (Ph.D. rotation student), Pharm & Phys, Drexel University College of Medicine, Philadelphia, PA, USA

**2017-2018** Shridhar Kiran Sanghvi (M.S. student), MCBG, Drexel University College of Medicine, Philadelphia, PA, USA

### Graduate students trained at OSU

**2018-** Shridhar Kiran Sanghvi (Ph.D. student), MCDB, The Ohio State University Columbus OH, USA

### Postdoctoral fellows/ Residents

**2019-onwards** Kalina Sztyen Ph.D., Dept. of Physiology and Cell Biology, The Ohio State University, OH, USA

**2013-2020** Ponnalagu Devasena Ph.D., Dept. of Physiology and Cell Biology, The Ohio State University, OH, USA

**2018-2019** Parm Gill M.D., Dept. of Physiology and Cell Biology, The Ohio State University, OH, USA * Research training only
(Family medicine residency at Wright Center of Health, PA)

**2016-2019** Sumanta Goswami Ph.D., Dept. of Pharmacology and Physiology, Drexel University College of Medicine, Philadelphia, PA, USA
(Research Associate at the Northeastern University, MA)

**2018** Inderjeet Singh M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only
(Cardiology Fellow at the Robert Wood Johnson, NJ)

**2018** Kevin Gu M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only
(Cardiology Fellow in McMaster University, Canada)

**2018** Jagpreet Grewal M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Drexel College of Medicine, PA)

**2016-2018** Neel Patel M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Drexel College of Medicine, PA)

**2016-2018** Justin Johannesen M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Robert Wood Johnson, NJ)

**2017-2018** Swaiman Singh M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Beth Israel, NJ)

**2014-2017** Nishi Patel, M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Baylor College of Medicine, TX)

**2015-2017** Idean Amirjazil M.D., Drexel University College of Medicine, Philadelphia, PA, USA * Research training only (Cardiology Fellow at the Drexel College of Medicine, PA)

## Senior Research Assistant

**2011-2013** Rong Lu M.D. Ph.D., SRA II, Division of Molecular Medicine, Dept. of Anesthesiology, UCLA, USA. (AHA support)

## Research Assistant

**2015-2016** Kajol Shah B.Sc., Drexel University College of Medicine, Philadelphia, PA, USA (M.D. Student at the Drexel University College of Medicine, PA)

**2017-2018** Aruba Zafar M.D. Drexel University College of Medicine, Philadelphia, PA, USA

**2017-2020** Priyanka Karekar B.Sc. Drexel University College of Medicine, Philadelphia, PA, USA and now at the Ohio State University, OH, USA (Graduate Student at the University of Chicago, IL)

## Research Assistant Professor

**2020-** Ponnalagu Devasena Ph.D., Dept. of Physiology and Cell Biology, The Ohio State University, OH, USA

**2018-2020** Shubha Gururaja Rao Ph.D., Dept. of Physiology and Cell Biology, The Ohio State University, OH, USA (Tenure track Assistant Professor, Raabe College of Pharmacy, Ohio Northern University)

**2017-2018** Masaki Morishima Ph.D., Tokushima University, Japan

(Tenure track Assistant Professor, Medical School KINDAI University, Japan)

## Trainee's Research Awards

**Shridhar Sanghvi (graduate student)**

- *First prize in 2020, OSU Physiology and Cell Biology Research Day*
- *Award for presentation at Drexel*

**Scarlett Chen (undergraduate student)**

- *Awarded UCLA (Wasserman) scholarship in 2012*
- *Visiting studentship from Govt. of China to visit a Chinese university in the summer of 2013*
- *M.D. student at University of California, San Diego*

**Jason Farber (SURF student)**

- *Selected for ePoster presentation at the annual ASCB meeting 2014*
- *M. D. student at the Thomas Jefferson University*

**Rushi Thanawala (undergraduate student)**

- *Second prize in Drexel Discovery Day 2015*
- *Drexel SuperNova Undergraduate Research fellowship*
- *Selected for oral presentation at NCUR 2016 UNC Asheville*
- *First prize for oral presentation at WCUR 2016 Doha, Qatar*

**Sanjay Chandrasekhar (Medical Student)**

- MD student at the Drexel University College of Medicine
- *Summer research fellowship*
- *Residency Internal Medicine, University of South Florida,* Morsani College of Medicine

