

# Kunal Sikder, Ph.D.

---

[kunalsikder@gmail.com](mailto:kunalsikder@gmail.com)

<https://www.linkedin.com/in/kunal-sikder-9987b196/>

---

**Present position:** Assistant Professor, Dept. of Sports Science and Yoga, RKMVERI

---

## Education:

<b>Ph.D. in Physiology:</b> Calcutta University, India	2013
<b>M.Sc. in Physiology:</b> Calcutta University, India	2007
<b>B.SC. in Physiology:</b> Calcutta University, India	2005

---

## Professional experience:

<b>Assistant Professor:</b> Dept. of Sports Science and Yoga, RKMVERI	June 2019-present
<b>Post-doctoral scientist:</b> Dept. of medicine Thomas Jefferson University, USA	2015-2019
<b>Assistant Professor:</b> Tripura Institute of Paramedical Sciences, India	2012-2015
<b>Lecturer:</b> Dept. of Physiology, City College, India	2007-2009

---

## Professional membership:

- Reviewer and editorial board member of “Food and Nutrition Research” since 2015 (Taylor & Francis).
  - Member of American Heart Association (AHA) since 2015.
  - Member of American Physiological Society (APS) since 2016.
  - Member of National Academy of Sciences, India (NASI) from 2010.
  - Member of Society for Biological Chemists, India (SBC) from 2009.
- 

## Awards and fellowships:

- Awarded 3-year research fellowship from Dept. of Biotechnology, India (DBT) in 2009 during Ph.D. tenure.
  - Awarded for best poster presentation, Dept. of Physiology, Calcutta University, India 2011.
  - Awarded for third best poster presentation Dept. of Food and Nutrition, Rastraguru Surendranath College, Barasat State University, India 2011.
- 

### **Publications:**

1. **Sikder, k.**, Shukla, S.K, Patel, N., Singh, H. & Rafiq, K. High fat diet upregulates fatty acid oxidation and ketogenesis via intervention of PPAR- $\gamma$ . Cellular Physiology and Biochemistry, DOI: 10.1159/000492091 (2018).
2. Shukla, S.K, **Sikder, K.**, Sarkar, A., Addya, S. & Rafiq, K. Molecular network, pathway, and functional analysis of time-dependent gene changes related to cathepsin G exposure in neonatal rat cardiomyocytes. Gene 671, 58-66 (2018).
3. Shukla, S., K., Liu, W., **Sikder, K.**, Addya, S., Sarkar, A., Wei, Y., & Rafiq, K. HMGCS2 is a key ketogenic enzyme potentially involved in type 1 diabetes with high cardiovascular risk. Scientific reports 7(1), 4590, doi:10.1038/s41598-017-04469-z (2017). (**Second authorship**)
4. Khan, A., **Sikder, K.**, Dey, S. et al. Gossypetin ameliorates ionizing radiation-induced oxidative stress in mice liver--a molecular approach. Free radical research 49, 1173-1186, doi:10.3109/10715762.2015.1053878 (2015).
5. **Sikder, K.**, Kesh, S. B., Das, N., Manna, K. & Dey, S. The high antioxidative power of quercetin (aglycone flavonoid) and its glycone (rutin) avert high cholesterol diet induced hepatotoxicity and inflammation in Swiss albino mice. Food & function 5, 1294-1303, doi:10.1039/c3fo60526d (2014).
6. **Sikder, K.**, Das, N., Kesh, S. B. & Dey, S. Quercetin and beta-sitosterol prevent high fat diet induced dyslipidemia and hepatotoxicity in Swiss albino mice. Indian journal of experimental biology 52, 60-66 (2014).
7. Das, N. **Sikder, K.**, Dey, S. et al. Quercetin alleviates inflammation after short-term treatment in high-fat-fed mice. Food & function 4, 889-898, doi:10.1039/c3fo30241e (2013).
8. Kesh, S. B., **Sikder, K.**, Dey, S. et al. Promising role of ferulic acid, atorvastatin and their combination in ameliorating high fat diet-induced stress in mice. Life sciences 92, 938-949, doi:10.1016/j.lfs.2013.03.015 (2013).

