

# Bhavisha Bakrania, PhD

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**DATE OF BIRTH:** September 10, 1989  
**CITIZENSHIP:** Dual citizenship – Australia and United Kingdom  
**VISA:** J1 - Exchange Visitor Visa  
**ERA COMMONS ID:** BBAKRANIA  
**ADDRESS:** Department of Physiology, University of Mississippi Medical Center  
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## ACADEMIC HISTORY

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Jul 2015 – Present **Postdoctoral Research Fellow (Mentor: Joey P. Granger, PhD)**  
Cardiovascular-Renal Research Center  
University of Mississippi Medical Center – Jackson, MS, USA  
Jan 2012 – Jul 2015 **Doctor of Philosophy (Advisor: Andrew C. Bulmer, PhD)**  
Heart Foundation Research Centre  
Griffith University – Gold Coast, QLD, Australia  
Dissertation: Bilirubin induced cardioprotection: From endogenous protection to therapeutic potential  
Feb 2011 – Nov 2011 **Master of Medical Research (Advisor: Andrew C. Bulmer, PhD)**  
Heart Foundation Research Centre  
Griffith University – Gold Coast, QLD, Australia  
Feb 2008 – Nov 2010 **Bachelor of Health Science**  
Griffith University – Gold Coast, QLD, Australia

## RESEARCH/WORK EXPERIENCE

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**Visiting PhD student (Advisor: Karl-Heinz Wagner, PhD)** Apr 2014  
Department of Nutritional Science  
University of Vienna, Vienna, Austria  
**Visiting PhD student (Advisor: Joey P. Granger, PhD)** May 2014 – Jul 2014  
Department of Physiology  
University of Mississippi Medical Center, Jackson, MS, USA

## AWARDS AND HONORS

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**Young Investigator Award** 2014  
*Awarded by the Society of Free Radical Research Australasia*  
**Best Abstract Award** 2014  
*Awarded by 8<sup>th</sup> Int. Conference on Heme Oxygenases, BioIron & Oxidative Stress*  
**Higher Degree Research Grant** 2014  
*Awarded by Griffith University, International Experience Incentive Scheme*  
**Conference Travel Award** 2014  
*Awarded by Griffith Graduate Research School*  
**Langman Graduate Student Platform Presentation Award** 2014  
*Awarded by the American Association of Anatomists, Experimental Biology*  
**Travel Award** 2013  
*Awarded by the American Association of Anatomists, Experimental Biology*  
**PhD Scholarship** 2012  
*Australian Postgraduate Award*  
**Academic Excellence** 2011  
*Awarded by Griffith University for achieving a GPA greater than 6.0/7.0*

## COLLABORATORS

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### International:

- 2014 – Present Dr. Kevin J. Ashton, PhD – Bond University, Gold Coast, Australia  
*Project: Modifications to cardiac gene expression in response to chronic hyperbilirubinemia*
- 2012 - 2015 Dr. Karl-Heinz Wagner, PhD – University of Vienna, Vienna, Austria  
*Project: The effects of endogenous and exogenous elevated bilirubin on ischemia-reperfusion injury*

### National:

- 2015 - Present Dr. Michael Hall, MD – University of Mississippi Medical Center, Jackson, MS  
*Project: Long term cardiovascular risk in placental ischemic rats*
- 2015 - Present Dr. Romain Harmancey, PhD – University of Mississippi Medical Center, Jackson, MS  
*Project: Changes in cardiac function and stress resistance in response to placental ischemia*

## PROFESSIONAL MEMBERSHIPS

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- 2012 – Present American Heart Association
- 2012 – Present American Physiological Society
- 2012 – Present American Association of Anatomists

## INSTITUTIONAL SERVICE

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- Jan 2015 – Present Co-director, Maternal-Fetal Medicine Research Group, University of Mississippi Medical Center
- Jan 2015- Present Laboratory manager in Dr. Joey Granger's lab, organizing and conducting weekly meetings with lab members, and working with animal and biochemistry/molecular technicians to maintain the lab and its productivity.

## TEACHING

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- Feb 2013 – Jun 2015 **Laboratory facilitator (9 hours per week)**  
Anatomy and Physiology  
School of Medical Science, Griffith University – Gold Coast, QLD, Australia
- Jul 2012 – Nov 2014 **Problem Based Learning Facilitator (9 hours per week)**  
Pathophysiology  
Student Experience of Teaching Score: 4.8/5  
School of Medical Science, Griffith University – Gold Coast, QLD, Australia
- Jul 2013 **Laboratory Tutor (2 week intensive winter course - 80 hours)**  
Clinical Laboratory Science  
School of Medical Science, Griffith University – Gold Coast, QLD, Australia

## MENTORING

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- Oct 2015 – Dec 2015 Nina Paauw, visiting graduate student – University of Mississippi Medical Center
- Feb 2014 – Nov 2014 Pradeep Cholan, Research Honors Program – Griffith University
- Dec 2012 Michael Schachtal, Undergraduate Summer Research student – Griffith University
- Dec 2012 Elizabeth Hamilton, Undergraduate Summer Research student – Griffith University
- Jan 2012 Izabela Bilka, Undergraduate Research Project student – Griffith University