**Sheryl Mathew (Medical Student)**

- *Summer research fellowship*
- *MD student at the Drexel University College of Medicine*
- *Residency, Internal Medicine at New York-Presbyterian/Queens*

**Aaron Wengrofsky (Medical Student)**

- *Summer research fellowship*
- *MD student at the Drexel University College of Medicine*
- *Honorable mention for his abstract at the Drexel Discovery day 2016*

**Kajol Shah (Medical Student)**

- *Summer research fellowship*
- *MD student at the Drexel University College of Medicine*

**Sowmya Sukur**

- *Summer research fellowship*
- *DO student at the University of Florida*

**Devasena Ponnalagu, Ph.D. (postdoctoral fellow)**

- *Honorable mention for her abstract at the Drexel Discovery day 2014*
- *Education Committee travel award for the 59th Annual Biophysical Society meeting Baltimore*
- *Selected for a platform talk at the 59th Annual Biophysical Society meeting Baltimore*
- *SGP travel award 2016*
- *Selected for a flash talk at the SGP meeting at Woods Hole MA 2016*
- *First prize in Drexel Discovery Day 2016*
- *Selected for a platform talk at the 61st Annual Biophysical Society meeting Baltimore*
- ***Co-chair of a session on mitochondria** at the 61st Annual Biophysical Society meeting New Orleans.*
- Invited for an oral presentation at the Gordon Research Conference July 2017
- AHA early career travel award 2018
- **AHA Postdoctoral Fellowship** (2017-2019)
- **First prize for an oral presentation** in SAHA (BCVS) 2019
- **Career Development Award (AHA) 2020-2023**

**Nishi Patel, M.D. (Resident)**

- *Second prize in Drexel Discovery Day 2015*
- Selected for oral presentation in Drexel Residents Research Day 2014 & 2016
- *Second prize in Drexel Medicine Residents Research Day 2016*
- *Golden apple award for medical training 2016*
- ***Cardiology Fellowship at the Baylor College of Medicine 2017***

**Idean Amirjazil M.D. (Resident)**

- Selected for oral presentation in Drexel Residents Research Day 2016
- *Second prize in Drexel Medicine Residents Research Day 2016*
- ***Cardiology Fellowship at the Drexel College of Medicine 2017***

**Swaiman Singh M.D. (Resident)**

- Selected for oral presentation in Drexel Residents Research Day 2017
- *Second prize in Drexel Medicine Residents Research Day 2017*
- *Selected for a presentation at the American Heart Association (Scientific Session) 2017*
- ***Cardiology Fellowship at the Beth Israel 2018***

**Neel Patel M.D. (Resident)**

- ***Cardiology Fellowship at the Drexel Medicine 2018***

**Justin Johansson M.D. (Resident)**

- ***Cardiology Fellowship at the Robert Wood Johnson 2018***

## L. BIBLIOGRAPHY

### PEER-REVIEWED PUBLICATIONS


1. Szteyn K., and **H. Singh. 2020.** BKCa channels as targets for cardioprotection. **Antioxidants.** 9(8), 760.
2. Sahni M., Yeboah B., Das P., Shah D., Ponnalagu D., **Singh H.,** Nelin L., and V. Bhandari. **2020.** Novel Biomarkers of bronchopulmonary dysplasia and bronchopulmonary dysplasia-associated pulmonary hypertension. **Journal of Perinatology.** *In Press*
3. Tombo N., Aliagan A. I., Feng Y., **Singh H.,** and J. Bopassa. **2020.** Cardiac Ischemia/Reperfusion Stress Reduces Inner Mitochondrial Membrane Protein (Mitofilin) Levels During Early Reperfusion. **Free Radical Biology and Medicine.** 158. 181-194.
4. Kim J. Y., Bai Y., Jayne L. A., Hector R. D., Persaud A. K., Ong S. S., Rojesh S., Raj R., Feng M. J. H. H., Chung S., Cianciolo R. E., Christman J. W., Campbell M. J., Garder D. S., Baker S. D., Sparreboom A., Govindarajan R., **Singh H.,** Chen T., Poi M., Susztak K., Cobb S. R., and N. S. Pabla. **2020.** A Kinome-wide screen identifies a CDKL5-SOX9 regulatory axis in epithelial cell death and kidney injury. **Nature Communications.** *1924.*
5. Gardiner B., Dougherty J. A., Ponnalagu D., **Singh H.,** Angelos M., Chen C., and M. Khan. **2020.** Measurement of oxidative stress markers in vitro using commercially available kits. **Measuring Oxidants and Oxidative Stress in Biological Systems** (Springer publishers). In Press
6. Dougherty J.A., Patel N., Kumar N., Gururaja Rao S., Angelos M. G., **Singh H.,** Cai C., and M. Khan. **2020.** Human cardiac progenitor cells enhance exosome release and promote angiogenesis under physoxia. **Frontiers in Cell and Developmental Biology**. 8:130.
7. Ponnalagu D., and **H. Singh.** 2020. Insights into the role of mitochondrial ion channels in inflammatory response. **Frontiers in Physiology**. 11.258.

