

Pramod Dhakal

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EDUCATION:

- 2008-2012 **PhD in Veterinary Medicine**, (Tokyo University of Agriculture and Technology) United Graduate School of Veterinary Sciences, Gifu University, Japan.
Thesis: Endocrinological Studies on Equine Reproduction at Various Reproductive Stages
- 2001-2006 Bachelor of Veterinary Science and Animal Husbandry (BVSc&AH- equivalent to **DVM**), Institute of Agriculture and Animal Sciences, Tribhuvan University, Nepal
Thesis: Bacteriological survey of bovine mastitis in Chitwan, Nepal
- 1998-1999 Intermediate in Science (ISc), Birendra Army College, Tribhuvan University, Nepal
Major: Biology, Physics and Chemistry. Minor: Mathematics
- 1997 School Leaving Certificate (SLC), Hermann Gmeiner School, Surkhet, Nepal

RESEARCH EXPERIENCE:

January 2013 – June 2017

Postdoctoral Fellow: Department of Pathology and Laboratory Medicine, The University of Kansas Medical Center, Kansas, USA.

Mentor: Prof. Michael J. Soares

Focus: Understanding the endocrine mechanism of disruption of steroid hormone actions in uterus and pregnancy with primary focus on placenta. Targeted gene disruption in rat models to decipher the molecular regulatory targets controlling the placentation and utilizing its knowledge to human pregnancy to understand the pathogenesis of diseases like preeclampsia and intra-uterine growth restriction.

August 2012 - December 2012

Research Scientist: Division of Pathology, National Institute of Health Science, Setagaya, Tokyo, Japan.

Mentor: Dr. Yoshida Midori

Focus: Delayed effect of early postnatal exposure to endocrine disruptors (17 α -Ethinyl Estradiol) on reproductive axis of female rats.

September 2009 - July 2012

Graduate Research Assistant: Laboratory of Veterinary Physiology, Tokyo University of Agriculture and Technology (TUAT), Tokyo, Japan.

Mentor: Prof. Gen Watanabe

Focus: Comparative endocrinology (domestic and zoo animals) focusing on hormone assays. Practical knowledge enrichment for Veterinary physiology course utilizing several hands-on experiments.

April 2008 - September 2008

Research Student: Laboratory of Veterinary Physiology, Tokyo University of Agriculture and Technology (TUAT), Tokyo, Japan.

Mentor: Prof. Kazuyoshi Taya

Focus: Understanding the impact of hypothalamic-pituitary-gonadal axis in the control the seasonal breeding behavior of equine reproduction.

OTHER EXPERIENCE:

1. **Secretary General** of Kansas City Nepalese Society (2015).
2. **Vet Surgeon** at Kathmandu Animal Treatment Center (specialize in neutering) (November 2006 to March 2008), funded by Humane Society US.
3. **Private vet practice** at Animal Care Centre (Partner owner), Kathmandu, Nepal (August 2007 to March 2008)
4. Worked on **Comparative Study of Mastitis and Antibiotic Residues in Eastern and Western Chitwan, Nepal** with the TUFTS students from June to August 2006 which included organizing the meeting with 22 women's group.
5. As a trainer in Nepal Agriculture Research Council, Khumaltar, Kathmandu on **Causes and Treatment of Infertility in Large Animals** targeted for the JTs and JTAs working under HMG and NARC in Kathmandu from 13 to 15th June, 2006 organized by JICA Nepal
6. Two days' experience as a facilitator in **Zoonotic Disease training** that included Salmonellosis and Colibacillosis in western Chitwan, Nepal.
7. **Private Veterinary practice** on large and small animals for 3 years in Chitwan, Nepal
8. Experience in **Moxibustion** treatment for infertility in large animals and attended several **Animal Health and Fertility camps** in Nepal
9. **Teaching** at Kantipur College of Medical Sciences, Chitwan, Nepal to Veterinary technicians on subjects related to animal husbandry, medicine and surgery (August 2005 to October 2006)
10. Worked on **Study of Dog Ecology** in Chitwan, Nepal in collaboration with TUFTS University student on July/August 2005
11. Secondary **School teaching** of Science at Gorakhkali English Boarding School, Balaju, Kathmandu (August 1999 to December 1999).
12. **Primary School Teaching** of Science at Evergreen English Medium Boarding School, Surkhet, Nepal (February 1997 to April 1997).
13. **President** of Junior Red Cross Circle while in school as a president of junior red cross circle of SOS Hermann Gmeiner School Surkhet, Nepal and worked for fund raising and disaster relief programs.