## COMMUNITY OUTREACH

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- Apr 2016 Discovery U, Mississippi Children's Museum, Jackson, MS
- Apr 2016 Group of Women In Medicine and Science activity at Highland Bluff Elementary, Jackson, MS
- Nov 2015 Physiology Understanding (PhUn) week, Mississippi Children's Museum, Jackson, MS
- 2012, 2013 Organizer, Heart Foundation Fundraiser with School of Medical Science, Gold Coast, Australia
- Nov 2010 – Jun 2015 Honorary vice-chair person, honorary volunteer co-ordinator and ward-visiting volunteer  
Radio Lollipop – Gold Coast University Hospital, QLD, Australia

## PUBLICATIONS

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**Bakrania B**, Granger JP, Harmancey, R. Methods for the determination of rates of glucose and fatty acid oxidation in the isolated working rat heart. *JoVE*. [Accepted]

**Bakrania B**, Du Toit EF, Wagner K-H, Headrick JP, Bulmer AC. Pre- or post-ischemic bilirubin ditaurate treatment reduces oxidative tissue damage and improves cardiac function. *Int J Cardiol*. 202:27-37, 2015. PMID: 26386915

**Bakrania B**, Du Toit EF, Ashton KJ, Kiessling CJ, Wagner K-H, Headrick JP, Bulmer AC. Hyperbilirubinemia modulates myocardial function, aortic ejection, and ischemic stress resistance in the Gunn rat. *Am J Physiol Heart Circ Physiol* 307: H1142-9, 2014. PMID: 25128172

Bisht K, Tampe J, Shing C, **Bakrania B**, Wagner K-H, Bulmer A.C. Endogenous tetrapyrroles influence leukocyte responses to lipopolysaccharide in human blood: Pre-clinical evidence demonstrating the anti-inflammatory potential of biliverdin. *J Clin Cell Immunol*. 5: 1-12, 2014. PMCID: PMC4145741

Boon A-C, Hawkins CL, Bisht K, Coombes JS, **Bakrania B**, Wagner K-H, Bulmer AC. Reduced circulating oxidized LDL is associated with hypocholesterolemia and enhanced thiol status in Gilbert's syndrome. *Free Radic Biol Med*. 52: 2120-7, 2012. PMCID: PMC3377994

## INTERNATIONAL AND NATIONAL ORAL PRESENTATIONS

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- Oct 2014 **8<sup>th</sup> Int. Conference on Heme Oxygenases, BioIron & Oxidative Stress - Sydney, Australia**  
Hyperbilirubinemia modulates cardiac function, aortic ejection and ischemic stress tolerance in the Gunn rat
- Aug 2014 **Higher Degree Research Seminar Series, Gold Coast, Australia**  
Bilirubin ditaurate loading of the heart: A novel treatment for myocardial ischemia-reperfusion injury
- Apr 2014 **Experimental Biology - San Diego, USA**  
Bilirubin ditaurate loading of the heart: A novel treatment for myocardial ischemia-reperfusion injury
- Dec 2013 **Gold Coast Health and Medical Research Conference - Gold Coast, Australia**  
Bilirubin treatment of myocardial ischemia-reperfusion injury in rats
- Dec 2012 **Gold Coast Health and Medical Research Conference - Gold Coast, Australia**  
Hyperbilirubinemia modulates cardiac function and stress resistance in the Gunn rat

## CONFERENCE ABSTRACTS

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- April 2016 **Experimental Biology – San Diego, USA**  
Heme oxygenase-1 attenuates the production of endothelin-1 from human glomerular endothelial cells induced by serum from placental ischemic hypertensive rats
- Nov 2014 **The Society for Free Radical Research Australasia, Melbourne, Australia**  
Bilirubin loading of the heart: A novel treatment for myocardial ischemia-reperfusion injury
- Oct 2014 **8<sup>th</sup> Int. on Conference Heme Oxygenases, BioIron & Oxidative Stress - Sydney, Australia**  
Bilirubin loading of the heart: A novel treatment for ischemia-reperfusion injury
- Apr 2014 **Experimental Biology - San Diego, USA**  
Bilirubin ditaurate loading of the heart: A novel treatment for myocardial ischemia-reperfusion injury
- Aug 2012 **Cardiac Society of Australia and New Zealand - Brisbane, Australia**  
Endogenously elevated and exogenously administered bilirubin protects from myocardial ischemia/reperfusion injury in the rat
- Apr 2012 **Experimental Biology – San Diego, USA**  
Effects of endogenously and exogenously elevated bilirubin on myocardial ischemia-reperfusion injury
- Dec 2011 **Gold Coast Health and Medical Research Conference - Gold Coast, Australia**  
Effects of elevated bilirubin on cardioprotection and ischemia-reperfusion injury
- Dec 2010 **Gold Coast Health and Medical Research Conference - Gold Coast, Australia**  
The effects of aging on systolic function and tissue deformation in male mice assessed using echocardiography

## FUNDING

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### **Current:**

Program Project Grant (Project II: Awarded to Dr. Joey P. Granger)

*Title: Renal control of body fluids and circulatory dynamics*

### **Previous:**

Australian Postgraduate Award (Awarded to Bhavisha Bakrania)

*Title: The effects of endogenous and exogenous elevated bilirubin on ischemia-reperfusion injury*