8. Gururaja Rao S., Patel N., and **H. Singh. 2020.** Intracellular Chloride Intracellular Channels: Biomarkers and Therapeutic Targets. **Frontiers in Physiology.** *11.96*

9. **Singh H.,** How to hire an international postdoc for a US position? **2019. Biophysical Society Bulletin.** *16-17.*

10. Ponnalagu D., Hussain A.T., Thanawala R., Feng Y., Bopassa J. C., and **H. Singh. 2019.** IAA-94 Aggravate Myocardial Infarction by Reducing Calcium Retention Capacity of Mitochondria. **Life Sciences.** *235:116841.*

11. Gururaja Rao S., Ponnalagu D., Shah K., Tanda S., Berryman M., Wallace D., and **H. Singh. 2019.** BK channels affect mitochondrial function and accelerate aging. **Cells.** 8(9). pii: E945. doi: 10.3390/cells8090945.

12. Gardiner B., Dougherty J. A., Ponnalagu D., **Singh H.,** Angelos M., Chen C., and M Khan. **2019.** Measurement of oxidative stress markers in vitro using commercially available kits. **Measuring Oxidants and Oxidative Stress in Biological Systems (Springer publishers).** *In Press*

13. Covarrubias R., Ismahil M. A., Rokosh G., Hamid T., Accornero F., **Singh H.,** Gumina R. J., Prabhu S., and S. Bansal. **2019.** Optimized Protocols for Isolation, Fixation and Flow Cytometric Characterization of Leukocytes in Ischemic Hearts. **American Journal of Physiology-Heart and Circulatory Physiology.** *In Press*.

14. Leary S., Das P., Ponnalagu D., **Singh. H.,** and Bhandari V., **2019.** Genetic strain and sex differences in a hyperoxia-induced mouse model of varying severity of bronchopulmonary dysplasia. **American Journal of Pathology**. 189 (5), 999-1014.

15. Goswami S. K., Ponnalagu D., Hussain A. T., Shah K., Karekar P., Gururaja Rao S., Meredith A. L., Khan M., **H. Singh. 2019.** Expression and Activation of BKCa Channels in Mice Protects Against Ischemia-Reperfusion Injury of Isolated Hearts by Modulating Mitochondrial Function. **Front. Cardiovasc. Med**. 5: 194. doi: 10.3389/fcvm

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19. Lam A., Karekar P., Shah K., **Singh H*** and S. Gururaja Rao. **2018.** Drosophila Voltage-Gated Calcium Channel α1-Subunits Regulate Cardiac Function in the Aging Heart. **Scientific Reports.** 8 (1), 6910 *Co-corresponding authors.

20. Patel N.H., Johannesen J., Shah K., Goswami S.K., Patel N.J., Ponnalagu D., Kohut A.R., and **H. Singh. 2018.** Inhibition of BKCa negatively alters cardiovascular function. **Physiological reports.** 6(12):e13748. PMID: 29932499

