Cardiovascular diseases and stroke afflict people of all races, ethnicities, genders, religions, ages, sexual orientations, national origins and disabilities. The American Heart Association is committed to ensuring that our workforce and volunteers reflect the world’s diverse population. We know that such diversity will enrich us with the talent, energy, perspective and inspiration we need to achieve our mission: building healthier lives, free of cardiovascular diseases and stroke.

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Basic Cardiovascular Sciences
2018 Scientific Sessions:
Innovating in Cardiovascular Research

Final Program
July 30-August 2 | Grand Hyatt San Antonio | San Antonio, Texas

Abstracts are available online: http://professional.heart.org/bcvsessions

Sponsored and organized by the Council on Basic Cardiovascular Sciences.
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<th>Sunday July 29</th>
<th>Monday July 30</th>
<th>Tuesday July 31</th>
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<tr>
<td>7:00 AM</td>
<td>7:00–8:00 AM</td>
<td>Women in Science Breakfast</td>
<td>Ticket required to attend</td>
<td>Continental Breakfast/ Registration/Exhibits</td>
<td>7:00–8:00 AM</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>8:00–8:15 AM</td>
<td>Concurrent Sessions</td>
<td>A: Emerging Cardiac Therapeutic Strategies</td>
<td>8:00–9:15 AM</td>
<td>Concurrent Sessions</td>
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<td>8:45 AM</td>
<td>9:00–9:45 AM</td>
<td>Concurrent Sessions</td>
<td>B: Excitation-Contraction Coupling</td>
<td>9:15–10:00 AM</td>
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<td>9:45 AM</td>
<td>10:00–10:45 AM</td>
<td>General Session 10</td>
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<td>10:45–11:45 AM</td>
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<td>10:45 AM</td>
<td>10:45–11:45 AM</td>
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<td>Novel Cardiac Regulatory Mechanisms</td>
<td>12:35–1:00 PM</td>
<td>Lunch on your own; Poster Viewing; Exhibits</td>
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<tr>
<td>12:35 PM</td>
<td>Noon-1:00 PM</td>
<td>ACRE Meeting (Academy of Cardiovascular Research)</td>
<td>Excellent)</td>
<td>Noon-1:00 PM</td>
<td>Closing Remarks/ Adjourn</td>
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<tr>
<td>1:00 PM</td>
<td>Noon-1:00 PM</td>
<td>Opening Welcome</td>
<td>OR</td>
<td>11:45 AM-1:00 PM</td>
<td>Lunch on your own; Poster Viewing; Exhibits</td>
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<tr>
<td>1:30 PM</td>
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<td>Concurrent Sessions</td>
<td>A: Cardiac Fibrosis – Changing the Landscape</td>
<td>1:30–2:30 PM</td>
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<td>2:30 PM</td>
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<td>2:30–3:00 PM</td>
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<td>C: Mitochondria and Heart Failure</td>
<td>3:30–4:30 PM</td>
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<td>4:30–5:30 PM</td>
<td>Concurrent Sessions</td>
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Legend:
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Questions and Information

Questions
If you have questions after reading this program, contact the American Heart Association National Center:

Telephone:  888.242.2453 (inside the United States)
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Fax:        214.373.3406
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• Select the conference you’re interested in attending for more details, such as Registration & Housing, Programming, and Abstracts and Awards.
• If you have additional questions, please email us at scientificconferences@heart.org or call toll-free 888.242.2453
Letter From the Chairs

Dear Colleague,

On behalf of the American Heart Association and the Scientific Council on Basic Cardiovascular Sciences, welcome to the Basic Cardiovascular Sciences 2018 Scientific Sessions: Innovating in Cardiovascular Research.

The conference is considered by many to be the premier basic and translational cardiovascular research meeting in the world and attracts our field's best and brightest from across the globe.

Our primary goal is to provide a forum for timely discussion of the latest findings from leaders in the field of cardiovascular sciences. As a result, we hope the conference will foster new ideas and collaborations to accelerate translation.

We’re pleased to announce some new programming this year, including the Early Career Pre-conference Session on Monday morning, concurrent sessions throughout the meeting to expand your educational experience, workshops and early career sessions.

Attendees will hear state-of-the-art presentations on a broad array of topics, including cardiac fibrosis – changing the landscape, the on and off of redox, signaling networks in cardiac myocytes, mitochondrion and heart failure, transcriptional regulation and epigenetics, ion channels and arrhythmias, functional genomics and pathogenicity assessment, personalized cell models of arrhythmia, new ways to think about RNA, the architecture of contraction, cell death and cardiomyopathy, and may others. Workshop topics include imaging in vitro and in vivo, toward single cell analysis, and single and multi-omics. Invited speakers represent institutions from the United States, Australia, Asia, Canada, Europe and Israel as we further broaden our international scope and partnerships.

In addition to the Early Career Pre-conference session on Monday morning, we will have the Outstanding Early Career Investigator Award competition, oral presentations of selected abstracts, three lively poster sessions, and two early career workshops. The Tuesday lunch workshop (ticket required to attend) will feature speed networking with senior faculty panelists, and the Wednesday morning workshop on finding success and happiness with a PhD will feature presentations by faculty in all stages of their careers.

As your hosts, we hope you will find the conference an educational experience and a great opportunity to network with scientists from around the world who are dedicated to building healthier lives, free of cardiovascular diseases and stroke. Let us know if we can do anything to enrich your stay in Portland and thank you for sharing your insight and expertise. We look forward to meeting you.

Sincerely,

Michael S. Kapiloff, MD, PhD, FAHA
Program Co-Chair, BCVS 2018

Jennifer Van Eyk, PhD, FAHA
Program Co-Chair, BCVS 2018

Rong Tian, MD, PhD, FAHA
Program Co-Chair, BCVS 2018

Next year's conference: July 29–August 1, 2019. Visit professional.heart.org/bcvsessions for more information.
The American Heart Association would like to thank the following for their support of BCVS 2018 Scientific Sessions:

The Academy of Cardiovascular Research Excellence (ACRE)
American Physiological Society
National Heart, Lung, and Blood Institute
Novartis Pharmaceutical Company

Special thanks to the individual BCVS Council Members who provided funding to support this meeting and to the following for their continued work in support of this meeting:

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The American Heart Association is grateful to the members of the Program Committee for their dedication and leadership in planning the program.

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(continued on next page)
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Rong Tian, MD, PhD, FAHA, University of Washington, Seattle, Washington
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Sean Wu, PhD, Stanford University, Stanford, California
Yi Yang, PhD, East China University of Science and Technology, Shanghai, China
John R. Yates, III, PhD, The Scripps Research Institute, La Jolla, California
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Allen Andres, PhD, Cedars-Sinai Medical Center, Los Angeles, California
D. Kent Arrell, PhD, Mayo Clinic, Rochester, Minnesota
Donald M. Bers, PhD, FAHA, University of California at Davis, Davis, California
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Sean Wu, PhD, Stanford University, Stanford, California
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Abstract Reviewers

The conference organizers gratefully acknowledge the following individuals for assisting with the abstract grading process:

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Mark A. Sussman
Rong Tian
Michael Tranter
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Haodong Xu
Yi Yang
Jianyi (Jay) Zhang
Wolfram-Hubertus Zimmermann
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<tr>
<td>General Sessions</td>
<td>Texas Ballroom A/B (4th Floor)</td>
</tr>
<tr>
<td>Refreshment Break</td>
<td>Texas Ballroom Foyer (4th Floor)</td>
</tr>
<tr>
<td>Registration</td>
<td>Texas Ballroom Foyer (4th Floor)</td>
</tr>
<tr>
<td>Speaker Resource Room</td>
<td>Bonham A (3rd Floor)</td>
</tr>
</tbody>
</table>
Program Description

The 14th annual BCVS 2018 Scientific Sessions: Innovating in Cardiovascular Research has become the “go to” conference for molecular cardiovascular biology and disease. Sponsored by the American Heart Association Basic Cardiovascular Sciences Council, the conference attracts leading researchers in fields such as microRNAs, cardiac gene and cell therapy, cardiac development and most recently tissue engineering and iPS cells.

The agenda includes early career pre-conference sessions on Monday morning, followed by 10 concurrent sessions and five general sessions over three-and-a-half days — all in a forum that promotes the relaxed exchange and discussion of cutting edge research in molecular and translational cardiovascular biology and disease. The program includes a diversity of speakers representing the best cardiovascular scientists from around the world.

The organizers continue to embrace early career cardiovascular scientists by including oral abstract presentations from up-and-coming investigators throughout the program, with one session dedicated for the Young Investigator Award presentations/competition. In addition to stimulating talks, posters from submitted abstracts will be presented in three sessions.

Conference Registration

Registration will be in the Texas Ballroom Foyer during the following hours:

Monday, July 30 .......... 8:00 am–6:00 pm
Tuesday, July 31 .......... 7:00 am–6:00 pm
Wednesday, August 1 ...... 7:00 am–6:00 pm
Thursday, August 2 ......... 7:00 am–Noon

Exhibits

Beginning at 8 a.m. Monday, visit our exhibitors. This year we welcome:

- AHA Membership
- ADInstruments, Inc.
- American Physiological Society
- Arkitek Scientific
- Chandler Dental Center
- Exemplar Genetics
- Fujifilm Visualsonics, Inc.
- Illumina
- IonOptix
- Pfizer
- Scientific Publications
- Scintica Instrumentation
- Transonic Systems, Inc.

You may also renew your AHA membership and bring your non-member colleagues to learn the latest information about the benefits of membership.

Learning Objectives

At the conclusion of the conference, participants will be able to:

1. Describe current research into the underlying mechanisms of cardiac remodeling and its relevance to your work.
2. Discuss current research into cardiac fibrosis and its implications for your own work.
3. Describe the most recent research related to the physiology and signaling pathways of cardiac myocytes and its implications for your work.
4. Describe the potential role of and challenges involved in the use of big data analytics to guide cardiovascular research and patient care, and their implications for your work.
5. Describe opportunities to bring a greater emphasis on translational research to your work.
6. Describe emerging advances in the area of cardiovascular regenerative medicine, as well as current challenges.
Next year’s conference: July 29–August 1, 2019. Visit professional.heart.org/bcvssessions for more information.

Joint Accreditation Statements
In support of improving care, this activity has been planned and implemented by the American Heart Association. The American Heart Association is accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

AMA Credit Designation Statement – Physicians
The American Heart Association designates this live activity for a maximum of 23.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AAPA Credit Acceptance Statement – Physician Assistants
AAPA accepts certificates of participation for educational activities certified for AMA PRA Category 1 Credit™ from organizations accredited by ACCME or a recognized state medical society. Physician assistants may receive a maximum of 23.75 hours of Category I credit for completing this program.

AANP Credit Acceptance Statement – Nurse Practitioners
American Academy of Nurse Practitioners (AANP) accepts AMA PRA Category 1 Credit™ from organizations accredited by the ACCME.

***AMA Credit must be claimed within six months of attendance. Credit will no longer be available to claim after Feb. 2, 2019.

Disclosure Policy
All persons who develop and/or control educational content in CME/CE activities provided by the American Heart Association will disclose to the audience all financial relationships with any commercial supporters of this activity as well as with other commercial interests whose lines of business are related to the CME/CE-certified content of this activity. In addition, presenters will disclose unlabeled/unapproved uses of drugs or devices discussed in their presentations. Such disclosures will be made in writing in course presentation materials.

Claiming CME/CE Credit
2. Click Activities in Progress.
3. Enter your Username and Password, and click Sign In.
   a. If you do not remember your Username or Password, click the Forgot Password? link.
   b. If you are not a registered user, click Create an account to enter your account information and receive your Username and Password.
4. Select the activity.
5. Review the Activity Overview tab, scroll to bottom and click Continue.
   a. You may be required to check a confirmation box that you have read the information.
6. Click the Launch button to complete an evaluation on the course. This step is required to claim credit.
   Once complete, click Continue.
7. Claim your credit by clicking the Claim button for the appropriate accreditation.
   a. You may qualify for more than one credit type based on your user profile.
   b. ACCME, ANCC and CAPCE allow claiming of variable credit. You will have the option to claim all or part of the activity credit if applicable to your user profile.
8. Click Continue to generate your certificate.
9. Click the certificate link to print or save it.
10. Click Close. The activity is stored under Completed Activities.

You are strongly encouraged to claim your CME/CE credit within 30 days of the conference, and you must claim your credit by Feb. 2, 2019. For customer support, please contact our National Engagement Center at 1-888-242-2453 (between 8:00 AM–5:00 PM Central Standard Time) or email learn@heart.org.

International Attendance Verification forms will be available at registration.
Web Resources

HealthJobsPLUS for Professionals
The American Heart Association, in partnership with Lippincott Williams & Wilkins (a Wolters Kluwer business), is proud to offer HealthJobsPlus.com. HealthJobsPlus.com provides a first-rate source for those seeking and posting jobs by connecting qualified healthcare professionals with top-notch employers.

Professional.heart.org
Professional Heart Daily is the American Heart Association/American Stroke Association’s powerful Internet resource for healthcare professionals devoted to the fight against cardiovascular disease and stroke. Depending on the level of membership selected, AHA/ASA Professional Members may have free access to all 11 AHA scientific journals, biweekly clinical updates, core clinical textbooks, a continually updated drug database and much more. Also available from this site are links to the BCVS 2018 Scientific Sessions website, Science News and the AHA’s Professional Online Network.

learn.heart.org
This website is where healthcare professionals can complete the conference evaluation and claim CME/CE credits after the meeting. Also available on learn.heart.org are podcasts, online courses, satellite broadcasts and webcasts.

Twitter
Use Twitter to tweet your questions/comments during the meeting or just talk about what is happening at BCVS 2018. Use hashtag: #BCVS18

Jaha — Journal of the American Heart Association

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AHA/ASA’s Open Access, Online-Only Journal. All articles are free to read, download, and share. You retain copyright for noncommercial use of your article and are fully compliant with Open Access mandates.

Articles published in Jaha receive high media impressions. Altmetric scores allow you to easily measure the online impact of your research.

The journal’s Impact Factor is 4.425, which ranks JHA 35th among 126 journals in the Cardiac & Cardiovascular Systems subject category [2016 Journal Citation Reports (Clarivate Analytics, 2017)].

Discounted Article Publication Charges for AHA/ASA members. For other member benefits, visit professional.heart.org/membership.

Visit: jaha.ahajournals.org/content/author-instructions
Information for Presenters

Speaker Resource Room
The Speaker Resource Room is in Bonham A on the third floor of the hotel. Speakers are asked to deliver their presentations on CD-ROM, DVD-ROM or a USB storage device to the Speaker Resource Room at least one hour before the beginning of the session in which they will speak. It is imperative that you review your presentation in the Speaker Resource Room if it contains video files or was created on a Mac. Speakers will be directed to a preloading station where a technician will load the presentations. Speakers may also use this room to review and practice their presentations on both PC and Mac computers.

The Speaker Resource Room will be open during these hours:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Date</th>
<th>Time</th>
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<tbody>
<tr>
<td>Monday, July 30</td>
<td>8:00 AM–6:00 PM</td>
<td>Wednesday, August 1</td>
<td>7:00 AM–6:00 PM</td>
</tr>
<tr>
<td>Tuesday, July 31</td>
<td>7:00 AM–6:00 PM</td>
<td>Thursday, August 2</td>
<td>7:00 AM–Noon</td>
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</tbody>
</table>

Abstract Presentations
Abstract presentations for the Basic Cardiovascular Sciences 2018 Scientific Sessions are embargoed for release at the time of presentation or time of AHA news event. Information may not be released before the scheduled presentation time. Abstract content will be available on the BCVS 2018 Conference website: professional.heart.org/bcvssessions.

Abstracts will be published in the online edition of the AHA journal Circulation Research.

Abstracts will be presented as follows:

The following abstracts will be presented orally during the Early Career Pre-Conference Session: “Next Big Thing” at 10:00–11:15 AM Monday, and as a poster during the regularly scheduled poster sessions:

<table>
<thead>
<tr>
<th>Name</th>
<th>Abstract Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew A. Walker</td>
<td>417</td>
</tr>
<tr>
<td>Chen Gao</td>
<td>263</td>
</tr>
<tr>
<td>Felix A. Trogish</td>
<td>531</td>
</tr>
<tr>
<td>Maribel Marquez</td>
<td>378</td>
</tr>
<tr>
<td>Jun Wang</td>
<td>214</td>
</tr>
</tbody>
</table>

Abstracts 100-119 will be presented orally.

Poster Presenters, please note the schedule below:

### Poster Session 1
- **Set-up time:** Monday, July 30 Noon–4:00 PM
- **Attended time:** Monday, July 30 4:40–7:00 PM
- **Tear-down time:** Tuesday, July 31 before 9:00 AM

### Poster Session 2
- **Set-up time:** Tuesday, July 31 Noon–4:00 PM
- **Attended time:** Tuesday, July 31 4:30–7:00 PM
- **Tear-down time:** Wednesday, August 1 before 9:00 AM

### Poster Session 3
- **Set-up time:** Wednesday, August 1 Noon–4:00 PM
- **Attended time:** Wednesday, August 1 4:30–7:00 PM
- **Tear-down time:** Thursday, August 2 before 9:00 AM

**ePosters**
In addition to the traditional poster format, abstract presenters were invited to upload their posters electronically. During the meeting, each abstract will have a QR code displayed on their poster board that will enable attendees with smartphones to view the ePosters and, if applicable, the author’s narration of the poster. ePosters are available only to attendees and may be viewed from the Communication Center — located in the registration area. Posters will be accessible to the general public after August 31.
Conference Highlights

Keynote Lecture

The Keynote Lecture will be presented at 11:00 AM Tuesday by Stefanie Dimmeler, PhD. Professor Dimmeler is Professor of Experimental Medicine and Director of the Institute of Cardiovascular Regeneration at the Institute of Cardiovascular Regeneration, Center for Molecular Medicine at the University of Frankfurt in Frankfurt, Germany.

Dr. Dimmeler received her PhD from the University of Konstanz in Konstanz (Germany). She then completed a fellowship in experimental surgery at the University of Cologne and in molecular cardiology at the University of Frankfurt (Germany). Dr. Dimmeler is the author of more than 300 peer-reviewed papers, published in highly qualified journals. She is among the top 1 percent Thomson Reuters Highly Cited Researcher and her h-index is 115. She has been invited to speak at more than 300 meetings and has presented various keynote lectures. She has received more than 17 awards, including the Frankel-Award of the German Cardiac Society, the Alfred Krupp Award and the Leibniz Award, and the Award of the Jung Foundation. She also presented the prestigious George E. Brown Memorial Lecture at the American Heart Association’s Scientific Sessions, the Thomas W. Smith Memorial Lecture in 2015, the Michael Oliver Memorial Lecture at the BAS Autumn Meeting in 2016 , and the Paul Dudley White International Lecture at the AHA Scientific Sessions. She received two ERC Advanced Investigator Grants. Dr. Dimmeler has been the chief editor of EMBO Molecular Medicine and associate editor of the European Heart Journal. Currently, she is associate editor of Circulation Research. Her group elucidates the basic mechanisms underlying cardiovascular disease and vessel growth with the aim to develop new cellular and pharmacological therapies for improving the treatment of cardiovascular disease. Ongoing research focuses on epigenetic mechanisms that control cardiovascular repair, specifically non-coding RNAs.

Dr. Dimmeler will lecture on Cellular Heterogeneity and Plasticity in Cardiovascular Disease.

Circulation Research
An American Heart Association Journal

The premier international journal in basic and translational cardiovascular biology.

EDITOR-IN-CHIEF
Roberto Bolli, MD

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Conference Highlights – Early Career and Ticketed Events

Outstanding Early Career Investigator Award Finalists’ Presentations
The three finalists will present their abstracts at 9:15 AM Wednesday. The winner will be announced Wednesday evening during the Basic Cardiovascular Sciences Council Dinner. Refer to pages 16–17 for more information on award finalists.

Early Career Pre-Conference Sessions
Join us on Monday in Texas Ballroom C for these sessions targeted for Early Career attendees:

- 9:45–10:00 AM Early Career Pre-Conference Session: Welcome Address
- 10:00–11:15 AM Early Career Pre-Conference Session 1: “Next Best Thing” in Cardiovascular Research Oral Abstract Presentations
- 11:20–11:50 AM Early Career Pre-Conference Session 2 Featured Presentation: Common Career Hurdles and How to Clear Them, Sakthivel Sadayappan, PhD, MBA, University of Cincinnati College of Medicine, Cincinnati, Ohio.

Early Career Investigator Social Event will be at 7:00 PM Tuesday, in Republic A/B/C. All early career investigators are welcome to attend.

Women in Science Breakfast
The 3rd annual Women in Science Networking Breakfast will begin at 7:00 AM Tuesday in Republic A/B/C, located on the 4th floor of the hotel. This is an informal networking breakfast for women in all phases of their careers. Ticket required to attend.

Council on Basic Cardiovascular Sciences Dinner
Please join us for food, drinks and a special presentation at the BCVS Council Dinner on Wednesday, August 1, in Texas Ballroom A/B. Beth Anderson, CEO and co-founder of Arkitek Scientific, will provide a special presentation on The Intersection of Art and Science – Conveying Complex Medical Concepts Requires Both. Though art and science have been inextricably intertwined throughout human history, the twentieth century marked a puzzling distancing of the two. This separation has created uneven access to scientific principles and concepts. Many people grapple with ever increasing complexity in their daily lives, yet lack or distrust basic science that would help inform them about themselves, their surroundings and the future.

Given that over one third of the brain is tasked with processing and understanding visual input, it’s not a mystery why computer graphics are being used more and more to help people understand the sciences. This talk focuses on those advances being made in 3D, VR and AR, as well as a discussion on what may be one of the initial moments when art and science began to drift apart.

Tickets, if available, may be purchased at the AHA Registration Desk ($60/member; $90/non-member; $50/student/trainee/early career member; $85/non-member for conference registrants and their guests).
Conference Highlights – Awards

The American Heart Association Council on Basic Cardiovascular Sciences provides educational programs, awards/scholarships, travel grants and mentoring opportunities that support the ongoing training and development of people in the early stages of their careers.

The council is pleased to announce the finalists and winners of the following awards:

### Outstanding Early Career Investigator Award Finalists

The Outstanding Early Career Investigator Award finalists will present their abstracts during a special oral session scheduled on Wednesday, August 1, from 9:15-10:00 AM. The winner will be announced at the Council Dinner that evening.

