

SATHYA VELMURUGAN
(Maiden Name: Sathya Arunachalam)
May 2017

CURRENT POSITION: SCIENTIST C

- August 2013 – Present: National Institute of Animal Biotechnology (NIAB), D. No. 1-121/1, 4th and 5th Floors, Axis Clinical Building, Miyapur, Hyderabad, 500 049. Tel. 040 – 23049414. Mobile: +91 9866436014. Email: sathya.velmurugan@niab.org.in, sathyavet@gmail.com.

EDUCATION

PhD (2009)	Centre for Integrative Physiology, University of Edinburgh, UK	Thesis: “Actions of appetite regulating peptides on the supraoptic nucleus oxytocin neurones”
MVSc (2005)	Punjab Agricultural University, Ludhiana, India	Dissertation: “Studies on oxidative stress in dystocia affected buffaloes”. OCPA: 8.62/10.
BVSc (2003)	Madras Veterinary College, TANUVAS, Chennai, India	OGPA: 8.7/10

POST-DOCTORAL RESEARCH EXPERIENCE

- Nov 2009 to August 2011: Post-doctoral Research Fellow/Instructor at the Department of Physiology and Biophysics, Rush University Medical Center, Chicago.
- September 2011 to May 2013: Post-doctoral Research Fellow at the Department of Medicine, Rosalind Franklin University of Medicine and Science, Chicago.

RESEARCH INTEREST

- Reproductive Biology

EXTRA MURAL GRANTS

- Effect of kisspeptin on endocrine profile and follicular dynamics in buffaloes, Rs. 48.154 lakhs (DBT); as PI (2015-17).
- Effect of kisspeptin in the development of ovine primordial follicles in vitro. DST India Science and Research Fellowship to Dr. Manjula PS Magamage, Sabaragamuwa University, Sri Lanka; as Mentor (2016-17).
- Role of kisspeptin in oestradiol-induced anorexia and alteration in LH levels. SERB National Post Doctoral Fellowship to Ms. Meenal P Ullewar; as Mentor (2017-19)

AWARDS

- Travel Award from the Physiological Society for attending “Young Physiologists Symposium” and the “Main Meeting of the Physiological Society 2008” at University of Cambridge, UK (2008)
- Travel Award from the British Society for Neuroendocrinology for attending “Society for Neuroscience 2009” and “Neuropeptides – 19th Neuropharmacology Conference” at Chicago, USA (2009)
- Travel Award from the World Congress on Neurohypophyseal Hormones for attending “7th World Congress on Neurohypophyseal Hormones 2009” at Kitakyushu, Japan (2009)
- Dr. SN Luktuke Award for Best Extempore Presentation in 21st Annual Convention of Indian Society for Study of Animal Reproduction, Jammu, India (2005).
- Award for Best Oral Presentation by Young Scientist in 21st Annual Convention of Indian Society for Study of Animal Reproduction, Jammu, India (2005).
- Award for Best Oral Presentation by Young Scientist in 20th Annual Convention of Indian Society for Study of Animal Reproduction, Durg, India (2004).
- Merit Certificate for MVSc (2005).
- Three Gold Medals for securing highest marks in Veterinary Microbiology and Poultry Science in BVSc (2003).

SCHOLARSHIPS

- Overseas Research Students (ORS) Award from the Scottish Funding Council – For PhD (2006 - 2009).
- College of Medicine and Veterinary Medicine PhD Studentship by the University of Edinburgh – For PhD (2006 - 2009).

- Award of Junior Research Fellowship by the Indian Council of Agricultural Research – For MVSc (2003 - 2005).
- Best Cadet Merit Scholarship from the National Cadet Corps (NCC), India – for BVSc (2000).
- Tamil Nadu Chief Minister's First Graduate Merit Scholarship – for BVSc (1997 - 2003).

TEACHING EXPERIENCE

- Practical demonstration for Biomedical Science students in 'Physiology and Practical Skills in Biomedical Sciences' course in the University of Edinburgh (2007 and 2008).
- Facilitation of group discussions for Medical students in 'Medical Biology' course in the University of Edinburgh (2008).
- Course on "Advances in Reproductive Physiology and Biotechnology" for PhD scholars at NIAB and CDFD (2015).
- Course on "Basic Biology" and "Advances in Reproductive Physiology and Biotechnology" for PhD scholars at NIAB (2017).

CURRENT MEMBERSHIP

- Veterinary Council of India (No. 006578)
- Tamil Nadu Veterinary Council (No. 0090)
- Indian Society for Study of Animal Reproduction (No. 1597)
- British Society for Neuroendocrinology (No. P0000474)
- Endocrine Society (No. 320564)

PUBLICATIONS

National – 7; International – 10; General article -2; Conference Abstracts: 27.

Manuscripts submitted/in preparation:

1. Rachamalla A, Reddy ABM, Lomada D, **Velmurugan S** and Reddanna P (2016) Cyclooxygenase-2 in endotoxin induced inflammatory response by mouse gamma delta T cells - Exploring for an *in vivo* model. *Frontiers in Immunology* (Submitted).
2. Sri Ravali, Ullewar MP, Harne R and **Velmurugan S*** (2017) Chronic kisspeptin delays puberty in rats (Submitted).
3. Pottapenjara VK, Rajanala SR, Bejjanki SK, Reddy KCS, Gangineni AK, **Velmurugan S*** (2017) Kisspeptin dose-dependently increases plasma LH and modulates follicular dynamics in pre-pubertal buffaloes (Manuscript in preparation).