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22. Ponnalagu, D. and **H. Singh. 2017.** Anion Channels of Mitochondria. **Pharmacology of mitochondria.** *Handbook Exp. Pharmacol. Springer publisher*. 240:71-101
23. Gururaja Rao S., Ponnalagu D., Singh H., Jin D. J., and **H. Singh. 2017.** Identification and Characterization of a Bacterial Homolog of Chloride Intracellular Channel (CLIC) Protein Family. **Scientific Reports** 7(1):8500.
24. Kohut A., Patel N., and **H. Singh. 2016.** Comprehensive echocardiographic assessment of the right ventricle in murine models**. Jour. of Cardiovascular Ultrasound (JCU).** *24(3):229-238.*
    ***Editorial commentary:*** *Kyung-Hee Kim. 2016.* ***JCU.*** *24(3): 199-200.*
25. Lee A., Lin A., Shah K., **Singh H.,** Miller V. and S Gururaja Rao. **2016** Optimization of Non-Thermal Plasma Treatment in an in vivo Model Organism. **PLoS One.** *e0160676.*
26. Ribas V, Drew BG, Zhou Z, Phun J, Kalajian NY, Soleymani T, Daraei P, Widjaja K, Wanagat J, de Aguiar Vallim TQ, Fluitt AH, Bensinger S, Le T, Radu C, Whitelegge JP, Beaven SW, Tontonoz P, Lusis AJ, Parks BW, Vergnes L, Reue K, **Singh H,** Bopassa JC, Toro L, Stefani E, Watt MJ, Schenk S, Akerstrom T, Kelly M, Pedersen BK, Hewitt SC, Korach KS, and A.L Hevener. **2016.** Skeletal muscle ERa action is critical for the maintenance of mitochondrial function and metabolic homeostasis in females. **Science Translational Medicine.** 8(334):334ra54.
27. Ponnalagu D., Gururaja Rao S., Farber J., Xin W., Hussain A.T., Shah K., Tanda S., Edwards J. C., Berryman M., and **H. Singh. 2016.** Data supporting the specificity of CLIC1, CLIC4, CLIC5 and DmCLIC antibodies and their localization in endoplasmic reticulum of cardiomyocytes. **Data in Brief.** 7:1038–1044.
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31. Kabir M.E., **Singh H.,** Lu R., Olde B., Leeb-Lundberg L.M., and J. C. Bopassa. **2015**. G Protein-Coupled Estrogen Receptor 1 Mediates Acute Estrogen-Induced Cardioprotection via MEK/ERK/GSK-3β Pathway after Ischemia/Reperfusion. **PLoS One**. e0135988.
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34. Martin L. J., Lau E., **Singh H.,** Vergnes L., Tarling E. J., Mehrabian M., Mungrue I., Xiao S., Shih D., Castellani L., Ping P., Reue K., Stefani E., Drake T.A., Bostrom K., and A. J. Lusis. **2013.** Response to Pomozi et al Research Commentary. **Circ Res**. 112:e152-e153.

35. #Rodríguez P. F. G., #Wu Y., **Singh H.,** Zhao H., Toro L., and E. Stefani. **2012.** Building a Fast Scanning Stimulated Emission Depletion Microscope: A Step by Step Guide. Current Microscopy Contributions to Advances in Science and Technology. 2:791-800. #Equal contribution

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38. **Singh H.,** Lu R., Rodriguez P. F. G., Wu Y., Bopassa J. C., Stefani E., and L. Toro. **2012.** Visualization and quantification of cardiac mitochondrial proteins clusters with STED microscopy. **Mitochondrion**.12:230-236.

39. #**Singh H. 2010**. Two decades with dimorphic ChLoride Intracellular Channels (CLICs). **FEBS letters**. 584, 10:2112-2121. #corresponding author

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44. Viswanathan G, Poornima R, and **H. Singh. 2004.** Chapter 16: Comparative study of biodiversity of butterflies between Bangalore and Jammu region. Biodiversity and Environment. Edited by Arvind Kumar ISBN 81-7648-471-7. XII, 659

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46. Viswanathan G., **Singh H.,** and R. Poornima. **2002.** Dermatoglyphic analysis of fingertip print patterns of blind children from Bangalore. **J. Ecotoxicol. Environ. Monit.** 12:73-75.**$**

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**$**Papers during under graduation