<table>
<thead>
<tr>
<th>Name/Institution</th>
<th>Abstract Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisandra E. de Castro Brás, East Carolina University</td>
<td>113</td>
</tr>
<tr>
<td>Cristi L. Galindo, Vanderbilt University</td>
<td>114</td>
</tr>
<tr>
<td>Manuel Rosa-Garrido, University of California, Los Angeles</td>
<td>115</td>
</tr>
</tbody>
</table>

### Cardiovascular Outreach Award Recipients

<table>
<thead>
<tr>
<th>Name/Institution</th>
<th>Abstract/Poster Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jean Chrisostome Bopassa, UT Health Science Center, San Antonio</td>
<td>420</td>
</tr>
<tr>
<td>Juliana de F. Germano, Smidt Heart Institute, Cedars-Sinai Medical Center</td>
<td>398</td>
</tr>
<tr>
<td>Nicole Fleming, University of North Carolina at Chapel Hill</td>
<td>583</td>
</tr>
<tr>
<td>Christian Garcia, Columbia University Medical Center</td>
<td>537</td>
</tr>
<tr>
<td>Maribel Marquez, Medical College of Wisconsin</td>
<td>378</td>
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<tr>
<td>Karla Maria Pires, University of Utah</td>
<td>100</td>
</tr>
<tr>
<td>Alessandro Salerno, University of Miami</td>
<td>342</td>
</tr>
<tr>
<td>Amarylis Wanschel, University of Miami</td>
<td>215</td>
</tr>
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</table>

### New Investigator Travel Award Recipients

<table>
<thead>
<tr>
<th>Name/Institution</th>
<th>Abstract/Poster Number</th>
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<tbody>
<tr>
<td>Chowdhury Abdullah, Louisiana State University Health Sciences Center-Shreveport</td>
<td>406</td>
</tr>
<tr>
<td>Karima Ait-Aissa, Medical College of Wisconsin</td>
<td>247</td>
</tr>
<tr>
<td>Shaiful Alam, Louisiana State University Health Sciences Center-Shreveport</td>
<td>408</td>
</tr>
<tr>
<td>Shinan An, Fuwai Hospital, National Center for Cardiovascular Diseases, Chinese Academy of Medical Sciences and Peking Union Medical College</td>
<td>260</td>
</tr>
<tr>
<td>Gaelle Auguste, University of Texas Health Science Center at Houston</td>
<td>232</td>
</tr>
<tr>
<td>Temo Barwari, King’s College London</td>
<td>300</td>
</tr>
<tr>
<td>Erik Blackwood, San Diego State University</td>
<td>547</td>
</tr>
<tr>
<td>Manoja Brahma, University of Alabama at Birmingham</td>
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</tr>
<tr>
<td>Kathleen Broughton, San Diego State University</td>
<td>200</td>
</tr>
<tr>
<td>Katelyn Bruno, Mayo Clinic</td>
<td>386</td>
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<tr>
<td>Jun Cao, University of Texas Medical Branch</td>
<td>435</td>
</tr>
<tr>
<td>Nolan Carew, University of Pittsburgh</td>
<td>103</td>
</tr>
<tr>
<td>Congwu Chi, University of Colorado Anschutz</td>
<td>504</td>
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<tr>
<td>Rajeshwary Ghosh, University of South Dakota</td>
<td>485</td>
</tr>
<tr>
<td>Shuchi Guo, Temple University</td>
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</tr>
<tr>
<td>Qingxun Hu, University of Washington</td>
<td>411</td>
</tr>
<tr>
<td>Oleg Karaduta, University of Arkansas for Medical Sciences</td>
<td>451</td>
</tr>
<tr>
<td>Jonathan Lambert, Temple University</td>
<td>539</td>
</tr>
<tr>
<td>Edward Lau, Stanford University</td>
<td>315</td>
</tr>
<tr>
<td>Chi Fung Lee, University of Washington</td>
<td>413</td>
</tr>
<tr>
<td>Jaecheol Lee, Stanford University</td>
<td>111</td>
</tr>
<tr>
<td>James McNamara, University of Cincinnati</td>
<td>303</td>
</tr>
<tr>
<td>Guodong Pan, Henry Ford Health System</td>
<td>500</td>
</tr>
<tr>
<td>Jessica Pfleger, Temple University</td>
<td>109</td>
</tr>
<tr>
<td>Honit Piplani, Cedars-Sinai Medical Center</td>
<td>529</td>
</tr>
<tr>
<td>Devasena Ponnalagu, Drexel University College of Medicine</td>
<td>292</td>
</tr>
<tr>
<td>Inna Rabinovich-Nikitin, St. Boniface Research Centre</td>
<td>488</td>
</tr>
<tr>
<td>Stephen Rego, Wake Forest School of Medicine</td>
<td>501</td>
</tr>
<tr>
<td>Julia Ritterhoff, University of Washington</td>
<td>543</td>
</tr>
<tr>
<td>Jennifer Schwaneckamp, University of Cincinnati</td>
<td>373</td>
</tr>
<tr>
<td>Vipul Sharma, Washington University School of Medicine</td>
<td>565</td>
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</table>
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- Chiu-Fen Yang, Hualien Tzu Chi Hospital 297
- Joe Zhang, Stanford University 217

Policy Information

Disclaimer
The Basic Cardiovascular Sciences Scientific Sessions 2018 is a scientific and educational conference for exchanging and discussing research results and scientific developments in the field of cardiovascular disease. Accordingly, the American Heart Association cannot and does not offer any assurance or warranty of the accuracy, truthfulness or originality of the information presented at the conference.

Embargo Guidelines
Abstracts, lectures and presentations in BCVS 2018 are embargoed for release at the time of presentation. Information may not be released before the scheduled presentation time.

Photography/Recording Policy
No person may record any portion of the AHA Scientific Sessions, scientific conferences and the AHA/ASA International Stroke Conference, whether by video, still or digital photography; audio; or any other recording or reproduction mechanism. This includes recording of presentations and supporting A/V materials and of poster presentations and supporting poster materials.

Additionally, science information shared by investigators during a meeting is confidential and often unpublished data. Taking photos of or recording the content of meeting room slides is also prohibited and considered intellectual piracy and unethical. Attendees who ignore this policy will be asked to leave the educational session and are at risk of losing their badge credentials.

The American Heart Association will take photographs and video during its conferences and may display, reproduce and/or distribute them in AHA educational, news or promotional materials, whether in print, electronic or other media, including the AHA website. Your registration for an AHA conference is your grant to the AHA the right to use your name, image and biography for such purposes as well as any other purpose. All photographs and/or videos become the property of the AHA.

No Smoking Policy
AHA policy prohibits smoking in conference meeting rooms and exhibits/registration areas. Thank you for your cooperation.

Seating/Badge Requirement
Seating is on a first-come, first-served basis. According to fire code, a session must be closed if the room fills to capacity. You must wear your name badge at all times during the symposium. Nonregistered guests may not be permitted into the sessions or food and beverage events. Be sure to remove your badge when you leave the conference or your hotel room.

The American Heart Association reserves the right to revoke or deny attendance to any registered participant, speaker, exhibitor, news media reporter or photographer of presentations or activities at AHA/ASA scientific conferences and meetings.

Americans with Disabilities Act (ADA)
We encourage participation by all individuals. If you have a disability, advance notification of any special needs will help us to serve you better. Please indicate what your needs are at the time of registration. We cannot ensure the availability of appropriate accommodations without prior notification.

Please note: The American Heart Association shall not be liable for cancellation of the BCVS 2018 Scientific Sessions caused by labor strikes, civil disorders, fires, weather conditions, or other acts of God for any damages or losses resulting from such cancellations.
Program Agenda

MONDAY, JULY 30

8:00 AM
Registration/Exhibits Open
Texas Ballroom Foyer

9:45 AM
Early Career Pre-Conference Session: Welcome Address
Texas Ballroom C
Nicole H. Purcell, PhD, University of California San Diego, La Jolla, California
Sean Wu, PhD, Stanford University, Stanford, California

10:00-11:15 AM
Early Career Pre-Conference Session 1
“Next Best Thing” in Cardiovascular Research

Moderators:
Jean C. Bopassa, PhD, University of Texas Health Science Center, San Antonio, Texas
Nirmala Hariharan, PhD, University of California at Davis, Davis, California

Oral Abstract Presentations

10:00 Targeting the NAD/NADH Ratio for Heart Failure Therapy
Matthew A. Walker, Univ of Washington, North Bend, WA; Outi Villet, Rong Tian, Univ of Washington, Seattle, WA

10:15 Cytosolic RBFox1 in Cardiac Pathological Remodeling
Chen Gao, Yun-Hua (Esther) Hsiao, Menglong Wang, Zhaojun Xiong, Shuxun Ren, Christoph D. Rau, Katelyn Li, Xinshu (Grace) Xiao, Yibin Wang, Yi Xing, UCLA-Los Angeles, Los Angeles, CA

10:30 A Lack in Endogenous Proteasome Regulation Provokes Exacerbated Cardiac Remodeling and Premature Heart Failure Following Catecholamine Challenge
Felix A. Trogisch, Franziska Koser, Dept of Cardiovascular Physiology, Heidelberg Univ, Heidelberg, Germany; Andreas Jungmann, Dept of Internal Med III, Univ Medical Ctr Heidelberg, Heidelberg, Germany; Oliver J. Müller, Dept of Internal Med III, Univ Medical Ctr Kiel, Kiel, Germany; Markus Hecker, Dept of Cardiovascular Physiology, Heidelberg Univ, Heidelberg, Germany; Oliver Drews, DZHK (German Ctr for Cardiovascular Res), partner site Heidelberg/Mannheim, Germany

10:45 Evaluation of Patient Specific MTERF4 Variants in Gene Edited Human iPSC-derived Cardiomyocytes
Maribel Marquez, Medical Coll of Wisconsin, Milwaukee, WI; Chris McDermott-Roe, Univ of Pennsylvania, Philadelphia, PA; Mike Grzybowski, Daniel Heibling, Medical Coll of Wisconsin, Milwaukee, WI; David P. Dimmock, Rady Children’s Inst for Genomic Med, San Diego, CA; James W. Verbsky, Aron M. Geurts, Medical Coll of Wisconsin, Milwaukee, WI

11:00 A Microrna-hippo Pathway Functions in Cardiac Conduction System Homeostasis and Regeneration
Jun Wang, Baylor Coll of Med, Houston, TX

11:15 Common Career Hurdles and How to Clear Them
Sakthivel Sadayappan, PhD, MBA, University of Cincinnati College of Medicine, Cincinnati, Ohio

11:50 AM–12:35 PM
Break/Lunch on your own

12:35–1:00 PM
BCVS 2018 Scientific Sessions: Opening Welcome

Ivor J. Benjamin, MD, FACC, FAHA, Medical College of Wisconsin, Milwaukee, Wisconsin and President, American Heart Association

Joseph C. Wu, MD, PhD, FAHA, Stanford University School of Medicine, Stanford, California
MONDAY

1:00–2:35 PM  
**Texas Ballroom A/B**  
**Concurrent Session 1A**  
**Cardiac Fibrosis – Changing the Landscape**

**Moderators:**
Burns Blaxall, PhD, FAHA, Cincinnati Children’s Hospital, Cincinnati, Ohio
Jennifer Davis, PhD, University of Washington, Seattle, Washington

1:00  
**Novel Fibroblast Functional States in the MI Heart**  
Jeffrey D. Molkentin, PhD, Children’s Hospital Medical Center, Cincinnati, Ohio

1:20  
**Collagen and Fibrosis: Assembly Required**  
Amy Bradshaw, PhD, Medical University of South Carolina, Charleston, South Carolina

1:40  
**Resident Fibroblasts as a Therapeutic Target in Cardiac Remodeling**  
Taben M. Hale, PhD, University of Arizona, Phoenix, Arizona

2:00  
**Epigenetic Regulation of Cardiac Fibrosis**  
Timothy A. McKinsey, PhD, University of Colorado, Aurora, Colorado

**Oral Abstract Presentation**

2:20  
**PRDM16 is a Novel Regulator of Cardiac Hypertrophy, Remodeling and Mitochondrial Dynamics**  
Karla Maria Pires, Sihem Boudina, Univ of Utah, Salt Lake Cty, UT

1:00–2:35 PM  
**Texas Ballroom C**  
**Concurrent Session 1B**  
**The On and Off of Redox**

**Moderators:**
Brian O’Rourke, PhD, Johns Hopkins University, Baltimore, Maryland
Edward Lau, PhD, Stanford University, Palo Alto, California

1:00  
**Cardiovascular Adaptation to Hypoxia and Redox Stress**  
Joseph Loscalzo, MD, PhD, FAHA, Harvard Medical School, Boston, Massachusetts

1:20  
**Nitric Oxide and Cardioprotection**  
Elizabeth (Tish) Murphy, PhD, FAHA, NHLBI, Bethesda, Maryland

1:40  
**New Aspects of NO-based Cellular Signaling**  
Jonathan S. Stamler, MD, FAHA, Case Western Reserve University, Cleveland, Ohio

2:00  
**New Hope for Measuring and Targeting Redox Dysregulation in Cardiovascular Disease**  
Gemma Figtree, MBBS, PhD, Kolling Institute, University of Sydney, St. Leonards, Australia

**Oral Abstract Presentation**

2:20  
**Endothelial Arnt Regulates Microvascular Endothelial Barrier Function in Heart Failure Through a Novel Mmp3 Pathway**  
Mei Zheng, Maura Knapp, Jorge Andrade, Anna Cheng, Nikola Sladojevic, University of Chicago, Chicago, IL; Konstantin G. Birukov, Univ of Maryland, Maryland, IL; Qiong Zhao, Inova Heart and Vascular Inst, Falls Church, VA; James K. liao, Rongxue (Rosie) Wu, Univeristy of Chicago, Chicago, IL

2:35–3:05 PM  
**Texas Ballroom Foyer**  
**Refreshment Break/Exhibits**

3:05–4:40 PM  
**Texas Ballroom A/B**  
**Concurrent Session 2A**  
**Signaling Networks in Cardiac Myocyte**

**Moderators:**
Maria Kontaridis, PhD, FAHA, Beth Israel Deaconess Medical Center, Boston, Massachusetts
James F. Martin, MD, PhD, Baylor College of Medicine, Houston, Texas

3:05  
**Proteostasis Signaling in Heart Disease**  
Chris C. Glembotski, PhD, San Diego State University, San Diego, California

3:25  
**The Role of Co-chaperone BAG3 in Cardiomyocytes**  
Ju Chen, PhD, University of California San Diego, La Jolla, California

3:45  
**Mitochondrial OPTM in Heart Failure**  
Peipei Ping, PhD, FAHA, David Geffen School of Medicine at UCLA, Los Angeles, California

4:05  
**The Role of FGF23 in Uremic Cardiomyopathy**  
Christian Faul, PhD, The University of Alabama at Birmingham, Birmingham, Alabama

**Oral Abstract Presentation**

4:25  
**An Internal Pool of b-Adrenergic Receptors Activates PLC-mediated PI4P Hydrolysis in Cardiac Myocytes**  
Alan V. Smrcka, Craig A Nash, Wenhui Wei, Univ of Michigan Sch of Med, Ann Arbor, MI
Program Agenda (continued)

3:05–4:40 PM  
Texas Ballroom C  
Concurrent Session 2B  
Mitochondrion and Heart Failure

Moderators:  
Roberta A. Gottlieb, MD, Cedars-Sinai Medical Center, Los Angeles, California  
Adam R. Wende, PhD, The University of Alabama at Birmingham, Birmingham, Alabama

3:05  
Non-canonical Mitophagy in the Heart  
Asa Gustafsson, PhD, FAHA, University of California San Diego, La Jolla, California

3:25  
Role of Mitochondrial Calcium and Redox Regulation in Heart Failure  
Christoph Maack, MD, University Clinic Würzburg, Wurtzberg, Germany

3:45  
Molecular Regulation of Mitochondrial Calcium Uptake  
John W. Elrod, PhD, Temple University, Philadelphia, Pennsylvania

4:05  
Targeting Cellular Aging for the Treatment of Cardiovascular Diseases  
Tohru Minamino, MD, PhD, FAHA, Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan

Oral Abstract Presentation

4:25  
Cytochrome b5 Reductase 3 Regulates Myoglobin Redox State and Controls Cardiac Function  
Nolan Thorne Carew, Helene M. Altmann, Joseph C. Galley, Scott Hahn, Megan P. Miller, Sruti Shiva, Dennis McNamara, Adam C. Straub, Univ of Pittsburgh, Pittsburgh, PA

4:40–7:00 PM  
Texas Ballroom D/E/F  
Poster Session 1 and Reception

TUESDAY, JULY 31

8:00–9:15 AM  
Texas Ballroom A/B  
Concurrent Session 3A  
Emerging Cardiac Therapeutic Strategies

Moderators:  
Susmita Sahoo, PhD, Mount Sinai School of Medicine, New York, New York  
Kristin I. Stanford, PhD, Ohio State University, Columbus, Ohio

8:00  
Gene Therapy & Genome Editing in Cardiomyopathies  
Roger Hajjar, MD, Mount Sinai School of Medicine, New York, New York

8:20  
Myosin Myopathies: Pathogenesis and Potential Therapeutics  
Leslie Leinwand, PhD, University of Colorado, Boulder, Colorado

8:40  
Cardiac Regeneration by Stimulating Endogenous Cardiomyocyte Proliferation  
Mauro Giaccia, MD, PhD, International Centre for Genetic Engineering and Biotechnology, Trieste, Italy

Oral Abstract Presentation

9:00  
AAV-Exosomes: A Novel Platform for Myocardial Gene Delivery for Cardioprotection  
Marta Adamiak, Yaxuan Liang, Prabhu Mathiyalaran, Neha Agarwal, Erik Kohlbrenner, Divya Jha, Elena Chepurko, Dongtak Jeong, Delaine Ceholski, Nicole Dubois, Roger Hajjar, Susmita Sahoo, Icahn Sch of Med at Mount Sinai, New York, NY

8:00–9:15 AM  
Texas Ballroom C  
Concurrent Session 3B  
Excitation-Contraction Coupling

Moderators:  
Donald M. Bers, PhD, FAHA, University of California at Davis, Davis, California  
Julia Ritterhoff, PhD, University of Washington, Seattle, Washington

8:00  
Elucidating the Molecular Mechanisms for Increased Contractility in the “Fight or Flight” Response  
Livia Hool, PhD, University of Western Australia, Crawley, Australia

8:20  
Preconception Exposure to Air Pollution Alters Adult Excitation-Contraction Coupling  
Loren E. Wold, PhD, FAHA, Ohio State University, Columbus, Ohio

8:40  
Novel Roles of Junctophilin in Heart Disease Pathogenesis  
Xander Wehrens, MD, PhD, FAHA, Baylor College of Medicine, Houston, Texas
Program Agenda (continued)

Oral Abstract Presentation

9:00  Tuning EC-Coupling: \( \beta \)-Adrenergic Receptor Activation Stimulates Dynamic Augmentation of CaV1.2 Channel Sarcolemmal Abundance and Cooperativity
Danica W. Ito, Karen I Hannigan, Luis F. Santana, Rose E. Dixon, Univ of California Davis, Davis, CA

9:15–9:45 AM
Texas Ballroom Foyer
Refreshment Break/Exhibits

9:45–11:00 AM
Texas Ballroom A/B
Concurrent Session 4A
Transcriptional Regulation and Epigenetics

Moderators:
Sarah Franklin, PhD, University of Utah, Salt Lake City, Utah
Lilei Zhang, MD, Baylor College of Medicine, Houston, Texas

9:45  Cardiac all-trans Retinoic Acid Deficiency is an Early Feature of Heart Failure Progression
D. Brian Foster, PhD, Johns Hopkins School of Medicine, Baltimore, Maryland

10:05  Transcriptional Regulation of Heart Development and Regeneration
Enzo R. Porello, PhD, Murdoch Children’s Research Institute, Parkville, Australia

10:25  Chromatin Structure in Heart Failure
Tom M. Vondriska, PhD, FAHA, University of California Los Angeles, Los Angeles, California

Oral Abstract Presentation

10:45  Identifying Cardiac Conduction System-specific Enhancers That Link Cell-type Specification with Human Conduction Defects
Samadrita Bhattacharyya, Minoti Bhakta, Lin Wang, Nikhil V. Munshi, UT Southwestern Medical Ctr, Dallas, TX

10:45–11:00 AM
Texas Ballroom C
Concurrent Session 4B
How to Build a New Heart One Cell at a Time

Moderators:
Joshua Hare, MD, FAHA, University of Miami, Miami, Florida
Mohsin Khan, PhD, Temple University, Philadelphia, Pennsylvania

9:45  Myocardial Tissue Engineering with Cells Derived from Human Induced-pluripotent Stem Cells and a Native-like, High-resolution, 3D Printed Scaffold
Jianyi (Jay) Zhang, MD, PhD, FAHA, The University of Alabama at Birmingham, Birmingham, Alabama

10:05  Deconstructing Regenerative Medicine: Beyond Cells to Exosomes and Defined Factors
Ahmed G. Ibrahim, PhD, MPH, Cedars-Sinai Medical Center, Los Angeles, California

10:25  The Transcriptional Landscape of Cardiac Differentiation at Single Cell Resolution
Nathan Palpant, PhD, University of Queensland Institute for Molecular Bioscience, St. Lucia, Queensland, Australia

Oral Abstract Presentation

10:45  The Mevalonate Pathway Controls Cardiomyocyte Proliferation
James E. Hudson, The Univ of Queensland, Brisbane, Australia

11:00 AM–Noon
Texas Ballroom A/B
General Session 5
Keynote Lecture

Moderator:
Ronglih Liao, PhD, FAHA, Stanford University, Stanford, California
Joseph C. Wu, MD, PhD, FAHA, Stanford University, Stanford, California

11:00  Cellular Heterogeneity and Plasticity in Cardiovascular Disease
Stefanie Dimmeler, PhD, Institute of Cardiovascular Regeneration, Goethe University, Frankfurt, Germany
Program Agenda (continued)

12:00–1:30 PM
Republic A/B/C
Early Career Luncheon:
Speed Networking/Mentoring Round Tables
Ticket required to attend

Moderator:
Sarah M. Schumacher, PhD, Cleveland Clinic, Cleveland, Ohio

Featured Presentation:
The Importance of Mentoring
Merry L. Lindsey, PhD, FAHA, University of Mississippi Medical Center, Jackson, Mississippi

Speed Networking Mentors
Burns Blaxall, PhD, FAHA, Cincinnati Children’s Hospital, Cincinnati, Ohio
Joan Heller Brown, PhD, University of California, San Diego, La Jolla, California
Chris Glomsetek, PhD, San Diego State University, San Diego, California
Asa Gustafsson, PhD, FAHA, University of California, San Diego, La Jolla, California
Joshua Hare, MD, FAHA, University of Miami, Miami, Florida
Joseph Hill, MD, PhD, FAHA, UT Southwestern Medical School, Dallas, Texas
Steven Houser, PhD, FAHA, Temple University, Philadelphia, Pennsylvania
Lorrie Kirshenbaum, PhD, University of Manitoba, Winnipeg, Manitoba, Canada
Maria Kontaridis, PhD, FAHA, Beth Israel Deaconess Medical Center, Boston, Massachusetts
Leslie Leinwand, PhD, University of Colorado, Boulder, Colorado
Ronglih Liao, PhD, FAHA, Stanford University School of Medicine, Stanford, California
Merry Lindsey, PhD, FAHA, University of Mississippi Medical Center, Jackson, Mississippi
Donald Menick, PhD, Medical University of South Carolina, Charleston, South Carolina
Jeffery Molkentin, PhD, Children’s Hospital Medical Center, Cincinnati, Ohio
Susan Steinberg, MD, FAHA, Columbia University Medical Center, New York, New York
Mark Sussman, PhD, FAHA, San Diego State University, San Diego, California
Jil Tardiff, MD PhD, FAHA, University of Arizona, Tucson, Arizona
Rong Tian, MD, PhD, FAHA, University of Washington, Seattle, Washington
Jennifer Van Eyk, PhD, FAHA, Cedars-Sinai Medical Center, Los Angeles, California
Thomas Vondriska, PhD, FAHA, University of California, Los Angeles, Los Angeles, California
Joseph Wu, MD, PhD, FAHA, Stanford University School of Medicine, Stanford, California
Jianyi Zhang, MD, PhD, FAHA, University of Alabama at Birmingham, Birmingham, Alabama

Or
Lunch On Your Own/Poster Viewing/Exhibits

1:30–2:45 PM
Texas Ballroom A/B
Concurrent Session 6A
Ion Channels and Arrhythmias