Research articles:

1. Miao Y, **Velmurugan S**, Borovnik-Lesjak V, Radhakrishnan J, Gazmuri RJ (2015) Estrogen Fails to Facilitate Resuscitation from Ventricular Fibrillation in Male Rats. *American Journal of Translational Research* 7(3): 522-34.
2. Borovnik-Lesjak V, Whitehouse K, Baetiong A, Miao Y, Currie BM, **Velmurugan S**, Radhakrishnan J, Gazmuri RJ (2014) Effects of Intraosseous Erythropoietin during Hemorrhagic Shock in Swine. *PLoS One* 9(11): e110908.
3. Curran J, Tang L, Roof SR, **Velmurugan S**, Millard A, Shonts S, Wang H, Santiago D, Ahmad U, Perryman M, Bers DM, Mohler PJ, Ziolo MT, Shannon TR (2014) Nitric oxide-dependent activation of CaMKII increases diastolic sarcoplasmic reticulum calcium release in cardiac myocytes in response to adrenergic stimulation. *PLoS One* 9(2): e87495.
4. **Velmurugan S**, Russell JA and Leng G (2013) Systemic leptin increases the electrical activity of supraoptic nucleus oxytocin neurones in virgin and late pregnant rats. *Journal of Neuroendocrinology* 25 (4): 383-90.
5. **Velmurugan S**, Brunton PJ, Leng G and Russell JA (2010) Circulating secretin activates supraoptic nucleus oxytocin and vasopressin neurons via noradrenergic pathways in the rat. *Endocrinology* 151 (6) 2681-88.
6. **Arunachalam S**, Prabhakar S, Arora AK and Ghuman SPS (2010) Alterations in polymorphonuclear leukocyte functions during periparturient period in buffaloes. *Indian Journal of Animal Sciences*, 80(1): 12-16.
7. Prabhakar S, **Arunachalam S** and Brar PS (2010) Improving reproductive efficiency of dairy animals with reference to prevalent field problems. *Intas Polivet* 11(1): 1-6.
8. Brunton PJ, **Arunachalam S** and Russell JA (2008) Control of neurohypophysial hormone secretion, blood osmolality and volume in pregnancy. *Journal of Physiology and Pharmacology*, 59 (Suppl 8): 27-45.

9. Tobin VA, Bull PM, **Arunachalam S**, O'Carroll AM, Ueta Y and Ludwig M (2008) The effects of apelin on the electrical activity of hypothalamic magnocellular vasopressin and oxytocin neurons and somatodendritic peptide release. *Endocrinology* 49 (12): 6136-45.
10. **Arunachalam S**, Prabhakar S, Sangha SPS and Ghuman SPS (2007) Vitamin E and selenium supplementation reduces plasma cortisol and oxidative stress in dystocia affected buffaloes. *Veterinary Research Communications* 31(7):809-18.
11. **Arunachalam S** and Prabhakar S (2006) Haematological changes in dystociac buffaloes following dexamethasone administration vis-à-vis normal parturition. *Indian Journal of Animal Sciences* 77(4): 300-303.
12. **Arunachalam S**, Prabhakar S, Ghuman SPS (2005) Effect of dexamethasone administration on cortisol concentration and biochemical profile in buffaloes suffering from dystocia. *Animal Reproduction* 2(4): 233-239.

Case reports:

1. Honparkhe, M., Ghuman, S.P.S., Ajeet Kumar and **Arunachalam S** (2008) Delivery of a macerated buffalo fetus by left flank laparohysterotomy. *Indian Journal of Animal Reproduction* 29:115-116.
2. **Arunachalam S**, Mahajan A and Prabhakar S (2006) Dystocia in a buffalo due to a foetal monster accompanying hydrops amnii. *Indian Journal of Animal Reproduction* 27(1): 96-97.
3. Mahajan A, **Arunachalam S** and Prabhakar S (2006) A case of arthrogryposis in a buffalo calf causing dystocia. *Indian Journal of Animal Reproduction* 27(1): 86-87.
4. Honparkhe M, Singla VK, Singh J, Bedi M, **Arunachalam S** (2006). Post parturient uterine prolapse in a bitch. *Indian Journal of Animal Reproduction* 27:91-92
5. Varalakshmi S, Vidhya M and **Arunachalam S**, Venkatesh G, Balasubramanian S, Jayaprakash R and Devanathan TG (2004) Delivery of a Holstein Friesian calf with multiple skeletal abnormalities. *Veterinary Record* 154: 28.

Scientific article or perspective published in Course Proceedings/Newsletter/Journal:

1. Prabhakar S and **Arunachalam S** (2005) Effects of stress on reproduction. (Eds. Ghuman SPS and Dhaliwal GS) In: *Proceedings of Advanced Training Course on Recent Concepts in Physio-pathology of Animal Reproduction*. Centre of Advanced Studies in Veterinary Gynaecology and Reproduction, Punjab Agricultural University, Ludhiana. p63-68.
2. **Velmurugan S** (2015) Infertility disorders in farm animals – Can we solve it by Kiss? *Indian Society for the Study of Reproduction and Fertility (ISSRF) Newsletter*. Eds. Lohiya NK, Mishra PK and Sharma RS. 16: 101-2.
3. **Sathya A**, Prabhakar S. and Singh A (2015) Oxidative stress and hemato-biochemical changes in dairy animals around parturition. The blue cross book for the advancement of the veterinary profession. Vol 33. November 2015. Page 21-28. MSD Animal Health.