## IN PREPARATION/ SUBMITTED

1. Karekar P., Jenssen H., Lam A., **Singh H.*,** and S. Gururaja Rao*. **2020.** Cancer triggers heartfailure in Drosophila and mice mediated by cellular metabolites. **Journal of Molecular and Cellular Cardiology.** Submitted. *Co-corresponding authors.
2. Chaudhury, A., Wanek A., Ponnalagu D., **Singh H.*,** and A. Kohut*. **2020.**Meausrement of ultrasound induced changes in strain within murine myocardium using speckle tracking echocardiography. **Journal of Ultrasound in Medicine.** Submitted. *Co-corresponding authors.
3. Lu R., Alioua A., Li F. Y., Kundu P., Li M., **Singh H.,** Stefani E., and L.Toro. Direct interaction between c-Src and 5-HT2AR C-terminus facilitates 5-HT2AR-c-Src functional coupling.
4. Gururaja Rao S., Shah K., Tanda S., Berryman M., Wallace D., and **H. Singh.** DmCLIC regulates life span and cardiac function.
5. Amirjazil I., Ponnalagu D., Goswami S., Gururaja Rao S., and **H. Singh.** Genetic modification of cardiac tissue.

## ORAL PRESENTATIONS AND INVITED SEMINARS

1. Global Talents in Science. Innovation in Cardiovascular Sciences and Therapeutics during a Pandemic, **2020.** Targeting Chloride Intracellular Channels in Cardioprotection.
2. Biophysical Society Meeting, **USA 2020**. Mitochondrial Anion Channels.
3. Lousiana State University, **USA 2019.** "Ion channels, mitochondria and cardioprotection"
4. Wright State University, Dayton OH, **USA, 2019**. " Mitochondrial Ion channels".
5. Davis Heart and Lung Research Institute, The Ohio State University, Columbus, OH, **USA, 2018.** Research in progress seminar on "Physiological roles of mitochondrial ion channels".
6. Penn State University College of Medicine, Hershey, PA, **USA, 2018**. " Intracellular Ion Channels and Cardiac Physiology".
7. University of Wyoming, Laramie, WY, **USA, 2018**. "Mitochondria and Cardioprotection".
8. National Centre for Biological Sciences (NCBS). Bangalore. **India 2017.**[$] "Ion Channels: Role in Mitochondrial Physiology."
9. The Ohio State University, Columbus, OH, **USA, 2017**, Mitochondria and physiology[$]
10. International Symposium on the future of regenerative medicine, Tuscania, **Italy, 2017.** Role of mitochondrial ion channels in cardiac regeneration. [$]
11. Columbia University, Dept. of Physiology and Cellular Biophysics, **USA, 2017.** Mitochondrial Ion Channels, Cardiac function and Cardioprotection. [$]
12. Weill Cornell College of Medicine, **USA, 2017.** Roles and Mechanism of Mitochondrial ion channels in the heart. [$]

13. Thomas Jefferson University, **USA, 2016**. "Ion Channels of Mitochondria: Identity and Roles in Cardioprotection". [$]
14. Temple University, **USA, 2016**. "Mitochondrial ion channels". [$]
15. CTRI Drexel. **USA. 2016.** "Role of CLICs in Pulmonary Hypertension".
16. Dept. of Biochemistry and Molecular Biology, Drexel University College of Medicine, **USA. 2016**. "Mitochondrial Ion Channels, Molecular Identity and Functional Roles".[$]
17. Gordon Research Conference, Organellar Channels & Transporters. Bentley University, **USA. 2015.** "Role of $BK_{Ca}$ channels in regulating the life span".
18. ChLoride Intracellular Channel (CLIC) workshop, National Institute of Health **USA. 2015.**[$] "CLICs as mitochondrial channels" [$]
19. The Lankenau Institute for Medical Research, Cardiovascular research program, **USA 2015.** "Cardiac mitochondrial ion channels: role in protecting the heart" [$]
20. International Ion Channel Conference. University of California Los Angeles, **USA. 2015.**[$] "Molecular identity of mitochondrial ion channels."
21. Center for Mitochondrial and Epigenomic Medicine. The Children's Hospital of Philadelphia (CHOP) Philadelphia **USA**. **2014.**[$] "$BK_{Ca}$ in cardiac mitochondria."
22. Indian Institute of Science and Education Research (IISER) Mohali **India. 2014.**[$] "Molecular identity and functional role of mitochondrial ion channels."
23. Indian Institute of Science and Education Research (IISER) Trivandrum **India. 2014.**[$] "Mitochondrial ion channels."
24. National Centre for Biological Sciences (NCBS). Bangalore. **India 2014.**[$] "Mitochondrial ion channels in Cardioprotection."
25. Indian Institute of Science (IISc) Bangalore **India. 2014.**[$] "Mitochondrial ion channels in Cardioprotection and Aging."
26. The Children's Hospital of Philadelphia (CHOP)–Drexel–Hebrew University Symposium, "Developing New Treatments for Children's Diseases". Philadelphia **USA**. **2014.**[$] "Molecular identity of mitochondrial potassium channels."
27. MitoCircle. Thomas Jefferson University. Philadelphia **USA**. **2013.**[$] "Molecular identity and role of mitochondrial potassium channels."
28. Dept. of Cardiology. Drexel University College of Medicine Philadelphia **USA**. **2013**.[$] "Intracellular Ion Channels and Heart Function."
29. Ion Channel Symposium, Royal Danish Society of Sciences and Letters Copenhagen **Denmark. 2013.**[$] "Molecular identity and role of cardiac mitochondrial potassium channels."
30. Platform talk at the 57th Annual Biophysical Society meeting Philadelphia **USA**. **2013.** [##] "$BK_{Ca}$ and its interactome."
31. Dept. of Pharmacology and Physiology. Drexel University College of Medicine Philadelphia **USA**. **2012.**[$] "Intracellular Ion Channels"
32. Dept. of Physiology, Georgia University Augusta **USA. 2012.**[$] "$BK_{Ca}$ in the heart. What is the role?"
33. Ranbaxy Research Laboratory. Gurgaon. **India. 2011.**[$] "How to study mitochondrial ion channels?"
34. National Centre for Biological Sciences (NCBS). Bangalore. **India 2011.**[$] "Mitochondrial Ion Channels in the Heart"
35. Short talk. Annual Meeting of the American Society Anesthesiologists. Chicago, **USA. 2011.** [##*] "Super resolution imaging of Mitochondrial Ion Channels in the Heart"