Moderators:
Geoffrey S. Pitt, MD, PhD, Weill Cornell Medical College, New York, New York
Henry M. Sucov, PhD, University of Southern California at Los Angeles, California

1:30 CaMKII-dependent Regulation of Nav1.5, Late Sodium Current and Arrhythmias
Thomas Hund, PhD, Ohio State University, Columbus, Ohio

1:50 The Importance of Sodium-Calium Exchange in Automaticity and Arrhythmia
Joshua I. Goldhaber, MD, Cedars-Sinai Medical Center, Los Angeles, California

2:10 Identification of an ATP-sensitive Potassium Channel in the Inner Mitochondrial Membrane
Diego De Stefani, PhD, University of Padova, Padova, Italy

Oral Abstract Presentation
2:30 Molecular and Electrophysiologic Characterization of Obesity Mediated Atrial Fibrillation in Mc4r-KO Mice
Ambili Menon, Mark McCauley, Liang Hong, Arvind Sridhar, Srikanth Perike, Mei Hong Zhang, Erin Lambers, Dawood Darbar, Univ of Illinois at Chicago, Chicago, IL

1:30–2:45 PM
Texas Ballroom C
Concurrent Session 6B
The Resurgence of Cardiac Metabolism

Moderators:
Gary D. Lopaschuk, PhD, University of Alberta, Edmonton, Alberta, Canada
Anja Karlstaedt, MD, PhD, McGovern Medical School at UT Health, Houston, Texas

1:30 Novel Players in Mitophagy
Zoltan P. Arany, MD, PhD, University of Pennsylvania, Philadelphia, Pennsylvania

1:50 Feeding the Starving Failing Heart
Daniel P. Kelly, MD, University of Pennsylvania, Philadelphia, Pennsylvania

2:10 Metabolism and Myocardial Autopoiesis
Bradford G. Hill, PhD, University of Louisville, Louisville, Kentucky
Program Agenda (continued)

Oral Abstract Presentation

2:30  Protein-coupled Receptor Kinase 2 Impairs Fatty Acid Metabolism in the Failing Heart Through Novel Mechanisms  
Jessica M. Pfleger, Polina Gross, Jaslyn Johnson, Erhe Gao, Steven R. Houser, Walter J. Koch, Temple Univ, Philadelphia, PA

2:45–3:15 PM  
Texas Ballroom Foyer  
Refreshment Break/Exhibits

3:15–4:30 PM  
Texas Ballroom A/B  
Concurrent Session 7A  
Functional Genomics and Pathogenicity Assessment  
Moderators:  
Yibin Wang, PhD, FAHA, University of California at Los Angeles David Geffen School of Medicine, Los Angeles, California  
Allen Andres, PhD, Cedars-Sinai Medical Center, Los Angeles, California

3:15  Systematic Approaches to Gene-disease and Variant-disease Association  
Quinn S. Wells, MD, Vanderbilt University Medical Center, Nashville, Tennessee

3:35  Genetic Mechanisms in Cardiomyopathy  
Elizabeth (Beth) McNally, MD, PhD, Northwestern University, Chicago, Illinois

3:55  Functional Annotation of Variants of Uncertain Significance in Cardiovascular Disease Genes  
Kiran Musunuru, MD, PhD, University of Pennsylvania, Philadelphia, Pennsylvania

Oral Abstract Presentation

4:15  Numb Family Proteins Modulate Cardiac Morphogenesis by Regulating N-cadherin Trafficking to Plasma Membrane  
Mingfu Wu, Albany Medical Coll, Albany, NY

4:30–7:00 PM  
Texas Ballroom D/E/F  
Poster Session 2 and Reception

4:30–7:00 PM  
Republic A/B/C  
Early Career Investigator Social Event

WEDNESDAY, AUGUST 1

7:00 AM  
Registration  
Texas Ballroom Foyer

7:00–8:00 AM  
Continental Breakfast/Exhibits  
Texas Ballroom Foyer

8:00–9:15 AM  
Texas Ballroom A/B  
Concurrent Session 8A  
Personalized Cell Models of Cardiovascular Disease  
Moderators:  
Haodong Xu, MD, University of Washington, Seattle, Washington  
Miroslava Stastna, PhD, Cedars-Sinai Medical Center, Los Angeles, California

8:00  Stem Cells and Genomics for Precision Medicine  
Joseph C. Wu, MD, PhD, FAHA, Stanford University, Stanford, California

8:20  Incorporating the Person in Personalized Cell Models  
Jennifer L. Strande, MD, Medical College of Wisconsin, Milwaukee, Wisconsin

8:40  Advances in Using iPSCs for Arrhythmia Modeling  
Lior Gepstein, MD, PhD, Technion, Haifa, Israel
9:00 Dysregulation of Pdgfrb Contributes to the Pathogenesis of LMNA-related Dilated Cardiomyopathy
Jaeseol Lee, Vittatv Termglinchan, Cardiovascular Inst, Stanford Univ, Stanford, CA; Sebastian Diecke, Berlin Inst of Health, Berlin, Berlin, Germany; Chi Keung Lam, Priyanka Garg, Ianit Itzhaki, Joe Z. Zhang, Cardiovascular Inst, Stanford Univ, Stanford, CA; Xingji Chen, 7Ctr for Personal Dynamic Regulomes, Stanford, CA; Timon Seeger, Mohamed Ameen, Karim Sallam, Jared Churko, Edward Lau, Tony Chour, Cardiovascular Inst, Stanford Univ, Stanford, CA; Paul J. Wang, Dept of Med, Div of Cardiovascular Med, Stanford Univ, Stanford, CA; Michael P. Snyder, Dept of Genetics, Stanford Univ, Stanford, CA; Ioannis Karakikes, Dept of Cardiothoracic Surgery, Stanford Univ Sch of Med, Stanford Univ, Stanford, CA; Joseph C. Wu, Cardiovascular Inst, Stanford Univ, Stanford, CA

8:00–9:15 AM
Texas Ballroom C
Concurrent Session 8B
Getting the Message – New Ways to Think About RNA

Moderators:
Sean M. Wu, Stanford University, Stanford, California
Shijun Hu, PhD, Soochow University, Suzhou, China

8:00 Circular RNA. What They Do, and Other RNA Species
Roger S. Foo, MD, PhD, University of Singapore, Singapore
8:20 miRNA-based Therapy of Myocardial Disease
Stefan Engelhardt, MD, PhD, TU Munich, Munich, Germany
8:40 Single Cell Transcriptomics to Study Cardiomyocyte Cell Fate Control
Li Qian, PhD, University of North Carolina, Chapel Hill, North Carolina

Oral Abstract Presentation
9:00 Doxorubicin Alters Cardiac Fibroblast Phenotype
Trevi R. Mancilla, Gregory J. Aune, UT Health San Antonio, San Antonio, TX

9:15 Steering Fibroblast Phenotype to Promote Left Ventricular Scar Maturation and Function Post-MI
Lisandra E. de Castro Brás, East Carolina Univ, Greenville, NC

9:30 A Role for Brain-derived Neurotrophic Factor in Duchenne Cardiomyopathy
Cristi L. Galindo, Cassandra P. Awdlewitsch, Jonathan H. Soslow, Erica J. Carrier, Anand P. Singh, Prachi Umapak, Qinkun Zhang, Frank Raucci, Vanderbilt Unv Med Ctr, Nashville, TN; Larry W. Markham, Indiana Univ Sch of Med, Indianapolis, IN; Hind Lal, Antonis K. Hatzopoulos, Vanderbilt Unv Med Ctr, Nashville, TN

9:45 Chromatin Microenvironments with Distinct Functionality During Cardiac Stress
Manuel Rosa-Garrido, Douglas J. Chapsky, Maximilian Cabaj, Elaheh Karbassi, Thomas Vondriska, UCLA, Los Angeles, CA
## Program Agenda (continued)

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<tbody>
<tr>
<td>10:30–11:45 AM</td>
<td>Concurrent Session 10B Workshop 2 – From Single Cell to High Throughput Omics</td>
<td>Texas Ballroom C</td>
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<td>Moderators:</td>
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|            | Liming Pei, PhD, Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania  
|            | Dan Shao, PhD, University of Washington, Seattle, Washington            |                   |            |
| 10:30      | N-glycosylation in Pediatric Congenital Aortic Valve Stenosis by MALDI Imaging Mass Spectrometry |                   |            |
| 10:48      | Proteomics of a Single Cell and Its Lineage in the Developing Frog Embryo using Ultrasensitive Mass Spectrometry |                   |            |
| 11:07      | TBD                                                                    |                   |            |
| 11:26      | Association of Apolipoprotein A1 Proteoforms and Inter-Individual Differences in HDL Efflux Capacity |                   |            |
| 11:45 AM–1:30 PM | Lunch on Your Own/Poster Viewing/Exhibits                              |                   |            |
| 1:30–2:45 PM | Concurrent Session 11A The Architecture of Contraction                | Texas Ballroom A/B|            |
|            | Moderators:                                                            |                   |            |
|            | Farid Moussavi-Harami, MD, University of Washington, Seattle, Washington  
|            | Michael Greenberg, PhD, Washington University, St. Louis, Missouri      |                   |            |
| 1:30       | The Role of Allostery in the Pathogenesis of Scaromeric Cardiomyopathies: New Mechanisms and Targets |                   |            |
| 1:50       | Cos segregation of MYBPC3Δ25bp with MYBPC3 D389V is Associated with a Cardiomyopathic Substrate |                   |            |
| 2:10       | Genetically Linked Cardiomyopathies – From Molecular Basis to New Treatments |                   |            |

### Oral Abstract Presentation

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<tr>
<td>2:30</td>
<td><em>Mybphl</em> is a Novel Myofilament Component Implicated in Arrhythmia and Dilated Cardiomyopathy</td>
<td>David Y. Barefield, Jordan J. Sell, Megan J. Puckelwartz, Lisa D. Wilsbacher, Northwestern Univ, Chicago, IL; Glenn I Fishman, New York Univ, New York, NY; Elizabeth M. McNally, Northwestern Univ, Chicago, IL</td>
<td>Texas Ballroom C</td>
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<tr>
<td>1:30</td>
<td>Molecular Mechanisms of Cell Survival by FoxO1</td>
<td>Junichi Sadoshima, MD, FAHA, Rutgers New Jersey Medical School, Newark, New Jersey</td>
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<td>1:30</td>
<td>Understanding Alzheimer’s Beyond the Brain</td>
<td>Federica del Monte, MD, PhD, Medical University of South Carolina, Charleston, South Carolina</td>
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<tr>
<td>2:10</td>
<td>Regulation of Cardiac Cell Death and Autophagy in Cardiac Myocytes</td>
<td>Lorrie A. Kirshenbaum, PhD, University of Manitoba, Winnipeg, Manitoba, Canada</td>
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<tr>
<td>2:30</td>
<td>Regulation of Cardiac Mitochondrial Function by Chaperone Mediated Autophagy</td>
<td>Yun Chen, Jaehoone Lee, Min Zheng, Victor Paulino, Albert Einstein Coll of Med, Bronx, NY; Christian Garcia, Columbia Univ Medical Ctr, New York, NY; Julio Madrigal Matute, Albert Einstein Coll of Med, Bronx, NY; Hong Li, Rutgers, The State Univ of New Jersey, Newark, NJ; Nina Kaludercic, Univ of Padova, Padova, Italy; Edward Owusu-Ansah, Columbia Univ Medical Ctr, New York, NY; Ana Maria Cuervo, Richard N. Kitsis, Albert Einstein Coll of Med, Bronx, NY</td>
<td>Texas Ballroom Foyer</td>
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### Lunch on Your Own/Poster Viewing/Exhibits
3:15–4:30 PM
Texas Ballroom A/B
Concurrent Session 12A
Workshop 3 – Single and Multi-omics

Moderators:
Piu Yu (Maggie) Lam, PhD, University of Colorado, Denver, Colorado
Melanie Y. White, PhD, University of Sydney, Sydney, NSW, Australia

3:15 Top-down Proteomics in Cardiac Disease and Regeneration
Ying Ge, PhD, University of Wisconsin, Madison, Wisconsin

3:33 A Multi-omics Approach to Cardiovascular Disease
Manuel Mayr, MD, Kings College, London, United Kingdom

3:52 The Role of Protein Citrullination in Cardiovascular Disease
Justyna P. Fert-Bober, PhD, Cedars-Sinai Medical Center, Los Angeles, California

4:11 Quantitative Temporal Analysis of Protein Dynamics in Maladaptive Cardiac Remodeling
John R. Yates, III, PhD, The Scripps Research Institute, La Jolla, California

3:15–4:30 PM
Texas Ballroom C
Concurrent Session 12B
Cardiovascular Stress and Inflammation

Moderators:
Merry L. Lindsey, PhD, FAHA, University of Mississippi Medical Center, Jackson, Mississippi
Nikhil Munshi, MD, PhD, UT Southwestern Medical Center, Dallas, Texas

3:15 Macrophages and Interorgan Crosstalk in Cardiac Adaptation
Ichiro Manabe, MD, PhD, Chiba University Graduate School of Medicine, Chiba, Japan

3:35 HfPEF: Epidemiology and Mechanisms
Joseph A. Hill, MD, PhD, FAHA, UT Southwestern Medical Center, Dallas, TX

3:55 Igniting the Flame of Inflammation Through Cardiomyocyte CaMKII
Joan Heller Brown, PhD, University of California San Diego, La Jolla, California

Oral Abstract Presentation

4:15 NLRP3 Inflammasome Mediates the Obesity-induced Pathogenesis of Atrial Fibrillation
Larry Scott Jr., Changqun Yao, Na Li, Baylor Coll of Med, Houston, TX

4:30–7:00 PM
Texas Ballroom D/E/F
Poster Session 3 and Reception

7:00–10:00 PM
Texas Ballroom A/B
BCVS Council Dinner
Ticket required to attend

Featured Presentation

The Intersection of Art and Science - Conveying Complex Medical Concepts Requires Both
Beth Anderson, Arkitek Scientific, Paso Robles, California

THURSDAY, AUGUST 2

7:00 AM
Registration
Texas Ballroom Foyer

7:00–8:00 AM
Continental Breakfast
Texas Ballroom Foyer

8:00–9:00 AM
Texas Ballroom A/B
General Session 13
Basic Science and Precision Medicine – The Interface

Moderators:
Federica Accornero, PhD, The Ohio State University, Columbus, Ohio
Antje D. Ebert, PhD, Goettingen University, Goettingen, Germany

8:00 Big Data and Health
Michael P. Snyder, PhD, Stanford University, Stanford, California

8:20 Understanding Genetic Dilated Cardiomyopathy, One Mutation at a Time
Ioannis Karakikes, PhD, Stanford University, Palo Alto, California

8:40 Human iPSC as Tools for Guiding Patients Out of the Genetic Purgatory
Bjorn C. Knollmann, MD, PhD, Vanderbilt University, Nashville, Tennessee

9:00–9:30 AM
Texas Ballroom Foyer
Refreshment Break
<table>
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| 9:30–10:45 AM| **General Session 14**<br>Metabolic Pathways to Cardiovascular Disease | Texas Ballroom A/B    | Lauren A. Cowart, PhD, Virginia Commonwealth University, Richmond, Virginia  
D. Kent Arrell, PhD, Mayo Clinic, Rochester, Minnesota                                          |
| 9:30–10:45 AM| **Session 15**<br>Novel Cardiac Regulatory Mechanisms                   | Texas Ballroom A/B    | Susan F. Steinberg, MD, FAHA, Columbia University, New York, New York  
Fadi N. Salloum, PhD, Virginia Commonwealth University, Richmond, Virginia                        |
| 9:30         | Signaling Pathways Downstream of Mitochondrial Dynamics                | Texas Ballroom A/B    | E. Dale Abel, MD, PhD, University of Iowa, Roy J. and Lucille A. Carver College of Medicine, Iowa City, Iowa |
| 9:50         | Metabolic Dysregulation in Cardiovascular Disease                      | Texas Ballroom A/B    | Svati H. Shah, MD, FAHA, Duke University Medical Center, Durham, North Carolina                     |
| 10:10        | Integrating Metabolomics and Respiratory Phenomics to Decipher the Metabolic Basis of Heart Failure | Texas Ballroom A/B    | Deborah Muoio, PhD, Duke University, Durham, North Carolina                                       |
|              | Oral Abstract Presentation                                            |                        |                                                        |
| 10:30        | Aberrant Caesin Kinase 2 Signalling Predisposes the Heart to an Apoptotic Phenotype in Type 2 Diabetes | Texas Ballroom A/B    | Lauren E. Smith, Desmond K. Li, Stuart J. Cordwell, **Melanie Y. White**, Univ of Sydney, Sydney, Australia |
| 10:45        | Downregulation of Cardiac Sympathetic Tone in Heart Failure            | Texas Ballroom A/B    | David J. Lefer, PhD, Louisiana State University, New Orleans, Louisiana                             |
| 11:05        | mAKAP: A Master Regulator of Cardiac Hypertrophy                      | Texas Ballroom A/B    | Kimberly Dodge-Kafka, PhD, University of Connecticut Health Center, Farmington, Connecticut          |
| 11:25        | Role of NF2 in Cardiac Injury                                         | Texas Ballroom A/B    | Dominic Del Re, PhD, Rutgers New Jersey Medical School, Newark, New Jersey                         |
| 11:45 AM     | Closing Remarks/Conference Adjourns                                   | Texas Ballroom A/B    |                                                        |
Abstracts

Links to abstract content may be found on the BCVS Conference Website:
http://professional.heart.org/bcvs2018

Oral Abstract Presentations 100 - 119

Poster Abstract Presentations

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<td>1</td>
<td>Monday, July 30</td>
<td>4:40 – 7:00 PM</td>
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<tr>
<td>2</td>
<td>Tuesday, July 31</td>
<td>4:30 – 7:00 PM</td>
<td>330 - 458</td>
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<td>3</td>
<td>Wednesday, August 1</td>
<td>4:30 – 7:00 PM</td>
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100 PRDM16 is a Novel Regulator of Cardiac Hypertrophy, Remodeling and Mitochondrial Dynamics
Karla Maria Pires, Sihem Boudina, Univ of Utah, Salt Lake Cty, UT
K. Pires: None. S. Boudina: None.

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101 Endothelial Arnt Regulates Microvascular Endothelial Barrier Function in Heart Failure Through a Novel Mmp3 Pathway
Mei Zheng, Maura Knapp, Jorge Andrade, Anna Cheng, Nikola Sladojevic, University of Chicago, Chicago, IL;
Konstantin G Birukov, Univ of Maryland, Maryland, IL; Qiong Zhao, Inova Heart and Vascular Inst, Falls Church, VA;
James K. Iiao, Rongxue (Rosie) Wu, University of Chicago, Chicago, IL

This research has received full or partial funding support from the American Heart Association.

102 An Internal Pool of β-Adrenergic Receptors Activates PLC-mediated PI4P Hydrolysis in Cardiac Myocytes
Alan V Smrcka, Craig A Nash, Wenhui Wei, Univ of Michigan Sch of Med, Ann Arbor, MI
A.V. Smrcka: None. C.A. Nash: None. W. Wei: None.

103 Cytochrome b5 Reductase 3 Regulates Myoglobin Redox State and Controls Cardiac Function
Nolan Thorne Carew, Helene M Altmann, Joseph C Galley, Scott Hahn, Megan P Miller, Sruti Shiva, Dennis McNamara, Adam C Straub, Univ of Pittsburgh, Pittsburgh, PA

This research has received full or partial funding support from the American Heart Association.

104 AAV-Exosomes: A Novel Platform for Myocardial Gene Delivery for Cardioprotection
Marta Adamiak, Yaxuan Liang, Prabhu Mathiyalagan, Neha Agarwal, Erik Kohlbrenner, Divya Jha, Elena Chepurko, Dongtak Jeong, Delaine Ceholski, Nicole Dubois, Roger Hajjar, Susmita Sahoo, Icahn Sch of Med at Mount Sinai, New York, NY

This research has received full or partial funding support from the American Heart Association.

105 Tuning EC-Coupling: β-Adrenergic Receptor Activation Stimulates Dynamic Augmentation of CaV1.2 Channel Sarcolemmal Abundance and Cooperativity
Danica W Ito, Karen I Hannigan, Luis F Santana, Rose E Dixon, Univ of California Davis, Davis, CA

This research has received full or partial funding support from the American Heart Association.

106 Identifying Cardiac Conduction System-specific Enhancers That Link Cell-type Specification with Human Conduction Defects
Samadrita Bhattacharyya, Minoti Bhakta, Lin Wang, Nikhil V. Munshi, UT Southwestern Medical Ctr, Dallas, TX

107 The Mevalonate Pathway Controls Cardiomyocyte Proliferation
James E Hudson, The Univ of Queensland, Brisbane, Australia
J.E. Hudson: 3. Other Research Support; Modest; Collaboration with AstraZeneca.

108 Molecular and Electrophysiologic Characterization of Obesity Mediated Atrial Fibrillation in Mc4r-KO Mice
Ambili Menon, Mark McCauley, Liang Hong, Arvind Sridhar, Sikanth Perike, Meihong Zhang, Erin Lambers, Dawood Darbar, Univ of Illinois at Chicago, Chicago, IL
Abstracts (continued)

109
G Protein-coupled Receptor Kinase 2 Impairs Fatty Acid Metabolism in the Failing Heart Through Novel Mechanisms

110
Numb Family Proteins Modulate Cardiac Morphogenesis by Regulating N-cadherin Trafficking to Plasma Membrane
Mingfu Wu, Albany Medical Coll, Albany, NY
M. Wu: None.

This research has received full or partial funding support from the American Heart Association.

111
Dysregulation of Pdgrfb Contributes to the Pathogenesis of LMNA-related Dilated Cardiomyopathy
Jaeechool Lee, Vittavat Termglinchan, Cardiovascular Inst, Stanford Univ, Stanford, CA; Sebastian Diecke, Berlin Inst of Health, Berlin, Berlin, Germany; Chi Keung Lam, Priyanka Garg, Iliana Itzhaki, Joe Z Zhang, Cardiovascular Inst, Stanford Univ, Stanford, CA; Xingqi Chen, 7Ctr for Personal Dynamic Regulomes, Stanford, CA; Timon Seeger, Mohamed Ameen, Karim Sallam, Jared Churko, Edward Lau, Tony Chour, Cardiovascular Inst, Stanford Univ, Stanford, CA; Paul J Wang, Dept of Med, Div of Cardiovascular Med, Stanford Univ, Stanford, CA; Michael P Snyder, Dept of Genetics, Stanford Univ, Stanford, CA; Howard Y Chang, Ctr for Personal Dynamic Regulomes, Stanford Univ, Stanford, CA; Ioannis Karakikes, Dept of Cardiothoracic Surgery, Stanford Univ Sch of Med, Stanford Univ, Stanford, CA; Joseph C Wu, Cardiovascular Inst, Stanford Univ, Stanford, CA

This research has received full or partial funding support from the American Heart Association.

112
Doxorubicin Alters Cardiac Fibroblast Phenotype
Trevi R Mancilla, Gregory J Aune, UT Health San Antonio, San Antonio, TX
T.R. Mancilla: None. G.J. Aune: None.

113
Steering Fibroblast Phenotype to Promote Left Ventricular Scar Maturation and Function Post-MI
Lisaandra E de Castro Brás, East Carolina Univ, Greenville, NC
L.E. de Castro Brás: None.

This research has received full or partial funding support from the American Heart Association.