9. **Sikder, K.**, Sinha, M., Das, N., Das, D.K., Datta, S. and Dey, S. Moringa oleifera leaf extract prevents in vitro oxidative DNA damage. Asian journal of Pharmaceutical and Clinical Research 6, 92-96 (2013).
  10. Das, N., **Sikder, K.**, Ghosh, S., Fromenty, B. & Dey, S. Moringa oleifera Lam. leaf extract prevents early liver injury and restores antioxidant status in mice fed with high-fat diet. Indian journal of experimental biology 50, 404-412 (2012).
- 

#### **Presentation of research work:**

- **Kunal Sikder**, Amrita Sarkar, Sanket Kumar Shukla, Aimee Abbott, Domenica Carrier, Carlos Barberly, Richard Pestell, and Khadija Rafiq. Inflammatory Serine Protease Inhibition Attenuates Myocyte apoptosis and cardiac dysfunction via intervention of peroxisome proliferator-activated receptor gamma-induced lipotoxicity and inflammation in high fat diet-induced diabetic cardiomyopathy. American heart association meeting, New Orleans, USA. Circulation, 2018. Vol.134, Abstract no.17161.
  - Sanket Shukla, **Kunal Sikder**, Amrita Sarkar, Weijing Liu and Khadija Rafiq. Activation of the E3 ligase Cbl by neutrophil cathepsin G impairs CXC chemokine receptor 4 signaling in cardiomyocyte degeneration. Conference on experimental biology, Chicago. FASEB journal, 2017. Abstract no. 614.19.
  - **Kunal Sikder**, Amrita Sarkar, Sanket Kumar Shukla, Aimee Abbott, Domenica Carrier, Carlos Barberly, Richard Pestell, and Khadija Rafiq. ISP Inhibition Attenuates myocyte apoptosis and cardiac dysfunction via intervention of PPAR- $\gamma$  induced lipotoxicity and inflammation in HFD-induced DCM. 11<sup>th</sup> annual meeting for post-doctoral researchers at Thomas Jefferson University, Philadelphia, USA May 2017.
  - Sanket Shukla, **Kunal Sikder**, Amrita Sarkar, Weijing Liu, Aimee Abbott, Carlos Barberly, Christine Pham and Khadija Rafiq. Effect of ISP inhibition on CXCR4 expression during the development of DCM. American Physiological Society meeting, Westminster, Colorado, USA, 2016. Abstract 4.31.
- 

#### **Research statement**

My academic career includes about 5 years of post-doc experience and over 4 years teaching experience. I did my doctoral research in hepatic physiology from Calcutta

University, India. My PhD work was focused on investigating high fat diet-mediated hepatotoxicity in mice. The project involved isolation and characterization of active principles of a medicinal plant and their effects against hyperlipidemia and hepatotoxicity.

My first Post-Doctoral research project included investigating PPAR- $\gamma$  mediated cardiac lipotoxicity in hyperlipidemic environment. We identified involvement of mitochondrial ketogenic enzymes HMGCS2 and BDH1 and PDK4, the regulator of fatty acid oxidation as downstream effector molecules in lipotoxic cardiomyopathy. These studies were presented at the American Heart Association and American Physiological Society international conferences and the work was recently accepted in peer reviewed journals.

My latest post-doc work was focused on laminopathy, a very unique genetic cardiac disorder that has not been explored much regarding molecular cross talks among different cell populations in heart. We developed a unique double transgenic mouse model that allow us to provide cell type specific gene deletion and purification of translating ribosomal mRNAs. We have developed human iPSC-based myocyte transformation which we used for various genetic manipulation to study cardiovascular pathophysiology.

### **Teaching statement**

About 4 years teaching experience as Assistant Professor in pre-clinical and basic Physiology. As a teacher, I believe in mixing up my teaching with materials and practical implications. In each class, at the very least, I try to engage students in variety of ways, with visuals, sounds, and words. Each class I focus on a particular goal and each discussion is the result of careful preparation. I do not want my students to leave class with their heads spinning from over burden or something. I try to engage them with the topic and generate love and interest for the subject. I also try to end each class with summation of the topic taught and next class I recap the previous topic for the students.