36. Short talk. Annual Meeting of the American Society Anesthesiologists. Chicago, **USA. 2011.** ##* "Mitochondrial potassium Channels in the Heart"
37. Mitochondrial Physiology and Medicine. Society for General Physiologists. Woods Hole, **USA. 2011.** ## "Pharmacology of Mitochondrial Ion Channels"
38. Molecular Pharmacology Retreat. Huntington Beach, **USA. 2010.** ## "Where is cardiac $BK_{Ca}$?"
39. Zilkha Neurogenetic Institute. University of Southern California Los Angeles **USA**. **2009.**$ "Ion Channels of Intracellular Organelles."
40. Indian Institute of Science and Education Research (IISER) Mohali **India. 2009.**$ "Tale of two Ion Channels."
41. From the lab bench. Dept. of Neurobiology UCLA, Los Angeles **USA. 2008.** "Interactors of P2X receptors in brain."
42. Young Physiologists' Symposium. London **UK. 2006.** ## "Identification of the pore-region of Chloride Intracellular Ion Channels."
43. Bioscience 2006 as Promega Young Biochemist of the year nominee. Glasgow **UK. 2006.** ## "Single-channel properties of Chloride Intracellular Ion Channels."

## Selected oral presentations $ invited
* Two subsequent selected talks in the same session

## ABSTRACTS

1. Ponnalagu D., Bednarczyk P., Weist J., Gao E., Koch W., Khan M., Szewczyk A. M., and **H. Singh. 2020.** Identification of Role of Mitochondrial Chloride Intracellular Channel (CLIC) Protein, CLIC4 and CLIC5 in Cardioprotection from IR Injury via Probably Modulating the Opening of MPTP Pore. Biophysical Journal. 118. 3. 446a.
2. Trovato V., **Singh H.,** and S Smith. **2020.** Hypochloremia at Left Ventricular Assist Device Implantation is Associated with Decreased One Year Survival. The Journal of Heart and Lung Transplantation. 39, 4, S350.
3. Ponnalagu D., Patel. N.J., Gao E., Koch W. J., Kohut A. R., and **H. Singh. 2019**. Mitochondrial CLIC4 and CLIC5B Mediate Cardio-protection From Ischemia/reperfusion Injury. Circulation Research 123 (Suppl_1), A292-A292
4. Ponnalagu D., Hussain A. T., and **H. Singh. 2019**. Identificaiton of splice variant of chloride intracellular channel 5 protein (CLIC5B) in determining mitochondrial localization and function. Biophysical Journal, L3081
5. Singh S., Shah K., Wengrofsky A., Gururaja Rao S., Ponnalagu D., Kohut A., and **H. Singh. 2018**. Absence of large conductance calcium and voltage activated potassium channel causes cardiac dysfunction. Journal of American College of Cardiology. 71(11), A926.
6. Ponnalagu D., Patel N. J., Chaudhury A., Gao E., Koch W. J., Kohut A. R., and **H. Singh. 2018**. CLIC4 and CLIC5, Mitochondrial Chloride Channel Proteins Mediate Cardioprotection Against Ischemia Reperfusion Injury. Biophysical Journal 114 (3), 657a.
7. Lam A., Karekar P., Hariharan G., Fleyshman M., Shah K., **Singh H.,** and SG Rao **2017**. Voltage-Gated Calcium Channel α1-Subunits Regulate Cardiac Function of the Aging Heart of D. melanogaster. Biophysical Journal 114 (3), 638a-639a.