114
A Role for Brain-derived Neurotrophic Factor in Duchenne Cardiomyopathy
Cristi L Galindo, Cassandra P Awgulewitsch, Jonathan H Soslow, Erica J Carrier, Anand P Singh, Prachi Umbakar, Qinkun Zhang, Frank Raucci, Vanderbilt Univ Med Ctr, Nashville, TN; Larry W Markham, Indiana Univ Sch of Med, Indianapolis, IN; Hind Lal, Antonios K Hatzopoulos, Vanderbilt Univ Med Ctr, Nashville, TN

115
Chromatin Microenvironments with Distinct Functionality During Cardiac Stress
Manuel Rosa-Garrido, Douglas J Chapsky, Maximilian Cabaj, Elaheh Karbassi, Thomas Vondriska, UCLA, Los Angeles, CA

This research has received full or partial funding support from the American Heart Association.

116
Mybphl is a Novel Myofilament Component Implicated in Arrhythmia and Dilated Cardiomyopathy
David Y Barefield, Jordan J Sell, Megan J Puckelwartz, Lisa D. Wilsbacher, Northwestern Univ, Chicago, IL; Glenn I Fishman, New York Univ, New York, NY; Elizabeth M McNally, Northwestern Univ, Chicago, IL

117
Regulation of Cardiac Mitochondrial Function by Chaperone Mediated Autophagy
Yun Chen, Jaeehoon Lee, Min Zheng, Victor Paulino, Albert Einstein Coll of Med, Bronx, NY; Christian Garcia, Columbia Univ Medical Ctr, New York, NY; Julio Madrigal Matute, Albert Einstein Coll of Med, Bronx, NY; Hong Li, Rutgers, The State Univ of New Jersey, Newark, NJ; Nina Kaludercic, Univ of Padova, Padova, Italy; Edward Owusu-Ansah, Columbia Univ Medical Ctr, New York, NY; Ana Maria Cuervo, Richard N Kitisit, Albert Einstein Coll of Med, Bronx, NY

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118
NLRP3 Inflammasome Mediates the Obesity-induced Pathogenesis of Atrial Fibrillation
Larry Scott Jr., Changqun Yao, Na Li, Baylor Coll of Med, Houston, TX
L. Scott: None. C. Yao: None. N. Li: None.
This research has received full or partial funding support from the American Heart Association.

119
Aberrant Caesin Kinase 2 Signalling Predisposes the Heart to an Apoptotic Phenotype in Type 2 Diabetes
Lauren E Smith, Desmond K Li, Stuart J Cordwell, Melanie Y White, Univ of Sydney, Sydney, Australia

200
Engineering Evolution: Tetraploidization of Human Cardiac Stem Cells to Enhance Functional Activity
Kathleen M Broughton, Dena Yaareb, Carolina Y. Esquer, San Diego State Univ, San Diego, CA; Giulio Pompilio, Univ of Milan, Milan, Italy; Mark A Sussman, San Diego State Univ, San Diego, CA

201
Induction of Wnt Signaling Promotes Maturation Arrest and Massive Expansion of Beating Human iPSC-derived Cardiomyocytes
This research has received full or partial funding support from the American Heart Association.

202
Low Mitochondrial Membrane Potential Identified a Novel Population of Human Cardiac Progenitor Cells with the Capacity for Myocardial Repair
Xiuchun Li, Xiao-Liang Wang, Albany Medical Coll, Albany, NY; Edward Bennett, Albany Medical Ctr, Albany, NY; Chuanxi Cai, Albany Medical Coll, Albany, NY
X. Li: None. X. Wang: None. E. Bennett: None. C. Cai: None.

203
Short Telomeres Induce p53 and Autophagy and Modulate Age-Associated Changes in Cardiac Progenitor Cell Fate
Nirmala Hariharan, Collin Matsumoto, Yan Jiang, Univ of California at Davis, Davis, CA; Mark Sussman, San Diego State Univ, San Diego, CA
N. Hariharan: 2. Research Grant; Significant; American Heart Association Scientist Development Grant. C. Matsumoto: None. Y. Jiang: None. M. Sussman: None.
This research has received full or partial funding support from the American Heart Association.

204
Temporal Assessment of Human iPSC-Derived Cardiomyocytes to Assess the Maturity for Cardiac Repair Applications
Naresh Kumar, Julie A Dougherty, Muhammad Mergaye, Mark G Angelos, Mahmood Khan, Ohio State Univ, Columbus, OH

205
Cryopreserved Cardiac Tissue Graft (MyCardia) Improved Cardiac Function in Rats With Heart Failure
Jordan Lancaster, Univ of Arizona, Tucson, AZ; Jen Kovery, Avery Therapeutics, Tucson, AZ; Steven Goldman, Univ of Arizona, Tucson, AZ
J. Lancaster: 7. Ownership Interest; Significant; Avery Therapeutics Inc. J. Kovery: 1. Employment; Significant; Avery Therapeutics Inc. 7. Ownership Interest; Significant; Avery Therapeutics Inc. S. Goldman: 7. Ownership Interest; Significant; Avery Therapeutics Inc.

206
Electrical Stimulation Enhances the Therapeutic Potential of Pediatric Cardiac Progenitor Cells
Joshua Maxwell, Carly Zaladonis, Daniel Jacobs, Michael Davis, Emory Univ, Atlanta, GA

207
In Vitro Modeling of Variable Heart Diseases Due to Lamin A/C Mutation via Patient induced Pluripotent Stem Cell Derived Cardiomyocytes
Mehrsa Mehrabi, Mira Asad, Danielle Becker, Halida Widyastuti, Cecilia Nguyen, Linda A Mccarthy, Michael V Zaragoza, Anna Grosberg, Univ of California, Irvine, Irvine, CA

208
miR-34a Regulates the Secretome Production and Functional Potential of Human Cardiac Progenitor Cells by Heat Shock Factor
Rachana Mishra, Sudhish Sharma, Wen Chih Cheng, Progyaparamita Saha, Tami J Kingsbury, Curt I Civin, Sunjay Kaushal, Univ of Maryland, Baltimore, MD
R. Mishra: None. S. Sharma: None. W.C. Cheng: None. P.
Saha: None. T.J. Kingsbury: None. C. Civin: None. S. Kaushal: None.

209
Downregulation of KLF2 in the Endothelium Contributes to the Pathogenesis in LMNA-related Dilated Cardiomyopathy 
Nazish Sayed, Chun Liu, Farhan Himmati, Joe Zhang, Saereh Khanamiri, Haodong Chen, Jan-Ranier Moonen, 
Alexa Wnorowski, Elena Matsa, Linling Cheng, Karim Sallam, Marlene Rabinovitch, Joseph C Wu, Stanford Univ, Stanford, 
CA
This research has received full or partial funding support from the American Heart Association.

210
Assessment of Cardiac Cell Culture Electrical Excitability Using Strength Duration Relationships 
Michael N. Sayegh, Natasha Fernandez, Hee Cheol Cho, Emory Univ, Atlanta, GA
M.N. Sayegh: None. N. Fernandez: None. H. Cho: None.

211
Modified Endothelial Progenitor Cell (EPC) Transplantation Improves Diabetic Kidney Disease 
Sabyasachi Sen, Nabinanta Kundu, Laureano Asico, Cleyton Domingues, Pedro Jose, George Washington Univ, Washington, DC
S. Sen: None. N. Kundu: None. L. Asico: None. C. Domingues: None. P. Jose: None.
This research has received full or partial funding support from the American Heart Association.

212
Adrenergic Signaling Genes Are Not All Expressed During Myogenesis in Individual Human iPSC-derived Cardiomyocytes 
David Torres Barba, Univ of California, Davis, Internal Med Dept, Sacramento, CA; Eliseo T Vazquez, Univ of California, Davis, Coll of Biological Sciences, Sacramento, CA; Janhavi S Sharma, Elizabeth Cortez-Toledo, Univ of California, Davis, IM, Cardiovascular Div, Sacramento, CA; Omar De la Cruz Cabrera, Dept of Mathematical Sciences, Kent State Univ, Kent, OH; Javier E Lopez, Univ of California, Davis, IM, Cardiovascular Div, Sacramento, CA

213
Sarcolemme Genes Related to the Transverse Tubule Structure Are Mostly Not Expressed in Differentiating Human iPSC-derived Cardiomyocytes 
Eliseo T Vazquez, Univ of California, Davis, Coll of Biological Sciences, Sacramento, CA; David Torres Barba, Univ of California Davis Internal Med Dept, Sacramento, CA; Janhavi S Sharma, Elizabeth Cortez-Toledo, Xiaodong Zhang, Univ of California, Davis, IM, Cardiovascular Div, Sacramento, CA; Omar De la Cruz Cabrera, Dept of Mathematical Sciences, Kent State Univ, Kent, OH; Javier E Lopez, Univ of California, Davis, IM, Cardiovascular Div, Sacramento, CA
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214
A MicroRNA-hippo Pathway Functions in Cardiac Conduction System Homeostasis and Regeneration 
Jun Wang, Baylor Coll of Med, Houston, TX
J. Wang: None.
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215
Induced Pluripotent Stem Cell-Derived Cardiomyocyte Proliferation is Enhanced by Co-culture With Female Mesenchymal Stem Cells 
Amarylis Bonito Wanschel, Alessandro G. Salerno, Konstantinos E. Hatzistergos, Ivonne H. Schulman, Wayne Balkan, Joshua Hare, Univ of Miami, Miami, FL

216
Interleukin-10 Deficiency Impairs Reparative Properties of Bone Marrow-Derived Endothelial Progenitor Cell Exosomes 
Yujua Yue, Venkata N.S. Garikipati, Yan Tang, Maria Cimini, Zhongjian Cheng, Chunlin Wang, May Troungcao, Raj Kishore, Temple Univ, Philadelphia, PA
This research has received full or partial funding support from the American Heart Association.

217
TBX5\textsuperscript{Dox}/NKX2-5\textsuperscript{TagFP} hiPSCs for Simultaneously Isolating Lineage-Specific Cardiovascular Cells 
Joe Z Zhang, Vittavat Termglinchan, Ilanit Itzhaki, Stanford Univ, Stanford, CA; Vicky Wang, VA Hosp, San Francisco, CA; Ningyi Shao, Alex Chang, Ning Ma, Chun Liu, Tomoya Kitani, Nazish Sayed, Haozi Wu, Chi Lam, Helen Blau, Joseph Wu, Stanford Univ, Stanford, CA
Abstracts (continued)

218 Biofunctional Tissue-engineered Vascular Grafts Induce Vascular Regeneration
Yiwa Pan, Yifan Wu, Kang Qin, Yongzhen Wei, Deling Kong, Qiang Zhao, Nankai Univ, Tianjin, China
Y. Pan: None. Y. Wu: None. K. Qin: None. Y. Wei: None. D. Kong: None. Q. Zhao: None.

220 Adipocyte-Derived Exosome-Containing miRNAs Exacerbated Cardiac Ischemia/Reperfusion Injury in Diabetic Mice
Lu Gan, Dina Xie, Dajun Zhao, Thomas Jefferson Univ, Philadelphia, PA; Erhe Gao, Temple Univ, Philadelphia, PA; Walter J. Koch, Yajing Wang, Xinliang Ma, Thomas Jefferson Univ, Philadelphia, PA
L. Gan: None. D. Xie: None. D. Zhao: None. E. Gao: None. W. Koch: None. Y. Wang: None. X. Ma: None.

221 Autophagy is Involved in the Protective Effect of Endophiolin A2 on H2O2-induced Apoptosis in H9C2 Cardiomyocytes
Yun Liu, Hai-Qi Liu, Xin-Qiu-Yue Wang, Huan-Jia Shen, Guangzhou Medical Univ, Guangzhou, China

222 Estrogen Protects Artery from Senescence via Sirt1/AMPK/Rab9—Mediated Mitophagy
Yuichi Sasaki, Yoshiyuki Ikeda, Yuichi Akasaki, Yoshihiro Uchikado, Mitsuhiro Ohishi, Kagoshima Univ, Kagoshima, Japan

223 Activation of CDK2 Mediates Doxorubicin-induced Cardiotoxicity
Peng Xia, Yuening Liu, David Liu, Zhaokang Cheng, Washington State Univ, Spokane, WA
P. Xia: None. Y. Liu: None. D. Liu: None. Z. Cheng: None.

224 Reducing Fluoroscopy Times and Contrast Volume Significantly in the Therapy of Acute Coronary Syndromes by Performing Angioplasty Through Cordis 6F Diagnostic Catheters - Changing the Interludes
Mark C Arokiaraj, Pondicherry Inst Medical Science, Pondicherry, India
M.C. Arokiaraj: None.

225 Comparison of Myocardial Infarction and Congestive Heart Failure Induced Through Interventional Ischemia Reperfusion Injury in Yorkshire (Domestic), Yucatan, and Göttingen Swine
Christopher A Drummond, Randy Pielemeier, Jennifer Sweet, Jennifer Devries, Janelle Gesaman, Mark LaBar, Gayle Nugent, Mark D Johnson, MPI Res, Mattawan, MI

226 Statin Therapy is Associated with Decreased Neovascularization in Symptomatic Carotid Atherosclerotic Plaque: A Pathological Analysis
Takao Konishi, Hokkaido Cardiovascular Hosp, Sapporo, Japan; Shinya Tanaka, Dept of Cancer Pathology, Hokkaido Univ Graduate Sch of Med, Sapporo, Japan
T. Konishi: None. S. Tanaka: None.

227 Inhibition of Histone Deacetylase Catalytic Activity Improves Cardiac and Pulmonary Function in a Feline Model of Heart Failure with Preserved Ejection Fraction
Markus Wallner, Deborah Eaton, Remus Berretta, Jichuan Wu, Temple Univ Lewis Katz Sch of Med, Philadelphia, PA; Mark Jeong, Ying Lin, Univ of Colorado Anschutz Medical Campus, Aurora, CO; Sandy Baker, Temple Univ Lewis Katz Sch of Med, Philadelphia, PA; Mark Oyama, Sch of Veterinary Med, Univ of Pennsylvania, Philadelphia, PA; Dirk von Lewinski, Div of Cardiology, Medical Univ of Graz, Graz, Austria; Sadia Moshins, Temple Univ Lewis Katz Sch of Med, Philadelphia, PA; Heiner Post, Contilia Heart and Vascular Ctr, St. Marienhospital Mülheim an der Ruhr, Germany; Timothy McKinsey, Univ of Colorado Anschutz Medical Campus, Aurora, CO; Marla Wolfson, Steven R Houser, Temple Univ Lewis Katz Sch of Med, Philadelphia, PA

228 RNA Aptamer 9.14T79VRT7 Modifies Canine Ex vivo Platelet Reactivity
Spencer E Taliento, Matthew E Joseph, Chase M Byington, Camille F Bratton, Caitlin M Hatten, Gabriel S Shimmin, Cole P Anderson, Jenna L Wilson, Allyson L Huttinger, Debra G Wheeler, Shahid M Nimjee, Ohio State Univ, Columbus, OH

229 Non-invasive, Patient-specific Assessment of LVAD Modeled with Consideration of LV Ejection and Function
Huidan (Whitney) Yu, Anurag Deb, Monsurul Khan, Rou Chen, Indiana Univ Purdue Univ Indianapolis, Indianapolis, IN; Yang Yang, I-Wen Wang, Sch of Med Indiana Univ, Indianapolis, IN
Abstracts (continued)

230
Repair of Aortic Coarctation in Neonates Less than Two Kilogram
Qiang Chen, Thomas Fleming, Massimo Caputo, Serban Stoica, Andrew Tometzki, Andrew Parry, BRISTOL ROYAL HOSPITAL FOR CHILDREN, Bristol, United Kingdom

231
Identification of a Titin Enhancer using hPSC-Derived Cardiomyocytes and CRISPR/Cas9 Genome Editing
Meraj Neyazi, Manuel Schmid, Arun Sharma, Lauren K Wasson, Joshua M Gorham, Steven DePalma, Seong Won Kim, Jonathan G Seidman, Christine E Seidman, Dept of Genetics, Harvard Medical Sch, Boston, MA

232
NFKB1 Pathway is a Major Dysregulated Biological Pathway in Cardiac Myocytes in Myocyte-Specific Lamin A/C Deficient Mice
Gaelle Auguste, Priyatansh Gurha, Raffaella Lombardi, Ali J Marian, Univ of Texas Health, Houston, TX

233
Molecular and Electrophysiological Analyses of Gene Variants in Bilateral Adrenal Hyperaldosteronism
Namita G Hattangady, Antonio Marcondes Lerario, Daniela Ponce-Balbuena, Univ of Michigan, Ann Arbor, MI; Silvia Monticone, Paolo Mulatero, Univ of Torino, Torino, Italy; Tobias Else, Univ of Michigan, Ann Arbor, MI

234
Nrf2-Dependent Transcriptional and Post-Transcriptional Regulatory Responses in Reductive Stress Myocardium
Justin M Quiles, Mark E Pepin, Univ. Alabama at Birmingham, Birmingham, AL; Senthilkumar Cinghu, NIEHS/NIH, Research Triangle Park, NC; Anil Kumar Challa, Adam R Wende, David Crossman, Univ. Alabama at Birmingham, Birmingham, AL; Rajasekaran Namakkal-Soorappan, Sch of Med, Univ. Alabama at Birmingham, Birmingham, AL

235
Toxic RNA Granules, a Novel Pathogenic Pathway to Heart Failure, in RBM20 Gene-Edited Pigs
Jay W Schneider, UT Southwestern, Dallas, TX; Dan Carlson, Recombiotics, Inc., St. Paul, MN; Timothy J Nelson, Mayo Clinic, Rochester, MN

236
Histone Variant H2A.Z Defines Cell Identity in Smooth Muscle Cells as Revealed by Single-Cell Transcriptomics
Li Wang, Fang Yao, Peng Yu, Chinese Acad of Medical Sciences, Beijing, China
L. Wang: None. F. Yao: None. P. Yu: None.

237
A Non-desmosome Role of Plakoglobin in Regulating Insulin Receptor Specifically via PI3 Kinase Pathway
Chuanyu Wei, Shing Fai Chan, Johnson Wong, Krannert Inst of Cardiology, Indiana Univ, Indianapolis, IN; Joseph Marine, Cynthia A James, Hugh Calkins, Daniel P Judge, Johns Hopkins Univ, Baltimore, MD; Huei-Sheng Vincent Chen, Krannert Inst of Cardiology, Indiana Univ, Indianapolis, IN

238
Ube2v1 Promotes Mutant B-crystallin-induced Protein Aggregation
Na Xu, Patrick McLendon, James Gulick, Hanna Osinska, Jeffrey Robbins, Cincinnati Childrens Hosp Medical Ctr, Cincinnati, OH

240
Predictive and Experimental Modeling of Bag3-associated Cardiomyocyte Dysfunction
Christopher McDermott-Roe, Wenjian Lv, Univ of Pennsylvania, Philadelphia, PA; Amarda Shehu, George Mason Univ, Fairfax, VA; Ivor Benjamin, Aron Geurts, Medical Coll of Wisconsin, Milwaukee, WI; Kiran Musunuru, Univ of Pennsylvania, Philadelphia, PA
C. McDermott-Roe: None. W. Lv: None. A. Shehu: None. I. Benjamin: None. A. Geurts: None. K. Musunuru: None.
Abstracts (continued)

241
In Vitro Disease Modeling and Discovery of Small Molecules for the Treatment of Duchenne Muscular Dystrophy Utilizing Patient iPSC-derived Cardiomyocytes

Chicheng Sun, Deena Qadir, Anthony Accorsi, Natalie Moore, Ling Lin, Angela Cacace, John Graef, Fulcrum Therapeutics, Cambridge, MA

C. Sun: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. D. Qadir: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. A. Accorsi: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. N. Moore: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. L. Lin: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. A. Cacace: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics. J. Graef: 1. Employment; Significant; Employee of Fulcrum Therapeutics. 7. Ownership Interest; Significant; Own stocks of Fulcrum Therapeutics.

242
Drug Repurpose Using Human Stem Cell Models of Cardiac Arrhythmias

Masayuki Yazawa, Lou Jin Song, Kumi Morikawa, Columbia Univ, New York, NY

M. Yazawa: None. L. Song: None. K. Morikawa: None.

243
Modeling of Diastolic Dysfunction in Induced Pluripotent Stem Cell-derived Cardiomyocytes From Hypertrophic Cardiomyopathy Patients

Haodi Wu, Huaxing Liang, Yihua He, Zhang Yi, Yu Zhang, Chi Keung Lam, Karim Sallam, Alex Cy Chang, Ning Ma, Helen Blau, Donald Bers, Joseph Wu, Stanford Univ, Stanford, CA


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244
β2 Adrenergic Receptor Deletion Alters Leukocyte Subtype Inter Organ Localization and Survival Following Myocardial Infarction

Anamika Bajpai, Temple Univ Sch of Medicine, Philadelphia, PA

A. Bajpai: None.

This research has received full or partial funding support from the American Heart Association.

249
Cortical-bone Derived Stem Cells Improve Cardiac Outcomes After Myocardial Infarction by Modulating the Inflammatory Response


250
Pulmonary Hypertension Induced by 15-HETE is Reverse by Apoai Mimetic Peptide B1 Administration

Gregoire Ruffenach, Ellen Ines O’Connor, Mylene Vaillancourt, Sherwin Sarji, Nancy Cao, Laila Aryan, Christine Cunningham, Victor Grijalva, Soban Umar, Srinivasa T Reddy, Mansoureh Eghbali, Univ of California, Los Angeles, CA


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251
The Role of Adenosine Derived From Mesenchymal Stromal Cell on Neutrophil Extracellular Trap Formation in Myocardial Ischemia Reperfusion

Kai Xu, Eric Shin, Lanfang Wang, Juline Deppen, Rebecca Levit, Emory Univ, Atlanta, GA

K. Xu: None. E. Shin: None. L. Wang: None. J. Deppen: None. R. Levit: None.

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252
Downregulated Striated Muscle Preferentially Expressed Protein Kinase Enhances Susceptibility to Post-Operative Atrial Fibrillation

Hannah Campbell, Li Ni, Julia Reynolds, Katherina Alsina, Baylor Coll of Med, Houston, TX; Tina Veleva, Issam Abu-Taha, Univ Duisburg-Essen, Essen, Germany; Ann Quick, Zachary Donoviel, Na Li, Baylor Coll of Med, Houston, TX; Dobromir Dobrev, Univ Duisburg-Essen, Essen, Germany; Xander Wehrens, Baylor Coll of Med, Houston, TX
Abstracts (continued)


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254
Mitochondrial Permeability Transition Pore, Calcium Unipporter, and Iron Overload in the Heart
Richard Gordan, Rutgers-New Jersey Medical Sch, Newark, NJ; Suwakon Wongjaikam, Chiang Mai Univ, Chiang Mai, Thailand; Nadezhda Fefelova, Rutgers-New Jersey Medical Sch, Newark, NJ; Natripathat Siri-Angkul, Chiang Mai Univ, Chiang Mai, Thailand; Judith K Gwathmey, Rutgers-New Jersey Medical Sch, Newark, NJ; Nipon Chattipakorn, Siriporn C Chattipakorn, Chiang Mai Univ, Chiang Mai, Thailand; Lai-Hua Xie, Rutgers-New Jersey Medical Sch, Newark, NJ

This research has received full or partial funding support from the American Heart Association.

255
Mechanical Stretch is Not a Major Cause of Ectopic Activation During Early Stage Regional Ischemia in an Isolated Left-Ventricular Working Heart Model
Han Yu, Gregory P Walcott, Jack M Rogers, Univ of Alabama at Birmingham, Birmingham, AL

This research has received full or partial funding support from the American Heart Association.