AWARDS:

1. **2nd Place**, Trainee Finalist, Poster presentation, Society for Study for Study of Reproduction Annual Meeting, San Diego, USA, 2016
2. **Larry Ewing Memorial Trainee Travel Grant**, Society for Study for Study of Reproduction Annual Meeting, San Diego, USA, 2016
3. **Best poster award**, 11th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, Missouri, 2014.
4. **Lalor Foundation Fellowship** for postdoctoral training (July 2013~June 2014)

5. **Larry Ewing Memorial Trainee Travel Grant**, Society for Study for Study of Reproduction Annual Meeting, Milwaukee, USA, 2010
6. **Japanese Government Scholarship** (Monbukagakusho) selected through Japanese Embassy in Nepal for PhD study (April 2008- September 2012).
7. Nepal Bidhya Bhusan Medal (**Gold medal** provided by the President of Nepal Dr. Ram Baran Yadav) for securing the highest score in the total evaluation of DVM degree, Government of Nepal, 2005.
8. **Merit student scholarship** (Tuition Fee Waiver) during the entire period of DVM study at IAAS veterinary college, Nepal.
9. **Best Student monetary award** for scoring highest marks during DVM study.
10. Several awards in regional and national competition in Nepal for co-curricular activities (Essay, poem, quiz-contest, speech contest etc) during school days.

PUBLICATIONS:

Peer Reviewed Articles

Bu P, Yagi S, Shiota K, Alam SMK, Vivian JL, Wolfe MW, Rumi MAK, Chakraborty D, Kubota K, **Dhakal P**, Soares MJ. (2017) Origin of a rapidly evolving homeostatic control system programming testis function. *J Endocrinol.* 234(2):217-32.

Tan EP, McGreal SR, Graw S, Tessman R, Koppel SJ, **Dhakal P**, Zhang Z, Machacek M, Zachara NE, Koestler DC, Peterson KR, Thyfault JP, Swerdlow RH, Krishnamurthy P, DiTacchio L, Apte U, Slawson C. (2017) Sustained O-GlcNAcylation reprograms mitochondrial function to regulate energy metabolism. *J Biol Chem.* 292(36):14940-62.

Dhakal P and Soares MJ. (2017) Single-step PCR-based genetic sex determination of rat tissues and cells. *Biotechniques.* 65(5): 232-33.

Chakraborty D, Cui W, Rosario GX, Scott RL, **Dhakal P**, Renaud SJ, Tachibana M, Rumi MAK, Mason CW, Kreig AJ, and Soares MJ. (2016) HIF-KDM3A-MMP12 regulatory circuit ensures trophoblast plasticity and placental adaptations to hypoxia. *PNAS.* 113(46):E7212-21.

Imakawa K, **Dhakal P**, Kubota K, Kusama K, Chakraborty D, Rumi MAK, and Soares MJ. (2016) CITED2 modulation of trophoblast cell differentiation: insights from global transcriptome analysis. *Reproduction.* 151(5): 509-16.

Kubota K, Cui W, **Dhakal P**, Wolfe MW, Rumi MAK, Vivian JL, Roby KF, and Soares MJ. (2016) Rethinking progesterone regulation of female reproductive cyclicity. *PNAS.* 113(15): 4212-17.

Bu P, Alam SKM, **Dhakal P**, Vivian JL, and Soares MJ. (2016) A Prolactin Family Paralog Regulates Placental Adaptations to a Physiological Stressor in the Mouse. *Biology of Reproduction.* 94(5): 107, 1-9.

Dhakal P, Rumi MA, Kubota K, **Chakraborty D**, Chien J, Roby KF, and Soares MJ. (2015) Neonatal Progesterone Programs Adult Uterine Responses to Progesterone and Susceptibility to Uterine Dysfunction. *Endocrinology.* 156(10):3791-803.

Rumi MAK, **Dhakal P**, Kubota K, Chakraborty D, Lei T, Larson MA, Wolfe MW, Roby KF, Vivian JL, and Soares MJ. (2014) Generation of Esr1 knockout rats using zinc finger nuclease-mediated genome editing. *Endocrinology* 155(5):1991-9.

Taya K, **Dhakal P**, Nambo Y, Tsunoda N, Harada T, Taniyama H, Toishi Y, Nagaoka K, and Watanabe G. (2014) Activin A may be involved in enlargement of the fetal gonads during equine pregnancy. *J Equine Vet Sci*, 34(1): 236-40.

Dhakal P, Otsuka A, Nambo Y, Harada T, Sato F, Nagaoka K, Watanabe G, and Taya K. (2012) Circulating Pituitary and Gonadal Hormones in Spring-born Thoroughbred Fillies and Colts from Birth to Puberty. *J Reprod Dev.* 58(5):522-30.

Sato F, Hirota K, **Dhakal P**, Taya K, Endo Y, Ito K, Murase H, and Nambo Y. (2012) A case of ambiguous external genitalia in a Thoroughbred male horse with 63,XO/64,XY mosaic karyotype. *J Vet Med Sci.* 74(10):1327-31.

Dhakal P, Tsunoda N, Nakai R, Kitaura T, Harada T, Ito M, Nagaoka K, Toishi Y, Taniyama H, Watanabe G, and Taya K. (2011) Annual Changes in Day-length, Temperature, and Circulating Reproductive Hormones in Thoroughbred Stallions and Geldings. *J Equine Sci.* 22(2): 29-36.