8. Patel N., Johansen J., Ponnalagu D., Kohut A., and **H. Singh. 2017**. Pharmacologic Inhibition of BK Channels Affects Cardiac Function. Circulation Research 121 (Suppl 1), A57-A57.
9. **Ponnalagu D., Gururaja Rao S., Hussain A. T., and **H. Singh. 2017**. An Alternative Splice Variant of Chloride Intracellular Channel 5 Protein,(CLIC5B) Regulates Cardiac Mitochondrial Localization and Function of CLIC5. Biophysical Journal 112 (3), 325a. (Platform presentation)
10. Ponnalagu D., Gururaja Rao S., Hussain A. T., and **H. Singh. 2016**. Role of Chloride Intracellular Channels (CLICs) Proteins in Maintaining Cardiac Mitochondrial Physiology. Journal of General Physiologists. 148.2.183. 17th Annual meeting of the SGP. Woods Hole MA USA. (Rapid presentation)
11. **Singh H.,** Shah K., Ponnalagu D., Chandrasekhar S., Kohut A., Meredith A., S. Gururaja Rao. **2016.** Ablation of BKCa Channels Results in Cardiac Hypertrophy. Basic Cardiovascular Sciences. American Heart Association. Phoenix AZ. USA. Circulation Research. 2016;119:A61
12. Patel N., Hussain A. T., Ponnalagu D., Edwards J. C., Kohut A., and **H. Singh. 2016.** Loss of chloride intracellular channel protein 4 prevents cardiac hypertrophy in isoproterenol induced pressure overload in mouse models. Journal of the American College of Cardiology 67 (13_S), 1495-1495. Chicago, USA.
13. Gururaja Rao S., Shah K., Reyes B., Van Bockstaele E., and **H. Singh. 2016.** Drosophila chloride intracellular channel regulates mitochondrial structure and function. Biophysical Journal 110 (3), L3560. 60th Annual meeting of the Biophysical Society. Los Angeles, CA. USA
14. Shah K., Gururaja Rao S., Ponnalagu D., Meredith A. L., Kohut A. R., and **H. Singh. 2016.** Expression of BKCa regulates cardiac hypertrophy and cardiac function. Biophysical Journal 110 (3), L3541. 60th Annual meeting of the Biophysical Society. Los Angeles, CA. USA
15. Ponnalagu D., Gururaja Rao S., Bednarczyk P., Feng Y., Farber J., Thanawala R., Hussain A. T., Bopassa J. C., Szewczyk A. and **H. Singh. 2016**. Identification of Cardiac Mitochondrial Chloride Intracellular Channel (CLIC) Proteins and their Physiological Function. Biophysical Journal 110 (3), p453a. 60th Annual meeting of the Biophysical Society. Los Angeles, CA. USA.
16. **Singh H.,** Ponnalagu D., Sukur S., Singh H., Zhou Y. N., Jin D.J., and SG Rao. **2016**. A Bacterial Homolog of Chloride Intracellular Channel (CLIC) Protein Family, Stringent Starvation Protein A (SspA), forms a Non-Selective Ion Channel. Biophysical Journal 110 (3), 117a. 60th Annual meeting of the Biophysical Society. Los Angeles, CA. USA.
17. Ponnalagu D., Farber J., Sukur S., Xin W., Gururaja Rao S., and **H, Singh. 2015.** Molecular Identity and Functional Characterization of Chloride Intracellular Channel (CLIC) Proteins in Cardiac Mitochondria. Circulation Research 117 (Suppl 1), A238-A238. AHA BCVS. New Orleans. USA.
18. Hussain T. A., Shah K., Ponnalagu D., and **H. Singh. 2015.** Activation of BK-Ca attenuates mitochondrial Reactive Oxygen Species. Drexel Discovery Day USA
19. Hariharan G., Balasingham S., Fleyshmann M., **Singh H.,** and S. Gururaja Rao. **2015**. T and L type channel regulate lifespan and cardiac function. Drexel Discovery Day USA.