256
Precision Medicine in Cardiac Channelopathy: Integrating Genome Editing and Induced Pluripotent Stem Cells to Decipher Variant of Unknown Significance
Priyanka Garg, Stanford Univ, Stanford, CA
P. Garg: None.

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261
Activation of the Thromboxane/Prostanoid Receptor Contributes to Elevated End-Diastolic Calcium in Cardiomyocytes and Cardiac Fibrosis Following Right Ventricular Pressure Overload
Erica J. Carrier, Kyungsoo Kim, Vanderbilt Univ Medical Ctr, Nashville, TN; Natalie A. Noll, Vanderbilt Univ, Nashville, TN; Ines Macias-Perez, Cumberland Pharmaceuticals, Nashville, TN; W. David Merryman, Vanderbilt Univ, Nashville, TN; Bjorn C. Knollmann, James D. West, Vanderbilt Univ Medical Ctr, Nashville, TN
E.J. Carrier: 2. Research Grant; Significant; An earlier version of this research project was funded by Cumberland Pharmaceuticals, who own and produce ifetroban, the TP receptor antagonist in question. 3. Other Research Support; Modest; Cumberland Pharmaceuticals supplies us with the research drug ifetroban free of charge. K. Kim: None. N.A. Noll: None. I. Macias-Perez: 1. Employment; Significant; I.M.-P. is employed by Cumberland Pharmaceuticals, Inc. (CPI), who manufacture ifetroban and, along with Vanderbilt University, own its intellectual property. 7. Ownership Interest; Significant; I.M.-P. owns stock in CPI. W. Merryman: None. B.C. Knollmann: None. J.D. West: 2. Research Grant; Significant; J.W. has previously received research funding from Cumberland Pharmaceuticals. 3. Other Research Support; Modest; J.W. receives the research drug ifetroban free of charge from Cumberland Pharmaceuticals.

262
GRK5 is a Novel Regulator of Fibroblast Activation
Akito Eguchi, Walter J Koch, Lewis Katz Sch of Med at Temple Univ, Philadelphia, PA
A. Eguchi: None. W.J. Koch: None.

263
Cytosolic RBFox1 in Cardiac Pathological Remodeling
Chen Gao, Yun-Hua (Esther) Hsiao, Menglong Wang, Zhaojun Xiong, Shuxun Ren, Christoph D Rau, Katelyn Li, Xinshu(Grace) Xiao, Yibin Wang, Yi Xing, UCLA-Los Angeles, Los Angeles, CA

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264
A Complement Pathway is Responsible for Degeneration of Right Ventricular Outflow Tract
Shogo Ito, Tomohisa Seki, Shinsuke Yuasa, Jin Komuro, Toshiomi Katsuki, Mai Kimura, Yoshikazu Kishino, Dai Kusumoto, Shugo Tohyama, Keio Univ Sch of Med, Tokyo, Japan; Yoshihiro Fukumoto, Kurume Univ Hosp, Kurume, Japan; Keiichi Fukuda, Keio Univ Sch of Med, Tokyo, Japan
Abstracts (continued)

265
TGF Beta Signaling and Fibrosis in cMyBP-C-dependent Cardiac Disease
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266
Sex Differences in Survival and Pathological Responses of Hearts, Cardiac Myocytes and Fibroblasts
Angela K Peter, Tova L. Christensen, Cierra J. Walker, Christa L. Trexler, Christopher D. Ozeroff, Kimberly R. Lugo, Amy R. Perry, Kristi S. Anseth, Leslie A. Leinwand, CU Boulder, Boulder, CO


267
Safety and Efficacy of a Combinatorial CCN5/SERCA2a Gene Delivery Approach for Arrhythmia Suppression in a Chronic Model of Angiotensin II (ANG) Induced Cardiac Hypertrophy and Failure
Nour Raad, Dongtak Jeong, Woo Jin Park, Fadi Akar, Mount Sinai, New York, NY

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268
Through the Inhibition of Autophagy Flux miR-221 Plays an Important Role in the Reductions of Hypoxia Reoxygenation Induced Cell Death and Collagen Synthesis in Cardiac Fibroblast
Yue Zhou, Arthur M Richards, Peipei Wang, Natl Univ of Singapore, Singapore, Singapore


269
RBM20 Knockout Ameliorates Angiotensin II Induced Hypertension and Cardiac Hypertrophy
Chaoqun Zhu, Sreejayan Nair, Jun Ren, Wei Guo, Univ of Wyoming, Laramie, WY

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270
Long term Caloric Restriction and Myocardial Aging in Non Human Primates
Niranjana Natarajan, Spencer H Kiehm, Harvard Univ, Cambridge, MA; Jishnu Das, Ragon Inst of MIT, MGH and Harvard, Cambridge, MA; Annie C Wang, Harvard Univ, Cambridge, MA; Julie A Mattison, Nati Inst on Aging, Bethesda, MD; Ricki J Colman, Univ of Wisconsin, Madison, Madison, WI; Richard T Lee, Harvard Univ, Cambridge, MA


273
Autophagy Impairment is Associated with Defects in Mitochondrial Bioenergetics in Doxorubicin Cardiomyopathy
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274
Regulation of Myocardial Ketone Body Oxidation Capacity by Increased Protein O-GlcNAcylation in Diabetic Heart
Manoja K Brahma, Chae-Myeong Ha, Andrew K Paterson, Martin E Young, Adam R Wende, Univ of Alabama at Birmingham, Birmingham, AL


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No
Quantification of the Mitochondrial Protein Interactome in Failing Hearts
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A. Caudal: None. J.D. Chavez: None. C. Lee: None. O. Villet: None. J.E. Bruce: None. R. Tian: None.

276
A Proteasome/Hsp90-Dependent Signaling Pathway Regulates Mitochondrial Complex I Function during Cardiomyocyte Maturation
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277
Enhanced Mitochondrial Calcium Uptake Promotes Deleterious Remodeling and Impaired Left Ventricular Function During Chronic Adrenergic Stimulation

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278
Dual Modulation of Microscale Tissue Engineering and Energy Metabolism for Maturation of Human Pluripotent Stem Cell-Derived Cardiomyocytes

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279
Effects of Acute Oxidative Stress on Cardiac Proteome Dynamics

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C.T. Thomas: None. M. Lam: None.

280
MCL-1, Promotes Mitochondrial Fusion and Protects Against TAC Induced Hypertrophy

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L.J. Leon: None. A.G. Moyzis: None. A.B. Gustafsson: None.

281
The Calcineurin/Rcan1 Axis Influences Mitochondrial Dynamics, Metabolism, and Biogenesis

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282
No Increasing Cardiac Fatty Acid Oxidation Protects Against High Fat Diet Induced Mitochondria Dysfunction and Cardiomyopathy in Mice

Dan Shao, Stephen C. Kolwicz Jr, Nathan Roe, Outi Villet, Rong Tian, Univ of Washington, Seattle, WA

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284
Loss of Cardiomyocyte General Control of Amino-Acid Synthesis 5-like 1 Expression Impairs Mitochondrial Function and Exacerbates Heart Failure Progression

Manling Zhang, Dharendra Thapa, Janet R Manning, Michael W Stoner, Univ of Pittsburgh Medical Ctr, Pittsburgh, PA; Danielle Guimaraes, Catherine Corey, Sruti Shiva, Claudette St. Croix, Univ of Pittsburgh, Pittsburgh, PA; Ning Feng, Charles F McTiernan, Univ of Pittsburgh Medical Ctr, Pittsburgh, PA; Michael N Sack, Cardiovascular Branch, Natl Heart, Lung, and Blood Inst, NIH, Bethesda, MD; Iain Scott, Univ of Pittsburgh Medical Ctr, Pittsburgh, PA


285
Glycogen Receptor Antagonism Ameliorates Progression of Heart Failure

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286
New Insights into The Mechanism Contributing To Cardiac Dystrophy
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M. Sharifi-Sanjani: None. S. Stankov: None. F. Mourkioti: None.
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287
Cardioprotection in Mice with a Knock-in Mutation (C202S) in Cyclophilin D
Georgios Amanakis, Junhui Sun, Jennifer Boylston,
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288
Circular RNA CircFNDC3b Modulates Cardiac Repair After Myocardial Infarction via FUS-1/VEGF-A Axis
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290
Transient Activation of Ampk Preceding Left Ventricular Pressure Overload Preserves Left Ventricular Function and Reduces Adverse Remodeling
Deokhwa Nam, Eunah Kim, Erin L Reineke, Houston Methodist Res Inst, Houston, TX
D. Nam: None. E. Kim: None. E.L. Reineke: None.
Cd38 Deficiency Protects Heart from Lipid Overload-induced Oxidative Stress via Activating Sirt3/tox03 Pathway
Ling Fang Wang; Cong Cong Huang, Yun Fei Xiao, Xiao Hui Guan, Xiao Nv Wang, Qing Cao, Yu Liu, Xuan Huang, Li Bin Deng, Ke Yu Deng, Hong Bo Xin, Nanchang Univ, Nanchang, China

Old Drug New Tricks: Repurposing Aururanofin for Acute Myocardial Infarction by Targeting Protein Tyrosine Phosphatase PTP-PEST
Chiu-Fen Yang; Dept of Cardiology, Hualien Tzu Chi Hosp, Hualien, Taiwan; Yi-Yun Chen, Yu-Wen Liu, Jai Prakash Singh, Chia-Wei Chang, Inst of Biological Chemistry, Academia Sinica, Taipei, Taiwan; Ching-Feng Cheng, Inst of Biomedical Sciences, Academia Sinica, Taipei, Taiwan; Tzu-Ching Meng, Inst of Biological Chemistry, Academia Sinica, Taipei, Taiwan

Irisin is an Endogenous Negative Regulator of Pathological Cardiac Hypertrophy
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Y. Zhao: None. Y. Xu: None. W. Peng: None.

Theranostic nanoparticles for Thrombosed Vessels: H2O2-Activatable Contrast-Enhanced Photoacoustic Imaging and Antithrombotic Therapy
Dongwon Lee, Chonbuk Natl Univ, Jeonju, Korea, Republic of D. Lee: None.

MicroRNA-21 Affects Platelets and Their Releasate: A Novel Mechanism for the Anti-Fibrotic Effects of MicroRNA-21 Inhibition
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An m6A Demethylase, FTO Mediates Post-transcriptional mRNA Modifications to Regulate Cardiac and Cardiomyocyte Function
Prabhu Mathiyalagan, Marta Adamiak, Joshua Mayourian, Yaxuan Liang, Yassine Sassi, Neha Agarwal, Divya Jha, Kiyo take Ishikawa, Shi hong Zhang, Erik Kohlbrenner, ICAHN SCHOOL OF MEDICINE AT MOUNT SINA1, New York, NY; Xiaoke Yin, King’s Coll London, London, United Kingdom; Elena Chepurko, Jiqiu Chen, Maria G Trivieri, Rajvir Singh, ICAHN SCHOOL OF MEDICINE AT MOUNT SINA1, New York, NY; Manuel Mayr, King’s Coll London, London, United Kingdom; Kenneth Fish, Djamel Lebecche, Roger J Hajjar, Susmita Sahoo, ICAHN SCHOOL OF MEDICINE AT MOUNT SINA1, New York, NY

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Fast Skeletal Myosin Binding Protein-c Expression in Heart Failure
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304 Protein Phosphatase 1 Contributes to Atrial Stunning in Atrial Fibrillation
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305 AAV9 Mediated Cardiac Bin1 Gene Therapy Attenuates Pressure Overload-induced Heart Failure in Mice
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306 Identifying Downstream Effectors of the Extracellular Signal-related Kinase 1/2-controlled Directional Growth Response in Cardiomyocytes
Kelly M. Grimes, Marjorie Maillet, Jeffery D. Molkentin, Cincinnati Children’s Hosp, Cincinnati, OH
K.M. Grimes: None. M. Maillet: None. J.D. Molkentin: None.

307 Focal Adhesion Kinase Activity and Nuclear Localization Controls Vascular Smooth Muscle Cell Proliferation and Intimal Hyperplasia Through a GATA4-Cyclin D1 Axis
Kyuho Jeong, Jung-Hyun Kim, James Murphy, Hyeonsoo Park, Erin Ahn, Steve Lim, Univ of South Alabama, Mobile, AL
K. Jeong: None. J. Kim: None. J. Murphy: None. H. Park: None. E. Ahn: None. S. Lim: None.
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308 Wls Inhibits Fibrosis Through Wnt Secretion From the Cardiomyocytes During Heart Regeneration
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309 Small-molecule PDE4 Activators Limit Isoproterenol-induced Hypertrophy in Rat Neonatal Cardiomyocytes
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310 Mechanistic Insights into Duchenne Muscular Dystrophy-Associated Cardiomyopathy
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311 In vitro Regulation of G-protein Coupled Receptor Kinase 5 (GRK5) Induced Cardiac Hypertrophy by a Novel Interaction With the Phosphatase PHLPP2
Szu-Tsen Yeh, Cristina Zambrano, UC San Diego, La Jolla, CA; Walter Koch, Temple Univ, Philadelphia, PA; Nicole Purcell, UC San Diego, La Jolla, CA
S. Yeh: None. C. Zambrano: None. W. Koch: None. N. Purcell: None.

312 Cardiomyocyte-secreted Signaling Factors Modulate Adipocyte Differentiation And Function
K.S. Gresham: None. W.J. Koch: None.

313 Time-resolved Expression of Membrane-targeted Proteins During Ipsc-cardiomyocyte Differentiation
Edward Lau, Rajani Shrestha, Stanford Univ, Palo Alto, CA; Cody T Thomas, Univ of Colorado, Aurora, CO; Damon R Williams, Joseph C Wu, Stanford Univ, Palo Alto, CA
E. Lau: None. R. Shrestha: None. C.T. Thomas: None. D.R. Williams: None. J.C. Wu: None.

316 Salusin-α Improved Atherosclerosis in High Cholesterol Diet Fed Rabbits by Inhibiting Smooth Muscle Cells Proliferation and Migration
Gao Shoucui, Wang Xiaoqing, Zhao Shai, Xi’an Jiaotong Univ Cardiovascular Res Ctr, Xi’an, China; Fan Jianglei, Dept of Molecular Pathology, Interdisciplinary Graduate Sch of Med and Engineering, Univ of Yamanashi, Yamanashi, Japan; Liu Enqi, Xi’an Jiaotong Univ Cardiovascular Res Ctr, Xi’an, China
G. Shoucui: None. W. Xiaojing: None. Z. Shai: None. F. Jianglei: None. L. Enqi: None.
317
Nlrc5 Positively Regulates Intimal Formation via Interaction With PPARα in Vascular Smooth Muscle Cells
Jianhui Zhuang, Shanghai Tenth People’s Hosp, Tongji Univ, Shanghai, China; Peipei Luan, Xinhua Hosp, Shanghai Jiaotong Univ, Shanghai, China; Yawei Xu, Wenhui Peng, Shanghai Tenth People’s Hosp, Tongji Univ, Shanghai, China; Yaye Liu, Zhongjian Cheng, Shanghai Tenth People’s Hosp, Tongji Univ, Shanghai, China
J. Zhuang: None. P. Luan: None. Y. Xu: None. W. Peng: None.
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318
MicroRNA Regulation of G Protein-Coupled Receptor Kinase 2 After Cardiac Injury
Melissa Lieu, Kurt Chuprun, Erhe Gao, Walter J Koch, Temple Univ LKSOM, Philadelphia, PA
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319
Mir-222 is Required for Physiological Hypertrophy but Inhibits Pathological Hypertrophy and Heart Failure
Xiaojun Liu, Haobo Li, Chunyang Xiao, Federico Damilano, Colin Platt, Carolin Lerchmuller, Han Zhu, Paul Wei, Ashish Yeri, Corrigan-Minehan Heart Ctr and Cardiology Div, Massachusetts General Hosp, Harvard Medical Sch, Boston, MA; Patrick Most, Devision of Molecular and Translational Cardiology, Dept of Internal Med Ill, Univ Hosp Heidelberg, Heidelberg, Germany; Anthony Rosenzweig, Corrigan-Minehan Heart Ctr and Cardiology Div, Massachusetts General Hosp, Harvard Medical Sch, Boston, MA
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321
Mia Long Non-coding Rna Regulates Cardiac Hypertrophy and Ribosomal Expression in Cardiomyocytes
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320
Systemic Blocking Exosome Formation/Release Improves Ischemic Hindlimb Repair in Diabetic db/db Mice
Zhongjian Cheng, Venkata Naga Srikanth Garikipati, Maria Cimini, Yan Tang, Chunlin Wang, May Truongcao, Yujia Ye, Cindy Benedict, Vandana Mallaredy, Walter Koch, Suresh K Verma, David Goukassian, Raj Kishore, Temple University School of Medicine, Philadelphia, PA
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Abstracts (continued)

335
Introducing a Multiwell Cardiac µGMEA Platform for Action Potential Recordings from Human iPSC Derived Cardiomyocyte Constructs
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S.L. Edwards: None. V. Zlochiver: None. D.M. Conrad: None. R. Vaidyanathan: None. R. Joshi-Mukherjee: None.

336
Human Bone Contains Primitive Cells with Angiogenic and Immunomodulatory Properties
Hajime Kubo, Eric Feldsot, Giana Schena, Alexander Hobby, Yijun Yang, Jaslyn Johnson, Polina Gross, Thomas Sharp, Sadia Mohsin, Remus Berretta, Eric T Choi, Joanne Donnelly, Hydel Christopher, Steven R Houser, Temple Univ, Philadelphia, PA

337
Long Term Safety and Efficacy of a Cardiac Graft in a Swine Model of Heart Failure
Jordan Lancaster, Jen Koevary, Sherry Daugherty, Steven Goldman, Univ of Arizona, Tucson, AZ
J. Lancaster: None. J. Koevary: None. S. Daugherty: None. S. Goldman: None.

338
Maturation of Cardiomyocytes by Rbfox1
Josh Z Lee, Chen Gao, Yibin Wang, UCLA David Geffen Sch of Med, Los Angeles, CA; Ivan Pushkarsky, Dino DiCarlo, UCLA Dept of Bioengineering, Los Angeles, CA; Shan Panikh, Vanderbilt Dept of Pharmacology, Nashville, TN; Bjorn Knollmann, Vanderbilt Sch of Med, Nashville, TN

339
A Novel Strategy to Harness Stem Cell-Intrinsic Mechanobiological Properties for Advanced Tissue Repair: Implication in Cardiac Tissue Injury
Arghya Paul, Aparna Chakravarti, Settimio Pacelli, Univ of Kansas, Lawrence, KS; Rafeeq Ahmed, Univ of Cincinnati, Dept of Pathology and Lab Med, Cincinnati, OH
A. Paul: None. A. Chakravarti: None. S. Pacelli: None. R. Ahmed: None.

340
Cardiomyocyte-Derived Mechanical Signals Function in a Paracrine Manner to Regulate Tissue Stiffness and Myocardial Proliferation
Caieme Zhang, Sabrina Emms, Glenn Radice, Thomas Jefferson Univ, Philadelphia, PA
C. Zhang: None. S. Emms: None. G. Radice: None.

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341
Prolonged Post-Differentiation Culture Influences the Biophysics of Na⁺ - And Ca⁺⁺ Channels in Induced Pluripotent Stem Cell-Derived Cardiomyocytes
Gracious Ross, Larisa Emelyanova, Farhan Rizvi, Ctr for Integrative Res on Cardiovascular Aging, Aurora Res Inst, Milwaukee, WI; A Jamil Tajik, Ctr for Integrative Res on Cardiovascular Aging, Aurora Cardiovascular Services, Aurora Sinai/Aurora St. Luke’s Medical Ctrs, Univ of Wisconsin Sch of Med and Public Health, Milwaukee, WI; Arshad Jahangir, Aurora Cardiovascular Services, Aurora Sinai/Aurora St. Luke’s Medical Ctrs, Univ of Wisconsin Sch of Med and Public Health, Milwaukee, WI
G. Ross: None. L. Emelyanova: None. F. Rizvi: None. A. Tajik: None. A. Jahangir: None.

342
The Absence of S-nitrosoglutathione Reductase (GSNOR⁻) Reduces Maturation of iPSC-derived Cardiomyocytes
Alessandro Salerno, Raoul Dulce, Konstantinos Hatzistergos, Amarylis Wanschel, Wayne Balkan, Joshua Hare, Univ of Miami, Miami, FL
A. Salerno: None. R. Dulce: None. K. Hatzistergos: None. A. Wanschel: None. W. Balkan: None. J. Hare: 7. Ownership Interest; Modest; Dr. Hare holds equity in Longeveron. 8. Consultant/Advisory Board; Modest; Dr. Hare is the Chief Scientific Officer, a compensated consultant and advisory board member for Longeveron and is the co-inventor of intellectual property licensed to Longeveron.

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343
Lin28 Enhances Cardiac Repair by Reprogramming Metabolism of Cardiac Progenitor Cells
Ai Wen Tan, Justin Kurian, Daria Harlamova, Tao Wang, Sadia Mohsin, Steven R Houser, Mohsin Khan, Temple Univ, Philadelphia, PA

344
Proteomic Analysis Revealing Association of hiPSC-exosomal Proteins in Epigenetic Inheritance
Yan Tang, Yujia Yue, Venkata N.S. Garikipati, Suresh Verma, Zhongjian Cheng, Maria Cimini, David Goukassian, Chunlin Wang, May Cao, Raj Kishore, Temple Univ, Philadelphia, PA

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Abstracts (continued)

345
Aggregation of Child Cardiac Progenitor Cells into Spheres Activates Notch Signaling and Improves Treatment of Right Ventricular Heart Failure
David Trac, Chunhui Xu, Michael E Davis, Emory Univ, Atlanta, GA
D. Trac: None. C. Xu: None. M.E. Davis: None.
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346
A Standard Flow Cytometry Protocol for Assessing Human Pluripotent Stem Cell-derived Cardiomyocyte Identity by Troponin Positivity
Matthew Waas, Ranjuja Weerasekera, Erin M Kropp, Medical Coll of Wisconsin, Milwaukee, WI; Marisol Romero, Northwestern Univ, Chicago, IL; Ellen Poon, Kenneth R Boheler, Hong Kong Univ, Hong Kong, China; Paul W Burridge, Northwestern Univ, Chicago, IL; Rebekah L Gundry, Medical Coll of Wisconsin, Milwaukee, WI
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347
Mechanistic Basis of Neonatal Heart Regeneration Revealed by Transcriptome and Histone Modification Profiling
Zhaoxing Wang, Miao Cui, Wenduo Ye, Wei Tan, Giovanni Botten, John McAnally, John M. Shelton, Min S. Kim, Venkat Malladi, Beibei Chen, Rhonda Bassel-Duby, Ning Liu, Eric N. Olson, UT Southwestern, Dallas, TX

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Epigenetic Regulation in Heart Regeneration
Shuo Tian, Ienglam Lei, Univ of Michigan Medical Sch, Ann Arbor, MI; Peter X Ma, Univ of Michigan Dental Sch, Ann Arbor, MI; Zhong Wang, Univ of Michigan Medical Sch, Ann Arbor, MI
S. Tian: None. I. Lei: None. P.X. Ma: None. Z. Wang: None.

