

*Curriculum vitae*

**ANA CAROLINA MIEKO OMOTO**



Department of Physiology and Biophysics  
University of Mississippi Medical Center, Jackson, MS, USA.  
E-mail: [anaomoto@usp.br](mailto:anaomoto@usp.br)  
Cell number: 601-572-6699

**Professional Profile:**

Experience in the area of Physiology, with emphasis on the Cardiovascular System.

**Skills and knowledge:**

- Echocardiography (including Speckle Tracking evaluation) in small animals
- Coronary ligation surgery for myocardial infarction in rats
- Myocardial ischemia-reperfusion surgery in rats
- Cannulation techniques of arteries and veins in small animals
- Hemodynamic recordings
- Extraction of mRNA and proteins
- Analysis of mRNA expression: real time qPCR
- Cell Cultures

**1. Education**

<b>Year</b>	<b>Title</b>	<b>Institution</b>
2015-2019	Ph.D. Physiology	University of São Paulo - USP Ribeirão Preto, SP, Brazil.
2013-2015	MSc. General and applied biology	São Paulo State University - UNESP Botucatu, SP, Brazil.
2009-2012	BSc. Biomedicine	São Paulo State University - UNESP Botucatu, SP, Brazil.

## 2. Complementary Education

Year	Title	Institution
2011	Advances in molecular biology	Sao Paulo State University – UNESP, Botucatu, SP, Brazil.

## 3. Internships

Year	Professor	Institution
2012	Alan Kim Johnson	University of Iowa, Iowa City, IA, USA.
2018-2019	John E. Hall	University of Mississippi Medical Center, Jackson, MS, USA.

## 4. Publications

### Research results in peer reviewed Journals.

- 1) MENDES A.S., BLASCHE DE MELLO, M.M., PARENTE, J.M., **OMOTO, A.C.M.**, NETO-NEVES, E.M., FAZAN, R., TANUS-SANTOS, J.E., CASTRO, M.M. Verapamil decreases calpain-1 and matrix metalloproteinase-2 activities and improves hypertension-induced hypertrophic cardiac remodeling in rats. LIFE SCIENCES, v. 117153, p. 117153, 2019.
- 2) NAKASHIMA M.A., SILVA C.B.P., GONZAGA N.A., **OMOTO, A.C.M.**, TIRAPELLI, L.F., TANUS-SANTOS, J.E., TIRAPELLI, C.R. Chronic ethanol consumption increases reactive oxygen species generation and the synthesis of pro-inflammatory proteins in the heart through TNFR1-dependent mechanisms. CYTOKINE, v.121, 2019.
- 3) AZAMI, H.; DA SILVA, L.E.V.; **OMOTO, A.C.M.**; HUMEAU- HEURTIER, A. Two-dimensional dispersion entropy: An information-theoretic method for irregularity analysis of images. SIGNAL PROCESSING-IMAGE COMMUNICATION, v.75, p.178 - 187, 2019.
- 4) **OMOTO, A.C.M.**; GAVA, F. N.; SILVA, C.A.S.; SILVA, H.B.; PARENTE, J.M.; COSTA, R.M.; CASTRO, Mazaron, M.; TOSTES, R.C.; SALGADO, H.C.; FAZAN Jr., R. Lack of scarring is not always a sign of cardiac health: Functional and molecular characterization of the rat heart's following chronic reperfusion. PLoS One, v.13, p.e0209190, 2018.
- 5) **OMOTO, A.C.M.**; MORAES., L.N., GARCIA, G.J.F; VECHETTI-JUNIOR, I.J.; ROSCANI, M.G.; CARVALHO, R.F.; DE GOBBI, J.I.F. Paroxetine alters cardiac stress markers in rats with aortic regurgitation. European Journal of Experimental Biology, v. 08, p. 1-7, 2018.
- 6) HUMEAU- HEURTIER, A.; **OMOTO, A.C.M.**; SILVA, L.E.V. Bi-dimensional multiscale entropy: relation with discrete Fourier transform and biomedical application. Computers in Biology and Medicine, v. 100, p. 36-40, 2018.
- 7) DE OLIVEIRA, G.; FREIRE, P.P.; **OMOTO, A.C.M.**; CURY, S.S.; FUZIWARA, C.S.; KIMURA, E.T.; DAL-PAI-SILVA, M.; CARVALHO, R.F. Osteoglycin post-transcriptional regulation of miR-155 induces cellular architecture changes in H9c2 cardiomyoblasts. GENE, v. 676, p. 9-15, 2018.

- 8) DE GOBBI, J.I.F.; **OMOTO, A.C.M.**; SIQUEIRA T.F.; MATSUBARA L.S.; ROSCANI M.G.; MATSUBARA B.B. Antidepressant treatment decreases daily salt intake and prevents heart dysfunction following subchronic aortic regurgitation in rats. *Physiology & Behaviour*, v.144, p.124-128, 2015.