20. Sukur S., Ponnalagu D., Singh H., Ning Z. Y., Ding J., Gururaja Rao S., and **H. Singh. 2015.** A Bacterial Homolog of Chloride Intracellular Channel (CLIC) Protein Family, Stringent Starvation Protein A (SspA), Forms a Non-Selective Ion Channel. Drexel Discovery Day USA.
21. Shah K., Meredith A., Wallace D. **Singh H.** and S. Gururaja Rao. **2015.** Drosophila BK channel regulates mitochondrial function and aging. Drexel Discovery Day USA.
22. Thanawala R.U., Ponnalagu D., Hussain A., and H. Singh. **2015.** Chloride Intracellular Ion Channels (CLIC) Regulate Mitochondrial Permeability Transition Pore. Drexel Discovery Day USA.
23. Gururaja Rao S., Shah K., Singh G., and **H. Singh. 2015.** Ablation of BK Channels Impairs Mitochondria and affects aging. Biophysical Journal 108 (2), 280a. 59th Annual meeting of the Biophysical Society. Baltimore, MD. USA.
24. Ponnalagu D.**, Farber J., Sukur S., Xin W., Gururaja Rao S., and **H, Singh. 2015.** Molecular Identity and Functional Characterization of Chloride Intracellular Channel (CLIC) Proteins in Cardiac Mitochondria. Biophysical Journal 108 (2), 368a. 59th Annual meeting of the Biophysical Society. Baltimore, MD. USA.
25. Eisenbrey J.**, Liu J. B., Fox T., Forsberg F., Rao S. G., and **H. Singh. 2015.** Ultrasound in Medicine & Biology 41 (4), S121-S122. Florida, USA.
26. Ponnalagu D., Farber J., Sukur S., Xin W., Gururaja Rao S., and **H, Singh. 2014.** Inhibition of chloride intracellular channel (CLIC) proteins induce reactive oxygen species release from cardiac mitochondria. Drexel Discovery day symposium, Philadelphia, USA.
27. Farber J#., Ponnalagu D., Sukur S., Xin W., Gururaja Rao S., and **H. Singh. 2014.** Inhibition of ChLoride Intracellular Channel (CLIC) Proteins by IAA-94 Induce Reactive Oxygen Species Release from Cardiac Mitochondria. Mol. Biol. Cell 25. E76 ASCB meeting.
28. Xin W., Ponnalagu D., Bhyana K., Fleyshman M., Gururaja Rao S., and **H. Singh. 2014.** Role of Mitochondrial Ion Channels in Cardioprotection and Cardiac Function. CHOP-Drexel-Hebrew University Symposium. Philadelphia, USA.
29. Harris T., **Singh H.,** Olde B., Leeb-Lundberg L.M.F., Toro L., Stefani E., and J. C. Bopassa. **2014.** Activation of G-protein Coupled Estrogen Receptor 1 Protects the Heart Against Ischemia/Reperfusion Injury by Inhibiting the mPTP Opening Via MEK/ERK/GSK-3β Pathway. The FASEB Jour. LB564.
30. Gururaja Rao S., Bopassa J. C., and **H. Singh. 2013.** Chloride Intracellular Channel (CLIC) Proteins Are Conserved in Prokaryotes and Play a Role in Cardio Protection from Ischemia-Reperfusion Injury. Jour. Gen. Physiol. 142:2, 7A-7A. Woods Hole, MA, USA.
31. Toro L., Bopassa J. C. **Singh H.,** and E. Stefani. **2013.** Kcnma1 gene expression improves mitochondrial function in NS1619 preconditioned hearts after ischemia/reperfusion injury. Cell Symposia; Mitochondria: from Signaling to Disease. Lisbon, Portugal.
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**Selected oral presentations # Selected eposter