349
Sal1A Blocks Cardiac Trans-differentiation but Stimulates Cardiac Stem-like Cell (iPSC) Generation and Improve Post MI Function In Vivo
Lina Yang, Pratap Pinnamaneni, Hong Gao, Deepthi Sanagasetti, Vivek Singh, Megumi Mathison, Todd Rosengart, Jianchang Yang, Baylor Coll of Med, Houston, TX

350
Human Cardiac Fibroblasts Have Angiogenic Inhibitory Phenotypes Through Their Expressing Lypd1 In Vitro
Katuhisa Matsuura, Shinko Masuda, Tatsuya Shimizu, TOKYO WOMENS MEDICAL UNIVERSITY, Tokyo, Japan

351
Methylglyoxal Increases mTOR Activity Without Altering Autophagy in Animal Model of Acute Myocardial Infarction
Alessandra Machado, Univ Federal Do Rio Grande do Sul, Porto Alegre, Brazil; Bianca Fracasso, Hosp de Clinicas de Porto Alegre, Porto Alegre, Brazil; Juliana Rangel, Graziele Pinto, Niara Medeiros, Univ Federal Do Rio Grande do Sul, Porto Alegre, Brazil; Maria Breidenbach, Daniel Caetano, Hosp de Clinicas de Porto Alegre, Porto Alegre, Brazil; Luiz Rohde, Andreia Biolo, Univ Federal Do Rio Grande do Sul, Porto Alegre, Brazil

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Manf, a Structurally Unique Redox-sensitive Chaperone, Restores Er-protein Folding in the Ischemic Heart
Adrian Arrieta, Erik A. Blackwood, Cathrine Aivati, Winston T. Stauffer, Michelle Santo Domingo, Alina S. Bilai, Anup V. Sarakki, Donna J. Thuerauf, San Diego State Univ, San Diego, CA; Shirin Doroudgar, DZHK (German Ctr for Cardiovascular Res), Partner Site Heidelberg/Mannheim, Heidelberg, Germany; Christopher C. Glembotski, San Diego State Univ, San Diego, CA

353
Nucleolar Enlargement and Perturbed Ribosomal Biogenesis Are Cellular Hallmarks of Cardiac Aging
Collin Matsumoto, Trang Hua, Univ of California at Davis, Davis, CA; Mark Sussman, San Diego State Univ, San Diego, CA; Nirmala Hariharan, Univ of California at Davis, Davis, CA
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354
Accelerated Autophagy is Required for Doxorubicin-induced Oxidative Damage and Cardiomyopathy
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355
A Systematic Review of Medication Adherence Interventions for Heart Failure Patients
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356
Effective Three-element Windkessel Model based on Doppler Ultrasound Images for Noninvasive Quantification of Trans-stenotic Pressure Gradient in Aortorenal System
Monsurul Khan, Indiana Univ Purdue Univ Indianapolis, Indianapolis, IN; Alan P. Sawchuk, Indiana Univ Sch of Med, Indianapolis, IN; Anurag Deb, Rou Chen, Indiana Univ Purdue Univ Indianapolis, Indianapolis, IN; Raghu L. Motaganahalli, Indiana Univ Sch of Med, Indianapolis, IN; Xin Fang, Dept Of Vascular Surgery, Hangzhou First People's Hosp, Hangzhou, China; Huidan(Whitney) Yu, Indiana Univ Purdue Univ Indianapolis, Indianapolis, IN
M. Khan: None. A.P. Sawchuk: None. A. Deb: None. R. Chen: None. R.L. Motaganahalli: None. X. Fang: None. H. Yu: None.

361
Analysis of Cardiotoxic Mechanisms Associated With Tyrosine Kinase Inhibitor Ponatinib

362
Aortic Valve Hamartoma: A Rare Valvular Tumor Mimicking Infective Endocarditis
Nethuja Salagundla, Nooraldin Merza, Islam Asm, Alzeerah Masoud, Muath Alsharif, TTUHSC, Amarillo, TX
N. Salagundla: None. N. Merza: None. I. Asm: None. A. Masoud: None. M. Alsharif: None.

363
The Brain - Pancreas Axis: An Alzheimer Nanoplaque Study
Guenter Siegel, Charite - Univ Clinic Berlin, Berlin, Germany; Stephanie Hammersen, Clinic Friedrichshain, Dept of Neurosurgery, Berlin, Germany; Angela Becker, Charite - Univ Clinic Berlin, Berlin, Germany; Dan Georgescu, Clinic Königsfelden for Geronto- and Neuropsychiatry, Brugg, Switzerland; Irrit Lubitz, Chaim Sheba Medical Ctr, Ramat Gan, Israel; Eugeny Ermilov, Charite - Univ Clinic Berlin, Berlin, Germany; Martin Malmsten, Univ of Uppsala Biomedical Ctr, Uppsala, Sweden; Ramsey Saunders, St. George's Univ Sch of Arts and Sciences, True Blue, Grenada; Björn Lindman, Univ of Lund, Lund, Sweden

364
Metabolic Syndrome Induced by High Fat/high Fructose Diet in C57bl/6 Mice Impaired Cardiac Remodeling During Pregnancy
Yijun Yang, Yunichel Joo, Tao Wang, Giulia Borghetti, Shayvonn Harper, Christopher Bryan, Sadia Mohsin, Steven R Houser, Temple Univ, Philadelphia, PA

365
Potential Relationship Between Nitric Oxide Bioactivity And Kidney Function Following Cardio-pulmonary Bypass
Andrew J Moyal, Alfred Hausladen, Ryan Nazemian, Lin Zhu, Edwin Pacheco Colon, James Reynolds, Case Western Reserve Univ, Cleveland, OH

366
The Role of Mitochondrial Calcium Unipporter Complex in Cardiac Contractility and Function

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Abstracts (continued)

371
Cardiac Endocrinology: Biology of a Heart-derived Hormone That Regulates Body Growth
Liming Pei, Children’s Hosp of Philadelphia/Univ of Pennsylvania, Philadelphia, PA
L. Pei: None.

372
Master Transcriptional Regulators of Cardiac Gene Expression in Heart Failure
Christoph D Rau, Jessica Wang, James Ohearn, Rozeta Avetisyan, Aldons J Lusis, Yibin Wang, UCLA, Los Angeles, CA
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373
The Molecular Consequence of a Polymorphic 25bp Deletion in Intron 32 of MYBPC3, Specific to South Asians
Jennifer A Schwankenamp, Shiv Kumar Viswanathan, Univ of Cincinnati, Cincinnati, OH; Parth N Patel, Harvard Medical Sch, Boston, MA; Sangeetha Kandri, Univ of Cincinnati, Cincinnati, OH; Ratan Bhat, AstraZeneca Cardiovascular and Metabolic Diseases, Gothenburg, Sweden; Rama Shanker Verma, Indian Inst of Technology, Madras, India; Christine E Seidman, Jonathan G Seidman, Harvard Medical Sch, Boston, MA; Winston Shim, Natl Heart Res Inst, Singapore, Singapore; Ralph Knöll, AstraZeneca Cardiovascular and Metabolic Diseases IMED Biotech Unit, Gothenburg, Sweden; Saktivee Sadayappan, Univ of Cincinnati, Cincinnati, OH

374
Gpr68 Senses Blood Flow and is Essential for Vascular Physiology
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375
Defining a Unifying Mechanism for Select Cardiomyopathy-Linked Variants of Desmoplakin
Maegen Ackermann, Heather Manning, The Ohio State Univ, Columbus, OH; Ronald Ng, Yale Univ, New Haven, CT; Taylor Albertelli, James Madison Univ, Harrisonburg, VA; Premela Jyothi Bobbili, Tyler Stevens, The Ohio State Univ, Columbus, OH; Daniel Jacoby, Yale Univ, New Haven, CT; Paul Janssen, Ahmet Kilic, The Ohio State Univ, Columbus, OH; Nathan Wright, Nathan Wright, James Madison Univ, Harrisonburg, VA; Yibing Qyang, Stuart Campbell, Yale Univ, New Haven, CT
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377
Modeling Cadmium-induced Cardiotoxicity Using Human Pluripotent Stem Cell-derived Cardiomyocytes
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378
Evaluation of Patient Specific MTERF4 Variants in Gene Edited Human iPSC-derived Cardiomyocytes
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379
Effects of Microgravity on Human Induced Pluripotent Stem Cell-Derived Cardiomyocyte Structure and Function
Alexa Wnorowski, Arun Sharma, Haodong Chen, Haodi Wu, Ning-Yi Shao, Jared M. Churko, Elena Matsa, Stanford Univ, Stanford, CA; Stefanie Countryman, Univ of Colorado Boulder, Boulder, CO; Kathleen Rubins, NASA Johnson Space Ctr, Houston, TX; Sean M. Wu, Stanford Univ, Stanford, CA; Peter H.U. Lee, The Ohio State Univ, Columbus, OH; Joseph C. Wu, Stanford Univ, Stanford, CA

384
Pirfenidone Protects the Heart Through Immune Modulation of Subsets of Cardiac B Lymphocytes
Luigi Adamo. Washington Univ in St Louis, Saint Louis, MO
L. Adamo: 7. Ownership Interest; Modest; I have co-founded a start-up company to further develop the drug described in this abstract.

385
Characterization of Cellular Infiltrate in Bioprosthetic Aortic and Mitral Valves
Sabin J Bozso, Ratnadeep Basu, Benjamin Adams, Gavin Oudit, Darren H Freed, Jayan Nagendran, Michael C Moon, Jeewan Nagendran, Univ of Alberta, Edmonton, AB, Canada

386
Sex Differences in Vitamin D Alter Inflammation During Heart Disease
Katelyn Ann Bruno, Jessica Mathews, Erika Douglass, Anneliese Hill, Leslie Cooper, Jonathan Hoyne, DeLisa Fairweather, Mayo Clinic, Jacksonville, FL

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387
Lymphatic Endothelial Cells Derived Exosomes Promote Neolymphangiogenesis After Injury
Maria Cimini, Giulia Borghetti, Steven Houser, Raj Kishore, Temple Univ, Lewis Katz Sch, Philadelphia, PA
M. Cimini: None. G. Borghetti: None. S. Houser: None. R. Kishore: None.

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388
Small GTPase Rnd3 Fine-tunes Inflammatory Response in Myocardial Infarction
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390
Mitochondrial ROS Drive Sudden Cardiac Death and Chronic Proteome Remodeling in Heart Failure
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391
Identifying the Novel Role of a Presenilin-2 Mutation in Arrhythmogenicity Using Patient Specific Induced Pluripotent Stem Cells Derived Cardiomyocytes
Chi Keung Lam, Ning Ma, June-Wha Rhee, Tomoya Kitani, Joe Zhang, Rajani Shrestha, Haodi Wu, Joseph C Wu, Stanford Univ, Stanford, CA
C. Lam: None. N. Ma: None. J. Rhee: None. T. Kitani: None. J. Zhang: None. R. Shrestha: None. H. Wu: None. J.C. Wu: None.
392 Chronic Dantrolene Treatment Attenuates Cardiac Dysfunction and Reduces Atrial Fibrillation Inducibility in a Rat Myocardial Infarction Heart Failure Model

Colleen Nofi, Kuo Zhang, Ying Li, Allan Migirov, Kaie Ojamaa, Martin Gerdes, New York Inst of Technology Coll of Osteopathic Med, Old Westbury, NY


393 Is High Grade Atroventricular Block Reversible in Hypothyroidism

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N.A. Nwafo: None.

394 The Role of Camkii-dependent Late Sodium Current In Ischemia/reperfusion-associated Arrhythmogenesis

Amara Greer-Short, Taylor Howard, Tony Satroplus, Nehal Patel, Drew Nassal, Peter Mohler, Thomas Hund, Ohio State Univ, Columbus, OH


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395 Pioglitazone and Glucagon-like Peptide 1 Receptor Agonist Mitigate Adverse Postinfarction Left Ventricular Remodeling in Lean Mice When Administered After the Infarct Independent of Changes in Infarct Size

Allen M Andres, Juliana Germano, Chengqun Huang, Kyle C Tucker, Yang Song, Jon Sin, Roberta A Gottlieb, Robert M Mentzer, Cedars-Sinai Medical Ctr, Los Angeles, CA


397 Preventing Cardiomyopathy of Muscular Dystrophy Through Antagonism of the Thromboxane/Prostanoid Receptor

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398 GLP-1 Receptor Agonist Administered After the Infarct Suppresses miR-33 Expression in Lean Mice Subjected to Permanent Coronary Artery Occlusion

Juliana de F. Germano, Chengqun Huang, Yang Song, Jon Sin, Robert M. Mentzer Jr., Roberta A. Gottlieb, Allen M. Andres, Smidt Heart Inst, Cedars-Sinai Medical Ctr, Los Angeles, CA


399 Inhibition of NFE2L2-ARE Pathway by mtROS Contributes to Development of Cardiomyopathy and Left Ventricular Dysfunction in Chagas Disease

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J.J. Wen: None. N.J. Garg: None.

400 ERBB2 Inhibition Leads to Cardiac Dysfunction

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402 Exclusion of Major Cell Types in the Murine Heart Enriches for Cardiac Pericytes

Shuin Park, Justin Langerman, Reza Ardehali, Univ of California, Los Angeles, Los Angeles, CA

S. Park: None. J. Langerman: None. R. Ardehali: None.

404 Sphingosine-1-phosphate Receptor 1 Inhibits Pathological Cardiac Remodeling Through Histone Deacetylases

Bisheng Zhou, Jayne Wolfe, Bianca Lavelle, Rishi Arora, J. Andrew Wasserstrom, Northwestern Univ, Chicago, IL; Jerold Chun, Sanford Burnham Prebys Medical Discovery Inst, La Jolla, CA; Lisa D Wilsbacher, Northwestern Univ, Chicago, IL

405 Antioxidant Treatment Prevents Profibrotic Changes and Cardiac Dysfunction In Prenatal Alcohol Exposure
Van K Ninh, Elia C El Hajj, Jason D Gardner, LSUHSC-NO, New Orleans, LA

406 Loss of Sigmar1 Leads to Impaired Mitochondrial Respiration, Altered Mitochondrial Dynamics and Development of Cardiac Contractile Dysfunction
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407 Defective Branched Chain Amino Acid Catabolism Impairs Exercise Endurance
Lauren E Abell, Univ of Washington, Seattle, WA
L.E. Abell: None.

408 Defective Mitochondrial Dynamics Contribute to Cardiac Contractile Dysfunction in Desminopathy
Shafiul Alam, Chowdhury S. Abdullah, Dept of Pathology and Translational Pathobiology, Louisiana State Univ Health Sciences Ctr-Shreveport, Shreveport, LA; Richa Aishwarya, Dept of Molecular and Cellular Physiology, Louisiana State Univ Health Sciences Ctr-Shreveport, Shreveport, LA; Sumitra Miriyala, Manikandan Panchatcharam, Dept of Cellular Biology and Anatomy, Louisiana State Univ Health Sciences Ctr-Shreveport, Shreveport, LA; Jonette P. Green, A. Wayne Orr, Dept of Pathology and Translational Pathobiology, Louisiana State Univ Health Sciences Ctr-Shreveport, Shreveport, LA; Jeanne James, Children’s Hosp of Wisconsin-Milwaukee Campus, Milwaukee, WI; Jeffrey Robbins, Div of Molecular Cardiovascular Biology, Cincinnati Children’s Hosp, Cincinnati, OH; Md. S. Bhuiyan, Dept of Pathology and Translational Pathobiology, Louisiana State Univ Health Sciences Ctr-Shreveport, Shreveport, LA; S. Alam: None. C.S. Abdullah: None. R. Aishwarya: None. S. Miriyala: None. M. Panchatcharam: None. J.P. Green: None. A.W. Orr: None. J. James: None. J. Robbins: None. M.S. Bhuiyan: None.

409 Ablation of Endothelial Sirt3 Exacerbates Pressure Overload-induced Heart Failure
Xiaochen He, Heng Zeng, Jian Xiong Chen, Dept of Pharmacology and Toxicology, Univ Mississippi Medical Ctr, Jackson, MS
X. He: None. H. Zeng: None. J. Chen: None.

410 Prostaglandin E2 Reduces Carnitine Palmitoyltransferase 2 in Adult Mouse Cardiomyocytes
Pamela Harding, Timothy D Bryson, Henry Ford Hosp, Detroit, MI; Indrani Datta, Yun Wang, Albert M Levin, Henry Ford Health System, Detroit, MI

411 Mitochondrial NAD(H) Signaling in Cardiac Physiology and Pathology
Qingxun Hu, Pei Wang, Rong Tian, Wang Wang, Mitochondria and Metabolism Ctr, Univ of Washington, Seattle, WA

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412 The Role of ETC Complexes I and II in the Respirasome Assembly in Heart Mitochondria
Sehwan Jang, Sabzali Javadov, UPR Sch of Med, San Juan, PR
S. Jang: None. S. Javadov: None.

413 NAD+-dependent Pathogenic Mechanisms and Metabolic Interventions for Mitochondrial Disease and its Associated Cardiomyopathy
Chi Fung Lee, Arianne Caudal, Lauren Abell, G. A. Nagana Gowda, Rong Tian, Univ of Washington, Seattle, WA

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414 Transcriptome Analysis by RNA Sequencing of Left Ventricular Tissue from Mice Fed a High-Fat Diet
Stephen W Luckey, Seattle Univ, Seattle, WA; Jesse Riordan, Pacific Northwest Res Inst, Seattle, WA; Courtney Olson, Seattle Univ, Seattle, WA; Joseph Nadeau, Pacific Northwest Res Inst, Seattle, WA
S.W. Luckey: None. J. Riordan: None. C. Olson: None. J. Nadeau: None.
Abs(continued)

415 Lin28a Regulates Pathological Cardiac Hypertrophic Growth Through Pck2-mediated Enhancement of Anabolic Synthesis
Hong Ma, Shuo Yu, Univ of North Carolina, Chapel Hill, NC; Xiaojing Liu, Duke Univ, Chapel Hill, NC; Yingao Zhang, Thomas Fakadej, Ziqing Liu, Chaoying Yin, Univ of North Carolina, Chapel Hill, NC; Jason W Locasale, Duke Univ, Chapel Hill, NC; Joan M Taylor, Li Qian, Jiandong Liu, Univ of North Carolina, Chapel Hill, NC


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416 Mnsod Cardiomyocyte-specific Knockout Live Up to Four Months: Role in Heart Failure Development and Progression
Manikandan Pancatcharam, Susmita Bhattarai, Sudha Sharma, Timothy Michael LaBrie, Hailey D Tupper, M.D., Shenuarin Bhuiyan, Mini Chandra, Sumitra Miriyala, LSUHSC - Shreveport, Shreveport, LA


417 Targeting the NAD/NADH Ratio for Heart Failure Therapy
Matthew A Walker, Univ of Washington, North Bend, WA; Outi Villet, Rong Tian, Univ of Washington, Seattle, WA

M.A. Walker: None. O. Villet: None. R. Tian: None.

418 Perm1 is a Novel Regulator of Mitochondrial Energetics in Cardiomyocytes
Junco S Warren, Univ of Utah, Salt Lake Cty, UT; Shin-ichi Oka, Rutgers New Jersey Medical Sch, Newark, NJ; Keiko Cawley, Amira Sabry, Christopher Stubben, Brian Dalley, Stavros Drakos, Univ of Utah, Salt Lake Cty, UT; Junichi Sadoshima, Rutgers New Jersey Medical Sch, Newark, NJ


419 Deep Sequencing Provides Evidence Of Mitochondrial Abnormalities In Right Ventricular Failure In Pulmonary Arterial Hypertension
Francois Potus, Charles CT Hindmarch, Stephen L Archer, queens university, kingston, ON, Canada

F. Potus: None. C.C. Hindmarch: None. S.L. Archer: None.

420 RIP3 Interacts with Mitofilin in the Inner Membrane of Mitochondria to Induce Cardiomyocytes Necrosis After Ischemia/reperfusion
Yansheng Feng, Ngonidzashe B. Madungwe, Nathalie Tombo, Liu Li, Jean Chrisostome Bopassa, UTHSCSA, San Antonio, TX

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421 High-throughput In vitro Ischemia-reperfusion Model with Real-time Monitoring of Cellular Oxygenation and Reactive Oxygen Species Generation
Christopher Fleming, Ncardia, Plymouth Meeting, PA; Conn Carey, Luxcel Biosciences, Cork, Ireland; Ralf Ketenhoffen, Ncardia, Cologne, Germany; Mario Schneider, BMG LABTECH, Ortenberg, Germany; James Hynes, Luxcel Biosciences, Cork, Ireland


422 Recognition of Pharyngeal Pain as an Angina Equivalent
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S.N. Grevious: None. M. Fernandes: None. M. Rivera: None.

423 Cardiomyocyte-Specific Epidermal Growth Factor Receptor Deletion Differentially Alters Cardiac Contractility and Remodeling During Physiologic versus Pathologic Development


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424 Knockdown of Nerve Growth Factor in Spinal Cord Reduces Myocardial Reperfusion Injury by Suppressing Ischemic Nociceptive Signaling Transmission
Shufang He, Mengyun Dou, Zhenxiao Ma, Ye Zhang, The Second Hosp of Anhui Medical Univ, Hefei, China

S. He: None. M. Dou: None. Z. Ma: None. Y. Zhang: None.
Abstracts (continued)

425
A Pro-reductive Redox State Protects the Myocardium from Isoproterenol-Induced Pathological Remodeling in Nrf2 Transgenic Mouse
Gobinath Shanmugam, Anil Kumar Challa, Silvio H Litovsky, Univ. Alabama at Birmingham, Birmingham, AL; Jolyn Fernandes, Dean P Jones, Emory Univ, Atlanta, GA; Rajasekaran Namakkal-Soorppan, Sch of Med, Univ. Alabama at Birmingham, Birmingham, AL.

426
Stress-induced Kinase Targets of Cardioprotective 3',4'-dihydroxyflavonol in Injured Myocardium
Dominic Richards, Yvonne Yeap, Melissa Reichelt, Univ of Queensland, St Lucia, Australia; Phillip van der Peet, Spencer J Williams, Univ of Melbourne, Parkville, Australia; Owen L Woodman, RMIT Univ, Bunndooa, Australia; Grant McLachlan, Amaron Bio Pty Ltd, East Melbourne, Australia; Dominic Ng, Univ of Queensland, St Lucia, Australia.

427
Inhibition of Myocardial Romk Channels Blocks Ischemic Preconditioning Induced Cardio-protection
Mohun Ramratnam, Warren Linnerooth, John W Kyle, Brandi A Weidmeyer, Emily D Lacount, Nilal Ahmad, Univ of Wisconsin, Madison, WI; Alexander Pasternak, Merck & Co, Kenilworth, NJ; Elizabeth M McNally, Northwestern Univ, Chicago, IL; Jonathan C Makiel, Univ of Wisconsin, Madison, WI

428
Cytoglobin: A Novel Regulator of the DNA Damage Response Within Cardiomyocytes
Sarvejot Singh, Dylan Rivas, Diana Canseco, Melanie Weiler, Terry Gemelli, Jian Huang, Tara Tassim, John Shelton, James A Richardson, Hesham Sadek, Pradeep Pa Mammen, UT Southwestern Medical Ctr, Dallas, TX

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429
Intensive Necroptosis Due to Enhanced RIP3-CaMKII Signaling Contributes to Diabetic Myocardial Ischemic Susceptibility
Han Xue, Chen Li, Zheng Yang, Yishi Wang, Nan Mu, Heng Ma, Fourth Military Medical Univ, Xi’an, China
H. Xue: None. C. Li: None. Z. Yang: None. Y. Wang: None. N. Mu: None. H. Ma: None.