**Related Research results presented in conferences.**

- 1) **OMOTO, A. C. M.**; do CARMO, J. M.; da SILVA, A. A.; SALGADO, M. C.; SALGADO, H. C.; FAZAN JUNIOR, R.; HALL, J. E. Cardiac function and exercise capability in female Goto-kakizaki type-2 diabetic rats after myocardial ischemia/reperfusion. In: *Experimental Biology 2019*, 2019, Orlando. **The FASEB Journal**, 2019. v.33.
- 2) GAVA, FÁBIO NELSON; da SILVA, A. A.; ASHRAF, S.; **OMOTO, A. C. M.**; DAI, X.; PULLMAN, M.; HARMANCEY, R.; HALL, J. E.; do CARMO, J. M. Chronic intracerebroventricular leptin infusion attenuates cardiac dysfunction after myocardial infarction In: *Experimental Biology 2019*, 2019, Orlando. **The FASEB Journal**, 2019. v.33.
- 3) **OMOTO, A.C.M.**, Gava F. N., Fazan F. S., Silva C.A.A., Silva H.B., Nappi C.R., Parente J.M., da Costa R.M., Salgado H.C., Fazan Jr. R. Myocardial Ischemia/reperfusion in rats: characterization of cardiac injuries In: *Experimental Biology 2018*, San Diego, USA. **The FASEB Journal**, v. 32, 2018.
- 4) Lataro, R.M.; Gava, F.N.; **OMOTO, A.C.M.**; Silva, C.A.A.; Moraes, D.J.A.; Ford, A.P.; Paton, J.A.F.R.; Salgado, H.C. P2X3 as a new target for heart failure treatment in: *Experimental Biology 2018*, San Diego, USA. **The FASEB Journal**, v. 32, 2018.
- 5) **OMOTO, A. C. M.**; Gava, F. N.; Oliveira, H. B.; Oliveira, M.; SILVA, C. A. A.; Salgado, H. C.; Fazan-Jr, R. Longitudinal Strain by Speckle Tracking Imaging Detected Regional Myocardial Dysfunction in a Rat Model of Ischemia/Reperfusion In: *Experimental Biology 2017*, Chicago, USA. **The FASEB Journal**, v.31, 2017.
- 6) **OMOTO, A. C. M.**; Gava, F. N.; Oliveira, M.; Silva, C. A. A.; Fazan-Jr, R.; Salgado, H.C. Is Ischemia/Reperfusion an Efficient Method for Producing Heart Failure in Rats? In: *Council on Hypertension 2016*, Orlando, USA.
- 7) **OMOTO, A. C. M.**; Fernandez, G. J.; Moraes, L. N.; Rosani, M.G.; Carvalho, R. F.; De Gobbi J.I.F. Improvement in Fractional Shortening in Aortic Regurgitation Rats: Cardiac Muscle Network In: *Experimental Biology 2015*, Boston, USA. **The FASEB Journal**, v.29, 2015.
- 8) De Gobbi, J.I.F.; Silva, P. G. B.; **OMOTO, A. C. M.**; Gregolini, P. F. O.; Fazan-Jr, R. Acute aortic regurgitation and the autonomic modulation to the heart. In: *Experimental Biology 2015*, Boston, USA. **The FASEB journal**, v.29, 2015.
- 9) **OMOTO, A. C. M.**; Vechetti Jr, I. J.; Moraes, L. N.; Roscani, M. G.; Matsubara, L. S.; Matsubara, B. B.; Carvalho, R. F.; De Gobbi, J.I.F. Paroxetine and myosins isoforms in aortic regurgitation: role for improvement in contractility In: *1<sup>st</sup> Panamerican Congress of Physiological Society*, Foz do Iguaçu, Brazil, 2014.
- 10) De Gobbi, J. I. F.; **OMOTO, A. C. M.**; Moraes, L. N.; Roscani, M. G.; Matsubara, L. S.; Matsubara, B. B.; Carvalho, R.F. Genic expression of oxytocin in the paraventricular nucleus is altered by paroxetine in subchronic aortic regurgitation rats. In: *43<sup>o</sup> Anual meeting of the society for Neuroscience*, 2013, San Diego, USA.

## 5. Awards

2014	Certificate of distinction in the 1 <sup>st</sup> Panamerican Congress of the Physiological Society
2012	Certificate of distinction in the 47 <sup>th</sup> Annual Meeting of the Brazilian Society of Physiology
2012	Certificate of distinction in the 16 <sup>th</sup> Cardiovascular Physiology Symposium
2011	Certificate of distinction in the 15 <sup>th</sup> Cardiovascular Physiology Symposium

## 6. Bibliografic production

Articles published in scientific journal	8
Articles publishes in annals of events	10
Presentation in Events (conference or lecture)	23

## 7. Events

Participation in events (congress)	14
Participation in events (symposium)	14
Participation in events (meeting)	9
Event Production	8