431
KL15 Regulates the Circadian Susceptibility to Ischemia Reperfusion Injury in the Heart
Le Li, Hui Li, Chih-Liang Tien, Baylor Coll of Med, Houston, TX; Rongli Zhang, Xudong Liao, Mukesh K. Jain, Case Cardiovascular Res Inst, Dept of Med, Harrington Heart and Vascular Inst, Univ Hosp Cleveland Medical Ctr, Cleveland, OH; Hlei Zhang, Baylor Coll of Med, Houston, TX
L. Li: None. H. Li: None. C. Tien: None. R. Zhang: None. X. Liao: None. M. Jain: None. L. Zhang: None.

434
A Diet Rich in Oleic Acid, as Primary Lipid Source, Attenuates the Progressive Functional Decline in Hypertrophied Hearts During Pathological Stress
Andrew N Carley, E. Douglas Lewandowski, Ohio State Univ Medical Ctr, Columbus, OH
A.N. Carley: None. E. Lewandowski: None.

435
Post-transcriptional Regulation of Tropomyosin Isoforms Altered in Human Heart Diseases
Jun Cao, KarryAnne Belanger, Curtis Nutter, Ping Ji, Ela Jaworski, Nathan Elrod, Sunil Verma, Eric Wagner, Andrew Routh, Muge N. Kuyumcu-Martinez, Univ of Texas Medical Branch, Galveston, TX

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436
Gender-based Differences in Preoperative Levels of Circulating MicroRNA in Patients Who Developed Postoperative Atrial Fibrillation
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437
Tyrosine Phosphorylation: Regulator of Cardiac Contraction
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438
Familial Cardiomyopathy Mutations Affect Mechanosensing at the Molecular and Cellular Levels
Sarah Clippinger, Paige Cloonan, Lina Greenberg, Tom Stump, Michael J Greenberg, Washington Univ, St. Louis, MO


439
Elevating 2-deoxy Adenosine Triphosphate Improves Contraction in a Mouse Model of Genetic Dilated Cardiomyopathy
Farid Moussavi-Harami, Maria V Razumova, Jordan M Klaiman, Yuanhua Cheng, Univ of Washington, Seattle, WA; Jill C Tardiff, Univ of Arizona, Tucson, AZ; Michael Regnier, Univ of Washington, Seattle, WA


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440
The Cardiomyocyte Diastolic Stiffness and Contractility are Inversely Related to the Size of Titin: A Cellular Work Loop Study of Single Intact Cardiomyocytes
Mei Methawasin, Joshua Strom, Univ of Arizona, Tucson, AZ; Michiel Helmes, IonOptix Lic, Milton, MA; Henk Granzier, Univ of Arizona, Tucson, AZ

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443
α1-Adrenergic Receptor Agonists Activate Akt Signalling via the Insulin Receptor Family of Receptors
Angela Clerk, Univ of Reading, Reading, United Kingdom; Daniel N Meijles, St. George’s Univ of London, London, United Kingdom; Kerry A Rostron, Spencer Shaw, Joshua J Cull, Stephen J Fuller, Peter H Sugden, Univ of Reading, Reading, United Kingdom


444
Dusp4 Overexpressed EC Derived Exosomes Promote Angiogenesis: A Novel Therapeutic Strategy For Ischemic Heart Disease
Julie Dougherty, Mahmood Khan, Mark G Angelos, Chun-an Chen, The Ohio State Univ, Columbus, OH

J. Dougherty: None. M. Khan: None. M.G. Angelos: None. C. Chen: None.

445
Essential Role of the S100A1-C-terminus Domain in Maintaining Cardiac-inotrope S100A1 Protein Stability
Zegeye Hailu Jebessa, Jemmy Zhao, Andrea Schneider, Martin Busch, Hugo A Katus, Patrick Most, Dept of Internal Med III, Div of Molecular and Translational Cardiology, and German Ctr for Cardiovascular Res (DZHK), Partner site Heidelberg, Heidelberg, Germany


446
Transcription Factor EB, not mTOR is a Therapeutic Target for Rag GTPase Protein C S75Y-based Cardiomyopathy
Maengo Kim, Qi Qi, Xiao Ma, Xiaolei Xu, Mayo Clinic, Rochester, MN

M. Kim: None. Q. Qi: None. X. Ma: None. X. Xu: None.

447
The Role of Extracellular cAMP in the Pathogenesis of Pulmonary Arterial Hypertension
Yassine Sassi, Carlos bueno-Beti, Carly Jones, Guillaume Bonnet, Lahouaria Hadri, Roger J. Hajjar, Ichan Sch of Med Mt Sinai, New York, NY


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448
P27Kip1 Contributes to Eya4-mediated Development of Acquired Cardiac Hypertrophy
Tatjana D Williams, Paula-Anahi Arias-Loza, Univ Hosp Wuerzburg CHFC, Wuerzburg, Germany; Peter Nordbeck, Univ Hosp Wuerzburg Med I, Wuerzburg, Germany; Oliver Ritter, Dept of Cardiology and Pneumology, Medical Univ Brandenburg, Brandenburg, Germany


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Abstracts (continued)

450
Global Phosphopeptide Analyses Identifies a Profile that Distinguishes Advanced Heart Failure Patients Capable of Cardiac Recovery Following LVAD Unloading
Christopher Tracy, Aman Makaju, Sutip Navankasattussas, Lauren McCread, Nikolaos Diakos, Craig Selzman, Stavros Drakos, Sarah Franklin, Univ of Utah, Salt Lake Cty, UT
C. Tracy: None. A. Makaju: None. S. Navankasattussas: None. L. McCread: None. N. Diakos: None. C. Selzman: None. S. Drakos: None. S. Franklin: None.

451
Impact of Resistant Starch Diet on Atherosclerosis in the Presence of Chronic Kidney Disease
Oleg Karaduta, Boris Zybavlov, Univ of Arkansas for Medical Sciences, Little Rock, AR
O. Karaduta: None. B. Zybavlov: None.

452
Alpha-Ketoglutarate Dehydrogenase Inhibition by the Oncometabolite D2-HG Causes Proteome and Metabolome Remodeling in Myocytes
Anja Karlstaedt, Heidi Vitrac, McGovern Medical Sch at UTHealth, Houston, TX; Koen Raedschelders, Weston R. Spivia, Cedars-Sinai Medical Ctr, Los Angeles, CA; Daniel M. Radhika Khanna, McGovern Medical Sch at UTHealth, Houston, TX; Jennifer VanEyk, Cedars-Sinai Medical Ctr, Los Angeles, CA; Heinrich Taegtmeyer, McGovern Medical Sch at UTHealth, Houston, TX

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453
Young Adult Female Dahl Salt-Sensitive Rats with Heart Failure with Preserved Ejection Fraction have a Distinct Survival Advantage over Age-Matched Afflicted Males

454
Role of Foxf1 During Protein Quality Control in Cardiomyocytes
Bidur Bhandary, Qing Hang Meng, Na Xu, Hanna Osinska, Kritton Shay-Winkler, James Gulick, Jeffrey Robbins, Heart Inst, Cincinnati, OH

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455
Role of Transcription Co-Factor Friend of GATA 2 (FOG2) in a Hypertensive-Diabetic Mouse Model of Coronary Microvascular Disease

456
YAP-TEAD1-OSM Amplification Loop Plays a Critical Role in Mediating Cardiomyocyte De-differentiation
Wataru Mizushima, Shouhei Ikeda, Peiyong Zhai, Junichi Sadoshima, Rutgers New Jersey Medical Sch, Newark, NJ
W. Mizushima: None. S. Ikeda: None. P. Zhai: None. J. Sadoshima: None.

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457
Ca2+/calmodulin Dependent Kinase II Exacerbates Heart Failure Progression Through Activation of Class I Histone Deacetylases
Manling Zhang, Univ of Pittsburgh, Pittsburgh, PA; Elizabeth D Lczacz, Johns Hopkins Sch of Med, Baltiore, MD; Jonathan Granger, Johns Hopkins Sch of Med, Baltimore, MD; John A Brown, Univ of California San Diego, La Jolla, CA; Mark E Anderson, Johns Hopkins Sch of Med, Baltimore, MD; Ning Feng, Univ of Pittsburgh Sch of Med, Pittsburgh, PA

458
Role of Heterochromatin Protein 1 Binding Partner 3, HP1BP3, in Cardiomyocyte Stress Response
Cheryl Xueli Chan, Wilson Tan, Roger Foo, Genome Inst of Singapore, Singapore, Singapore
C.X. Chan: None. W. Tan: None. R. Foo: None.

460
Diabetes Impairs Reparative Property of Bone Marrow-derived Endothelial Progenitor Cells: Role of Mir-499-mediated Hydrogen Sulfide Deficiency
Zhongjian Cheng, Venkata NS Garikipati, Suresh K Verma, May Trungcao, Chunlin Wang, Maria Cimini, David Goukassian, Raj Kishore, Temple University School of Medicine, Philadelphia, PA

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Abstracts (continued)

461 Prospective Isolation of Heart Field Specific Cardiomyocytes from Differentiating Human Embryonic Stem Cells
James L Engel, Arash Pezhournan, Ngoc B Nguyen, Peng Zhao, Suhail Khoja, Univ of California, Los Angeles, Los Angeles, CA; Rhys JP Skelton, Murdoch Children’s Res Inst, The Royal Children’s Hosp, Parkville, Australia; Debashis Sahoo, Univ of California, San Diego, La Jolla, CA; David A Elliott, Murdoch Children’s Res Inst, The Royal Children’s Hosp, Parkville, Australia; Reza Ardehali, Univ of California, Los Angeles, Los Angeles, CA
463 Signature of Circular RNAs in Human Induced Pluripotent Stem Cells and Derived Cardiomyocytes
Wei Lei, Tingting Feng, Xing Fang, You Yu, Junjie Yang, Zhen-Ao Zhao, Soochow Univ, Suzhou, China; Junwei Liu, Huazhong Univ of Science and Technology, Wuhan, China; Zhenya Shen, Soochow Univ, Suzhou, China; Wenbo Deng, Cincinnati Children’s Hosp Medical Ctr, Cincinnati, OH; Shijun Hu, Soochow Univ, Suzhou, China
464 Evidence for Hormonal Drive of Cardiomyocyte polyploidy & Regenerative Potential Loss During the Acquisition of Endothemy
Guo N. Huang, UCSF, San Francisco, CA
9. G.N. Huang: None.
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465 Short Term Hypoxia Can Induce Adult Feline Cardiomyocytes to Re-enter the Cell Cycle and Divide
Jaslyn Johnson, Polina Gross, Remus Berretta, Hajime Kubo, Sadia Mohsin, Steven R Houser, Lewis Katz Sch of Med, Philadelphia, PA
This research has received full or partial funding support from the American Heart Association.
467 p53 Stabilized iPS Derived Cardiomyocytes Promote Myocardial Repair
Ramaswamy Kannappan, James F Turner, Vasanthi Rajasekaran, Jianyi Zhang, Univ of Alabama at Birmingham, Birmingham, AL
This research has received full or partial funding support from the American Heart Association.
468 Mitochondrial Dysfunction and Senescence of Human Cardiac Progenitor Cells Are Prevented by Hypoxic Culture
Dieter A. Kubli, Kelli I. Korski, Mark A. Sussman, SDSU Res Fndn, San Diego, CA
D.A. Kubli: 2. Research Grant; Significant; NIH F32 HL136064. K.I. Korski: 1. Employment; Significant; CardioCreate, Inc. M.A. Sussman: 2. Research Grant; Significant; NIH R01 HL067245, NIH R01 HL105759, NIH R01 HL113647, NIH R01 HL117163, NIH R01 HL122525, NIH R01 HL122525, NIH P01 HL085577, Fondation Leducq. 7. Ownership Interest; Significant; CardioCreate, Inc.
469 Transient Introduction of miR-294 in the Heart Promotes Cardiomyocyte Cell Reentry After Injury
Justin Kuriyan, Austin Borden, Constantine Troupes, Yijun Yang, Emily Nickoloff, Sadia Mohsin, Steven Houser, Raj Kishore, Mohsin Khan, Temple Univ Sch of Med, Philadelphia, PA
470 Gata4, Mef2c and Tbx5 More Efficiently Transdifferentiate Endothelial Cells into Cardiomyocyte-like Cells Through Endothelial-Mesenchymal Transition Process
Deepthi Sanagasetti, Vivek P Singh, Jaya Pratap Pinnamaneni, Aarthi Pugazenth, Anna Jang, Davis So, Mary Kim, Lina Yang, Kai Wang, Jianshang Yang, Megumi Mathison, Todd K Rosengart, Baylor Coll of Med, Houston, TX
471 Development of a Cardiomyocyte Targeting Delivery System Utilizing Cardiosphere-Derived Cell Exosomes
Kylie I Mentkowski, Jennifer K Lang, Univ at Buffalo, Buffalo, NY
K.I. Mentkowski: None. J.K. Lang: None.
472 Large-Scale Single-Cell RNA-Seq Identifies Heterogeneous Populations of Human Primary and Induced Pluripotent Stem Cell-Derived Endothelial Cells
David T Paik, Lei Tian, Jaecheol Lee, Nazish Sayed, Ridhima Mishra, Joseph C Wu, Stanford Univ, Stanford, CA
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473
IL-7 Increases Fusion of Rat Bone Marrow Mesenchymal Stem Cells with Cardiomyocytes In Vitro and Improve Cardiac Function In Vivo

Asmat Salim, Kanwal Haneef, ICCBS, Karachi, Pakistan; Anwar Ali, Dept of Physiology, Univ of Karachi, Karachi, Pakistan; Irfan Khan, ICCBS, Karachi, Pakistan; Nadia Naeeem, Dow Univ of Health Sciences, Karachi, Pakistan
A. Salim: None. K. Haneef: None. A. Ali: None. I. Khan: None. N. Naeeem: None.

474
Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes with Remodeled Mitochondrial Ca2+
Transients Develop Adult Cardiac Phenotype

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475
Human Cardiac Progenitor Cells Derived Exosomes Stimulate Cardiomyocytes Proliferation by MicroRNA-Hippo Pathway

Sudhish Sharma, Grace Bigham, Chetan Ambastha, Muthukumar Gunasekaran, Univ of Maryland, Baltimore, MD; Phillip Z Brohawn, Sotiris Karathanasis, MedImmune, Inc., Gaithersburg, MD; Sunjay Kaushal, Univ of Maryland, Baltimore, MD
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476
Mesenchymal Stromal Cells Regulate Extracellular Purinergic Danger-Associated Molecular Patterns by Secretion of Functionally Active CD73

Eric Y Shin, Lanfang Wang, Kai Xu, Juline Deppen, Emory Univ, Atlanta, GA; Andrés J Garcia, Georgia Inst of Technology, Atlanta, GA; Frederick Strobel, Rebecca D Levit, Emory Univ, Atlanta, GA
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477
Using Computational Models to Predict Stem Cell Function

Farnaz Shoja-Taheri, Emory Univ, Atlanta, GA; Alex George, NIH, Washington DC, DC; Manu O Platt, Michael E Davis, Emory Univ and Georgia Inst of Technology, Atlanta, GA
F. Shoja-Taheri: None. A. George: None. M.O. Platt: None. M.E. Davis: None.

478
Small Molecule ICG-001, Sodium Butyrate, and Retinoic Acid Enhanced Direct Cardiac Reprogramming of Induced Cardiomyocytes (iCMs)

Vivek P Singh, JayaPratap Pinnamaneni, Megumi Mathison, Deepthi Sanagasetti, Sonal Somvanshi, Aarthi Pugazenthi, Lina Yang, Davis So, Kai Wang, Jianchang Yang, Todd K Rosengart, Baylor Coll of Med, Houston, TX

479
The ER Unfolded Protein Response Effector, ATF6, Promotes Proliferation and Maintains Pluripotency in Cardiac Stem Cells

Winston T Stauffer, San Diego State Univ, San Diego, CA; Shirin Doroudgar, Heidelberg Univ Hosp, Heidelberg, Germany; Hailey N Stephens, Erik A Blackwood, Christopher C Glembotski, San Diego State Univ, San Diego, CA

485
Enhanced Chaperone Mediated Autophagy in Cardiomyocytes Ameliorates Pathology Induced by Hypoxic and Proteotoxic Stresses

Rajeshwary Ghosh, J Scott Pattison, Univ of South Dakota, Vermillion, SD
R. Ghosh: None. J.S. Pattison: None.
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486
Role of the Adenine Nucleotide Translocator Family in the Mitochondrial Permeability Transition Pore

Jason Karch, Michael J Broun, Cincinnati Children’s Hosp Medical Ctr, Cincinnati, OH; Randi J Parks, Systems Biology Ctr, Natl Heart Lung and Blood Inst, Bethesda, MD; Naohiro Terada, Univ of Florida, Gainesville, FL; Douglas C Wallace, Children’s Hosp of Philadelphia, Philadelphia, PA; Elizabeth Murphy, Systems Biology Ctr, Natl Heart, Lung and Blood Inst, Bethesda, MD; Jeffery D Molkentin, Cincinnati Children’s Hosp Medical Ctr, Cincinnati, OH
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Abstracts (continued)

487
Arginine Methylation Through PRMT5 Mediates Energy Stress-Induced Autophagy in the Heart
Risa Mukai, Toshiro Saito, Peiyong Zhai, Junichi Sadoshima, Rutgers, New Jersey Medical Sch, Newark, NJ
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488
Clock Regulates Autophagy and Cell Survival of Cardiac Myocytes During Hypoxia Stress
Inna Rabinovich-Nikitin, Illana Minuk, Victoria Margulets, Floribeth Aguilar, St. Boniface Res Ctr, Winnipeg, MB, Canada; Tami A Martino, Univ of Guelph, Guelph, ON, Canada; Lorrie A Kirshenbaum, St. Boniface Res Ctr, Winnipeg, MB, Canada
I. Rabinovich-Nikitin: None. I. Minuk: None. V. Margulets: None. F. Aguilar: None. T.A. Martino: None. L.A. Kirshenbaum: None.
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489
Ex vivo Porcine Coronary Artery Remodeling with Seeded Endothelial Cells Mehmet H Kural, Guangxin Li, Juan Wang, Yale Univ, New Haven, CT; Guohao Dai, Northeastern Univ, Boston, MA; Laura E Niklason, Liqiong Gui, Yale Univ, New Haven, CT
M.H. Kural: None. G. Li: None. J. Wang: None. G. Dai: None. L.E. Niklason: 7. Ownership Interest; Significant; L.E.N. is a founder and shareholder in Humacyte, Inc., which is a regenerative medicine company. Humacyte produces engineered blood vessels from allogeneic smooth muscle cells for vascular surgery. L. Gui: None.
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490
Enhanced Therapeutic Effects of MSC-derived Exosomes with an Injectable Hydrogel for Hindlimb Ischemia Treatment Zongjin Li, Kaiyue Zhang, Xiangnan Zhao, Deling Kong, Qian Zhao, Na Liu, Fengxia Ma, Nankai Univ, Tianjin, China
Z. Li: None. K. Zhang: None. X. Zhao: None. D. Kong: None. Q. Zhao: None. N. Liu: None. F. Ma: None.
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491
Cardiomyocyte Braf Promotes Hypertrophy and is Required for Hypertrophic Adaptation to Hypertension in Mice In Vivo, but Raf Inhibitors Have Differential Effects Daniel N Mejiles, St George’s Univ of London, London, United Kingdom; Kerry A Rostron, Stephen J Fuller, Peter H Sugden, Angela Clerk, Univ of Reading, Reading, United Kingdom
D.N. Mejiles: None. K.A. Rostron: None. S.J. Fuller: None. P.H. Sugden: None. A. Clerk: None.
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492
Intra Mural Aortic Hematoma: An Unusual Case Presenting with Acute Limb Ischemia
Nethuja Salagundla, Dylan Richard Murray, Islam Asm, George H Parker, Anu Salwan, TTUHSC, Amarillo, TX

493
Serum Leptin and TNFa Levels in Relation to Systolic and Diastolic Heart Function in Obese and Normal-overweight Pregnant. First Trimester Data Katherine Shreyder, Maira Carrillo, James Maher, Natalia Schlabritz-Lutsevich, Texas Tech Univ HSC, Odessa, TX
This research has received full or partial funding support from the American Heart Association.

494
Comparing Cardiac Dynamics Between Neonatal and Adult Rats Luther M Swift, James Hiebert, Morgan Burke, Manel Ramadan, Rafael Jaime, Nikki Posnack, Childrens Nati Medical Ctr, Washington, DC
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495
The Loss of Pka Activity and Activation In Cardiomyocytes Does Not Induce Cardiac Abnormalities Xiaoqing Zhang, Ying Zhang, Ying Li, Xiaojie Ai, Xiaoxiao Zhang, Chen Zhang, Mingxin Tang, TEMPLE UNIVERSITY, Philadelphia, PA; Hua Xiang, TEMPLE UNIVERSITY Fox Chase Cancer Centr, Philadelphia, PA; Steven Houser, Xiongwen Chen, TEMPLE UNIVERSITY, Philadelphia, PA
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497
Rtf1 Regulates Cardiac Development and Function Jaunian Chen, Adami D Langenbacher, Fei Lu, Vincent Ren, Yibin Wang, Chen Gao, UCLA, Los Angeles, CA
J. Chen: None. A.D. Langenbacher: None. F. Lu: None. V. Ren: None. Y. Wang: None. C. Gao: None.
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498
Functional Annotation of TNNT2 Variants of Uncertain Significance with Induced Pluripotent Stem Cell-derived Cardiomyocytes Wenjian Lv, Univ of Pennsylvania, Philadelphia, PA; Lyon Qiao, Harvard Univ, Cambridge, MA; Nataliya Petrenko, Wenjun Li, Anjali T Owens, Chris McDermott-Roe, Kiran Musunuru, Univ of Pennsylvania, Philadelphia, PA
Identification and Characterization of Lamin-Associated Domains in Cardiac Myocytes Isolated from Human Patients with Dilated Cardiomyopathy Caused by LMNA Pathogenic Variant and Their Effects on Gene Expression and DNA Methylation

Sirisha Cheedipudi Marreddy, Priyatansh Gurha, Univ of Texas Health Science, Houston, TX; Hin MD Anderson Cancer Ctr, Houston, TX; Mary Sweet, Matthew Taylor, Luisa Mestroni, Univ of Colorado, Denver, CO; Cristian Coarfa, Baylor Coll of Med, Houston, TX; Ali J Marian, Univ of Texas Health Science, Houston, TX


Low Aldehyde Dehydrogenase 2 (ALDH2) Potentiates Obesity in Leptin Receptor Mutant Mice

Guodong Pan, Henry Ford Health System, Detroit, MI

G. Pan: None.

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Anemia of Inflammation in an Exonuclease Deficient Lupus Mouse

Stephen Lee Rego, Scott Harvey, Sean R. Simpson, Wayne O. Hemphill, Jason M. Grayson, Fred W. Perrino, Wake Forest Sch of Med, Winston Salem, NC


Identifying Tetraspanins and Integrins Relevant to Cardiovascular Conditions Using Bioinformatics

Ge Sun, OUHSC, Oklahoma City, OK

G. Sun: None.

Modulation of ZIC3 Expression in Pluripotent Stem Cells Using CRISPR-interference to Model Heterotaxy

Bohao Liu, Roberta Lock, Gordana Vunjak-Novakovic, Barry Fine, Columbia Univ, New York, NY


Regulation of Neutrophil Extracellular Traps (NETs) by Mesenchymal Stromal Cell Derived Adenosine

Rebecca Levit, Eric Shin, Kai Xu, Lanfang Wang, Emory Univ, Atlanta, GA

R. Levit: None. E. Shin: None. K. Xu: None. L. Wang: None.

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Lower Nadir Cd4 T-cell Count is a Strong Predictor of Endothelial Dysfunction in HIV Infected Patients

Emad Mogadam, Huntington Hosp, Pasadena, CA; Kevin King, Huntington Medical Res Insts, Pasadena, CA; Kimberly Shriner, Huntington Hosp, Pasadena, CA; Karen Chu, Huntington Medical Res Insts, Pasadena, CA; Anders Sondergaard, Huntington Hosp, Pasadena, CA; Darlene Royal, Huntington Medical Res Insts, Pasadena, CA; Kristal Young, Huntington Hosp, Pasadena, CA; Robert Kloner, Keck Sch of Med of Univ of Southern California, Los Angeles, CA


Focal Adhesion Kinase Inhibition Prevents Prolonged Nuclear Factor-κB Activation and Reduces Atherosclerosis in ApoE-/- Mice

James M Murphy, Steve Lim, Univ of South Alabama, Mobile, AL

J.M. Murphy: None. S. Lim: None.

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515
Bariatric Surgery Reverses Vascular Pathology in Mice with Morbid Obesity and Type 2 Diabetes
Yoonjung Park, Univ of Ohio, Houston, TX; Yong Wang1, Univ of Missouri, Columbia, MO; Hanrui Zhang, Columbia Univ Medical Ctr, New York, NY; Kevin D Dellasperger, Univ of Missouri, Columbia, MO; Barry J Potter, Louisiana State Univ Health Sciences Ctr, New Orleans, LA; Ji-min Cao, Cuihua Zhang, Univ of Missouri, Columbia, MO

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516
Pharmacological Inhibition of Phosphatase and Tensin Homolog Ameliorates Adipose Tissue Inflammation and Increases Splenic Regulatory B and T Cells in Rats with Metabolic Syndrome
Ayako Uchinaka, Yumeno Kawai, Kanako Komuro, Aoi Fujieda, Minami Wataya, Mamoru Yoneda, Yuki Komatsu, Kiyoshi Aoyama, Toyoaki Murohara, Kohzo Nagata, Nagoya Univ, Nagoya, Japan

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517
Pathogenic Mechanism of a Catecholaminergic Polymorphic Ventricular Tachycardia Causing-Mutation in Cardiac Calcium Release Channel RyR2
Zheng Liu, Tongji Univ Sch of Med, Shanghai, China
Z. Liu: None.

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518
Hemodynamic Instability in Atrial Flutter with Slow Ventricular Response
Nnamdi Arinze Nwafo, Rapid City Regional Hosp, Rapid City, SD
N.A. Nwafo: None.

519
Mitochondrial-mediated Oxidative CaMKII Activation Induces Early Afterdepolarizations in Guinea Pig Cardiomyocytes: An in Silico Study
Ruilan Yang, Tianjin Univ, Tianjin, China; Patrick Ernst, Jiajia Song, Xiaoguang M Liu, Jianyi Zhang, Lufang Zhou, Univ of Alabama Birmingham, Birmingham, AL

520
Overexpression of a Non-muscle RBFOX2 Splice Isoform Induce Cardiac Arrhythmias in Myotonic Dystrophy
CHAITALI MISRA, SUSHANT BANGRU, DARREN J PARKER, Univ Of Illinois, Urbana, IL; SARA KOENIG, ELLEN LUBBERS, Ohio State Univ, Columbus, OH; JAMILA HEDHILI, Univ Of Illinois, Urbana, IL; THOMAS A COOPER, Baylor Coll of Med, Houston, TX; WAWRZYNIEC L. DOBRUCKI, Univ Of Illinois, Urbana, IL; PETER MOHLER, Ohio State Univ, Columbus, OH; AUINASH KALSOTRA, Univ Of Illinois, Urbana, IL

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523
Pilocitrazone and Glucagon-like Peptide 1 Receptor Agonist Stimulate Mitochondrial Turnover in the Heart When Administered After the Infarct in Obese Mice
Allen M Andres, Allen M Andres, Juliana Germano, Chengqun Huang, Kyle C Tucker, Yang Song, Jon Sin, Roberta A Gottlieb, Robert M Mentzer, Cedars-Sinai Medical Ctr, Los Angeles, CA

525
Recapitulating in vivo Fibroblast Differentiation Using a Hydrogel Cell Culture System
Demetria Fischesser, Cincinnati Childrens Hosp, Cincinnati, OH
D. Fischesser: None.

526
Free Fatty Acid Receptor 4 is Required for an Adaptive Response to Pathologic Pressure Overload-induced Heart Failure in Mice
Sonal S Joshi, Chastity L Healy, Brandon M Wagner, Timothy D O’Connell, Univ of Minnesota, Minneapolis, MN

528
Cell Specific Signaling Regulated by PI3Kγ Modulates Myofibroblast Differentiation
Maradumane L Mohan, Lisa M Grove, Robert S Papay, Mitchell A Olman, Sathyamangla V Naga Prasad, Cleveland Clinic Fndn, Cleveland, OH

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Abstracts (continued)

529
Asporin - Extracellular Matrix Protein Mitigates Pathological Remodeling
Honit Piplani, Smidt Heart Inst, Cedars-Sinai Medical Ctr, Los Angeles, CA; Ankush Sharma, Dept of Molecular Genetics, Erasmus Univ Medical Ctr, Rotterdam, Netherlands; Chengqun Huang, Jon Sin, Juliana de Freitas Germano, Robert M Mentzer Jr, Allen M Andres, Roberta A Gottlieb, Smidt Heart Inst, Cedars-Sinai Medical Ctr, Los Angeles, CA

530
The Ufm1 Specific Ligase 1 Regulates Endoplasmic Reticulum Homeostasis and Protects Against Heart Failure Jie Li, Guihua Yue, Wenxia Ma, Aizhen Zhang, Jianqiu Zou, Augusta Univ, Augusta, GA; Jun Wang, Texas Heart Inst, Houston, TX; Honglin Li, Huabo Su, Augusta Univ, Augusta, GA
J. Li: None. G. Yue: None. W. Ma: None. A. Zhang: None. J. Zou: None. J. Wang: None. H. Li: None. H. Su: None.

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531
A Lack in Endogenous Proteasome Regulation Provokes Exacerbated Cardiac Remodeling and Premature Heart Failure Following Catecholamine Challenge Felix A Trogisch, Franziska Koser, Dept of Cardiovascular Physiology, Heidelberg Univ, Heidelberg, Germany; Andreas Jungmann, Dept of Internal Med III, Univ Medical Ctr Heidelberg, Heidelberg, Germany; Oliver J Müller, Dept of Internal Med III, Univ Medical Ctr Kiel, Kiel, Germany; Markus Hecker, Dept of Cardiovascular Physiology, Heidelberg Univ, Heidelberg, Germany; Oliver Drews, DZH (German Ctr for Cardiovascular Res), partner site Heidelberg/Mannheim, Germany

532
Titin’s N2B Element is Critical to Cardiac Mechanotransduction during Volume Overload, but not Pressure Overload Joshua Strom, Mathew Bull, Chandra Saripalli, Jochen Gohlke, Univ of Arizona, Tucson, AZ; Michael Gotthardt, Max Delbrück Ctr for Molecular Med, Berlin, Germany; Henk Granzier, Univ of Arizona, Tucson, AZ

533
Modulatory Effect of Nkx2.5+ Cardiomyoblast Secreted Exosomes in Cardiometabolism Wen-Pin Chen, Wei-Ping Lian, Min-Yi You, You-Yi Li, Natl Taiwan Univ, Taipei, Taiwan
W. Chen: None. W. Lian: None. M. You: None. Y. Li: None.

534
Differences in Energetic Remodeling Between Right and Left Atria in Patients with Atrial Fibrillation Larisa Emelyanova, Ctr for Integrative Res on Cardiovascular Aging (CIRCA), Milwaukee, WI; Steve Komas, Medical Coll of Wisconsin, Milwaukee, WI; Susan Olet, Aurora Res Inst, Aurora Health Care, Milwaukee, WI; Sean Ryan, Catherine Warner, Farhan Rizvi, Gracious R. Ross, Ctr for Integrative Res on Cardiovascular Aging (CIRCA), Milwaukee, WI; David C. Kress, Daniel P. O’Hair, Francis Downey, Aurora Cardiovascular Services, Aurora Sinai/Aurora St. Luke’s Medical Ctrs, Milwaukee, WI; Arshad Jahangir, Ctr for Integrative Res on Cardiovascular Aging (CIRCA), Milwaukee, WI

535
Increased O-linked Glycosylation in Diabetic Myocardium of Mice and Human Vahid Agbortoko, Yuhong Liu, Guangbin Shi, Anny Usheva, Arun K Singh, Frank W Sellke, Jun Feng, Rhode Island Hosp, Providence, RI

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536
Identifying Novel Regulators of Mitochondrial Complex I Biogenesis Christian J Garcia, Columbia Univ Medical Ctr, New York, NY
C.J. Garcia: None.

537
Reduced Protein and mRNA Levels of Velosin Containing Protein in Left Ventricular Myocardium of Dogs with Advanced Heart Failure Are Restored Following Chronic Therapy With Elamipretide Ramesh C Gupta, Henry Ford Hosp, Detroit, MI; Vinita S Gupta, Henry Ford Hosp, Shelby Township, MI; Hani Sabbah, Henry Ford Hosp, Detroit, MI

Other: Modest; Stealth BioTherapeutics, Inc.
MCUB Regulates the Macromolecular Composition of the Mitochondrial Calcium Uniporter Channel to Limit Mitochondrial Calcium Overload During Ischemic Cardiac Injury


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Magnesium Improves Cardiac Diastolic Function by Modulating Mitochondria

Man Liu, Univ of Minnesota, Minneapolis, MN; Euy-Myoung Jeong, Brown Univ and Lifespan Rhode Island Hosp, Providence, RI; An Xie, Univ of Minnesota, Minneapolis, MN; Eui Yong So, Brown Univ and Lifespan Rhode Island Hosp, Providence, RI; Guangbin Shi, Lifespan Rhode Island Hosp, Providence, RI; Go Eun Jeong, Brown Univ, Providence, RI; Anyu Zhou, Brown Univ and Lifespan Rhode Island Hosp, Providence, RI; Samuel C. Dudley Jr., Univ of Minnesota, Minneapolis, MN


LPP3 Deficiency Impairs Mitochondrial Function and Enhances Myocardial LPA Mediated Signaling

Sumitra Miriyala, Susmita Bhattarai, Sudha Sharma, Timothy Michael LaBrie, Hailey D Tupper, Diana Escalante-Alcalde, Md. Shenuarin Bhuiyan, Mini Chandra, Manikandan Panchatcharam, LSUHSC-Shreveport, Shreveport, LA


Manipulation of Beta Adrenergic Receptor in Pressure-Overloaded Murine Hearts Mimics Adverse Cardiac Remodeling and Reverse Remodeling

Koichi Nishimura, Masanori Asakura, Yoshitaka Okuhara, Yoshio Naito, Hyogo Coll of Med, Nishinomiya, Japan; Shinichi Hirotani, Kawachi General Hosp, Osaka, Japan; Masaharu Ishihara, Tohru Masuyama, Osaka, Japan


Uncovering the Mechanisms by Which Fatty Acid Oxidation Suppresses Cardiomyocyte Hypertrophy

Julia Ritterhoff, Dan Shao, Stephen C Kolwicz Jr, Zhenglong Liu, Rong Tian, Univ of Washington, Seattle, WA


Gja1-20k Uses the Actin Cytoskeleton to Promote Both Mitochondrial Fission and Fusion

Daisuke Shimura, Rachel Baum, Shaohua Xiao, TingTing Hong, Robin M Shaw, Smidt Heart Inst, Cedars-Sinai Medical Ctr, Los Angeles, CA

D. Shimura: None. R. Baum: None. S. Xiao: None. T. Hong: None. R.M. Shaw: None.

Adropin Mediated Regulation of Lipid and Glucose Metabolism in Diet Induced Obesity

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GJ1A-20k Protects the Heart from Ischemic Injury by Inducing Mitochondrial Biogenesis and Metabolic Quiescence

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W.A. Basheer: None. Y. Fu: None. S. Xiao: None. T. Hong: None. R.M. Shaw: None.

GJA1-20k Protects the Heart from Ischemic Injury by Inducing Mitochondrial Biogenesis and Metabolic Quiescence

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W.A. Basheer: None. Y. Fu: None. S. Xiao: None. T. Hong: None. R.M. Shaw: None.

Pharmacologic ATF6 Activation Confers Global Protection in Widespread Disease Models by Reprogramming Cellular Proteostasis

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548 Evolutionarily Conserved Functions for Valosin Containing Protein (VCP) in Cardiac and Skeletal Muscle Reveal Mechanistic Insights into Multisystem Proteinopathy
Matthew J Brody, Davy Vanhoutte, Cincinnati Childrens Hosp, Cincinnati, OH; Meera C Viswanathan, Tran Nguyen, Johns Hopkins Univ, Baltimore, MD; Marjorie Maillet, Cincinnati Childrens Hosp, Cincinnati, OH; Allen J York, Michelle A Sargent, Cincinnati Childrens Hosp, Howard Hughes Medical Inst, Cincinnati, OH; Anthony Cammarato, Johns Hopkins Univ, Baltimore, MD; Jeffery D Molkentin, Cincinnati Childrens Hosp, Howard Hughes Medical Inst, Cincinnati, OH

549 Interleukin-6 Trans-Signaling in Acute Myocardial Infarction in Male BALB/c Mice
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550 Exosomes Released by Human Induced Pluripotent Stem Cell-Cardiomyocytes Induce In-Vitro Angiogenesis: A New Strategy for Cell-Free Therapeutics
Julie A Dougherty, Naresh Kumar, Mohammad Noor, Mark G Angelos, Chun-An Chen, Mahmood Khan, Ohio State Univ, Columbus, OH
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551 p22phox Protects the Heart Against Pressure Overload
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W. Mizushima: None. Y. Yang: None. P. Zhai: None. J. Sadoshima: None.
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552 Harnessing the Versatility of PLGA Nanoparticles for Targeted Cre-Mediated Recombination
Ngoc Nguyen, Cheng-Han Chen, Yulong Zhang, Peng Zhao, Benjamin Wu, Reza Ardehali, Univ of California, Los Angeles, Los Angeles, CA
N. Nguyen: None. C. Chen: None. Y. Zhang: None. P. Zhao: None. B. Wu: None. R. Ardehali: None.

553 Inhibition of Microrna-21 Prevents Myocardial Remodelling and Dysfunction in a Pig Model of Ischemia/reperfusion Injury
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554 Mechanism of Action for the Beneficial Effects of Cortical Bone Stem Cells on the Heart After Myocardial Infarction
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555 Exosomal MicroRNAs Contribute to Chronic Heart Failure Through Dysregulating Nuclear Factor Erythroid 2-Related Factor 2/Antioxidant Response Element Signaling
Changhai Tian, Lie Gao, Irving H Zucker, Univ of Nebraska Medical Cent, Omaha, NE
C. Tian: None. L. Gao: None. I.H. Zucker: None.

556 Intramyocardial EphrinA1-Fc Preserves Mitochondrial Structure and Bioenergetics Post-Myocardial Infarction
Julie Horton, Maria Torres, Kelsey McLaughlin, Randall Renegar, Uma Sharma, Smitri Valsaraj, Omar Sharaf, K’Swynah Whitehurst, Brinda Sarathy, Darrell Neufer, Jitka A Virag, ECU, Greenville, NC

557 Exosome Biogenesis/Uptake Mediates Cardioprotection by Globular Adiponectin but Not High Molecular Weight Adiponectin
Yajing Wang, Lu Gan, Dina Xie, Dajun Zhao, Thomas Jefferosn Univ, Philadelphia, PA; Erhe Gao, Temple Univ, Philadelphia, PA; Walter J. Koch, Xiniang Ma, Thomas Jefferosn Univ, Philadelphia, PA
Y. Wang: None. L. Gan: None. D. Xie: None. D. Zhao: None. E. Gao: None. W. Koch: None. X. Ma: None.
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558 Melatonin Exerts Cardioprotective Effects Under Chronic Neuropathic Pain Through Rip1-rip3-mikl and Rip3-camkii Pathway Mediating Myocardial Necroptosis in Ischemia Reperfusion Injury
Zheng Yang, Dept of Pathophysiology, Fourth Military Medical Univ, Xi’an, China; Chen Li, Dept of Physiology, Fourth Military Medical Univ, Xi’an, China; Han Xue, Fourth Military Medical Univ, Xi’an, China; Yishi Wang, Dept of Physiology, Fourth Military Medical Univ, Xi’an, China; Heng Ma, Dept of Pathophysiology, Fourth Military Medical Univ, Xi’an, China
Z. Yang: None. C. Li: None. H. Xue: None. Y. Wang: None. H. Ma: None.

559 AMP-Activated Protein Kinase and Estrogen-Dependent Mechanisms Underlying Increased Susceptibility to Cardiovascular Disease During Menopause
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M.A. Pier: None. J. Konhilas: None.
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565 Coxsackievirus Infection During the First Trimester of Pregnancy Suppresses Cardiomyocyte Proliferation Leading to Congenital Heart Defects
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570 Activin A Regulates SERCA2a Expression in Cardiomyocytes Through Ubiquitin-proteasome Mediated Degradation
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R. Hobson: None. V. Chaudhari: None. A. Rosenzweig: None. J.D. Roh: None.
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571 MYBPC3 Mutations Cause Hypertrophic Cardiomyopathy by Dysregulating Myosin: Implications for Therapy
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572 Role of Human Cardiac RLC In Modulating The Super-relaxed State Of Myosin: A Cardiomyopathy Perspective
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N. Sa: None. I. Tomasic: None. S. Gollapudi: None. F. Evangelista: None. K. Green: None. S. Nag: None.

573 Mechanical Stress Alters Cell Signaling and Extracellular Matrix Genes in Fetal Cardiac Valves
Rebekah Macfie, Alex Bridges, Herbert M Espinoza, Isa Lindgren, Samantha Louey, George Giraud, Kent Thornburg, Frederick Tibayan, OHSU, Portland, OR

574 An Amino-Terminal Peptide of GRK5 Prevents Pathological Cardiac Hypertrophy in Response to Pharmacological and Surgical Stress
Ryan Coleman, Lewis Katz Sch of Med, Philadelphia, PA
R. Coleman: None.
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575 Primary Cilia of Cardiac Neural Crest Cells orchestrate Multiple Aspects of Cardiovascular Development

576 Nrf2 is a Key Regulator on Puerarin Preventing Cardiac Hypertrophy and Upregulating Metabolic Enzymes Ugt1a1 and Ugt1a9 in Rats
Ning Hou, Ganjian Zhao, Shaoai Cai, Xiawen Liu, Aiqun Li, Yin Huang, Lirong Li, Chengfeng Luo, Guangzhou Medical Univ, Guangzhou, China
N. Hou: None. G. Zhao: None. S. Cai: None. X. Liu: None. A. Li: None. Y. Huang: None. L. Li: None. C. Luo: None.
577
Beclin1 Regulates UVRAG and Rab5-Mediated Endosomal Degradation Pathway

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M. Lampert: None. R. Najor: None. L. Leon: None. A. Gustafsson: None.

578
β-arrestin-Biased β2-Adrenergic Receptor Signaling Enhances Cardiomyocyte Contractility via ROCK-Dependent Signaling


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579
Beta-blockers Regulate Hypoxia Sensing of Beta Adrenergic Receptors

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Y. Sun: None. M.K. Gupta: None. S.V. Prasad: None.

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580
A β-arrestin-Biased β2-Adrenergic Receptor-Specific Pepducin Confers Cardioprotection


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581
Determining the Nuclear Transcription Factor Network Controlling Expression of the Cardiac Inotropic Factor S100A1

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582
Determining and Modeling of the Cardiac Protein-Protein Interaction Network of the Inotropic Factor S100A1 by AP-MS/MS

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M. Egger: None. Z. Jebessa: None. R. Wade: None. H. Katus: None. M. Busch: None. P. Most: None.

583
Cardiac Compensation in ErbB2-deficient Zebrafish Embryos

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584
FTO-Dependent m6A Regulates Cardiomyocyte and Cardiac Function During Remodeling and Repair

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585
CDK8 Activity-dependent Regulation of Heart Disease

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586
Early characterization of the mechanisms of ATRA-mediated Suppression of Cardiac Hypertrophy

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<td>Women in Science Breakfast Ticket required to attend! Continental Breakfast/Registration/Exhibits</td>
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<td>Continental Breakfast/Registration/Exhibits</td>
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<td>8:00 am</td>
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<td>Concurrent Sessions 3A: Emerging Cardiac Therapeutic Strategies 3B: Excitation-Contraction Coupling</td>
<td>Concurrent Sessions 8A: Personalized Cell Models of Cardiovascular Disease 8B: Getting the Message – New Ways to Think About RNA</td>
<td>Concurrent Sessions 13: Basic Science and Precision Medicine – The Interface</td>
<td>8:00–9:00 am General Session 13</td>
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<td>9:30 am</td>
<td>9:45–10:00 am</td>
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<td>Early Career Pre-Conference Session Opening Welcome</td>
<td>Early Career Investigator Award Competition</td>
<td>General Session 9</td>
<td>General Session 14 Metabolic Pathways to Cardiovascular Disease</td>
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<td>10:00 am</td>
<td>10:00–11:00 am</td>
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<td>11:00 am</td>
<td>11:15–11:50 am</td>
<td>11:00 AM-Noon</td>
<td>Noon–1:30 PM</td>
<td>11:45–1:30 pm</td>
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<td>Early Career Pre-Conference Session 2 Featured Presentation</td>
<td>General Session 5 Keynote Lecture</td>
<td>Early Career Luncheon Speed Networking/Mentoring Round Tables</td>
<td>Lunch on your own; Poster Viewing; Exhibits</td>
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<td>NOON</td>
<td>Noon-1:00 pm</td>
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<td>1:00 pm</td>
<td>12:30–1:00 pm</td>
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<td>Opening Welcome</td>
<td>1:00–2:35 pm</td>
<td>Concurrent Sessions 1A: Cardiac Fibrosis – Changing the Landscape 1B: The On and Off of Rhythms</td>
<td>Concurrent Sessions 11A: The Architecture of Contraction 11B: Cell Death and Cardiomyopathy</td>
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<td>1:30 pm</td>
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<td>Refreshment Break/Exhibits</td>
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<td>Concurrent Sessions 3A: Signaling Networks in Cardiac Myocytes 2B: Mitochondria and Heart Failure</td>
<td>Concurrent Sessions 7A: Functional Genomics and Pathogenicity Assessment 7B: Workshop 1 – Imaging in vitro and in vivo</td>
<td>Concurrent Sessions 13A: Workshop 3 - Single and Multi-omics 12B: Cardiovascular Stress and Information</td>
<td>Concurrent Sessions 13A: Workshop 3 - Single and Multi-omics</td>
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<td>Poster Session 1 and Reception</td>
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<td>Early Career Investigator Social Event</td>
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<td>7:00–10:00 pm Council Dinner Ticket required to attend</td>
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</table>
Cardiovascular diseases and stroke afflict people of all races, ethnicities, genders, religions, ages, sexual orientations, national origins and disabilities. The American Heart Association is committed to ensuring that our workforce and volunteers reflect the world’s diverse population. We know that such diversity will enrich us with the talent, energy, perspective and inspiration we need to achieve our mission: building healthier lives, free of cardiovascular diseases and stroke.

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Basic Cardiovascular Sciences
2018 Scientific Sessions:
Innovating in Cardiovascular Research

Final Program
July 30-August 2 | Grand Hyatt San Antonio | San Antonio, Texas

Abstracts are available online: http://professional.heart.org/bcvssessions

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