Dhakal P, Tsunoda N, Nakai R, Nagaoka K, Nambo Y, Sato F, Taniyama H, Watanabe G, and Taya K. (2011) Post-natal Dynamic Changes in Circulating Follicle-Stimulating Hormone, Luteinizing Hormone, Immunoreactive Inhibin, Progesterone, Testosterone and Estradiol-17 β in Thoroughbred Colts until 6 Months of Age. *J Equine Sci.* 22(1): 9-15.

Nambo Y, Okano A, Kunii H, Harada T, **Dhakal P**, Matsui A, Korosue K, Yamanobe A, Nagata S, Watanabe G, Taya K. (2010) Effect of extended photoperiod on reproductive endocrinology and body composition in Thoroughbred yearlings and weanlings. *Anim Reprod Sci.*121(1-2): 35-37.

Ng L, Jost C, Robyn M, Dhakal IP, Bett B, **Dhakal P**, and Khadka R. (2010) Impact of livestock hygiene education programs on mastitis in smallholder water buffalo (*Bubalus bubalis*) in Chitwan, Nepal. *Prev Vet Med.* 96(3-4): 179-85.

Dhakal IP, **Dhakal P**, Koshihara T, and Nagahata H. (2007) Epidemiological and Bacteriological Survey of Buffalo Mastitis in Nepal. *J Vet Med Sci.* 69(12):1241-5.

Abstracts

Nteeba J, **Dhakal P**, Scott R, Chakraborty D, Mason CW, and Soares MJ. (2017) Maternal Glycemic Stress Affects Development and Plasticity of the Hemochorial Placenta. 50th Annual Meeting of the Society for the Study of Reproduction, Washington DC, USA.

Iqbal K, **Dhakal P**, Roby KF, and Soares MJ. (2017) Dioxin-Activated Aryl Hydrocarbon Receptor Signaling Promotes Adaptations in Hemochorial Placentation. 50th Annual Meeting of the Society for the Study of Reproduction, Washington DC, USA.

Chakraborty D, Cui W, Scott R, **Dhakal P**, Renaud, SJ, Rosario GX, Krieg AJ, Rumi MAK, and Soares MJ (2016) A HIF-KDM3A-MMP12 regulatory pathway triggers adaptations at the maternal-

fetal interface. International Federation of Placental Associations Meeting, Portland, OR, USA. **Oral Presentation.**

Dhakal P, Iqbal K, and Soares MJ. (2016) Exploring roles for Cited2 in hemochorial placentation. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA. USA. **Second Prize.**

Nteeba J, Scott R, **Dhakal P**, Chakraborty D, and Soares MJ. (2016) Plasticity in hemochorial placentation is undermined by maternal hyperglycemia. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA, USA. **Oral Presentation.**

Rumi MAK, Roby KF, Ratri A, Zhao X, Borosha S, Lei T, Iqbal K, **Dhakal P**, Kubota K, Vivian J, Wolfe M, and Soares MJ. (2016) DNA binding domain-dependent transcriptional activity of ESR2 is essential for ovulation. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA. USA.

Iqbal K, **Dhakal P**, and Soares MJ. (2016) Aryl hydrocarbon receptor signaling in the developing placentation site. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA. USA.

Wang L, Chakraborty D, Iqbal K, **Dhakal P**, Ye SQ, and Soares MJ. (2016) Suv39h2 regulated histone H3K9 methylation controls a gene network critical to the maintenance of the trophoblast stem cell state. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA. USA. **Oral Presentation.**

Kozai K, Chakraborty D, Iqbal K, **Dhakal P**, and Soares MJ. (2016) Insights into the role of Kdm3a in trophoblast cell differentiation and placentation. 49th Annual Meeting of the Society for the Study of Reproduction, San Diego, CA, USA.

Chakraborty D, Cui W, Scott R, **Dhakal P**, Renaud S, Rosario GX, Krieg AJ, Rumi MAK, Soares MJ. (2015) A hypoxia/HIF/Kdm3a pathway controls trophoblast stem cell lineage decisions and organization of the hemochorial placenta. 12th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, MO. **Oral Presentation**

Kozai K, Chakraborty D, Iqbal K, **Dhakal P** and Soares MJ. (2015) Role of Kdm3a in rat trophoblast differentiation. 12th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, MO, USA.

Dhakal P, Imakawa K, Iqbal K, Kubota K, **Chakraborty D**, Kusama K, Rumi MAK and Soares MJ. (2015) Involvement of CITED2 in the regulation of trophoblast cell differentiation and placentation. 12th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, MO, USA.

Chakraborty D, Cui W, Scott R, **Dhakal P**, Renaud SJ, Rosario GX, Vivian JL, Krieg AJ, Tachibana M, Rumi MAK, and Soares MJ. (2015) A hypoxia/HIF/Kdm3a pathway controls trophoblast stem cell lineage decisions and organization of the hemochorial placenta. 48th Annual Meeting of the Society for the Study of Reproduction, Annual Meeting. Puerto Rico, USA. **Oral Presentation.**

Dhakal P, Chakraborty D., Kubota K, Chien J, and Soares MJ. (2015) The progesterone responsive uterine transcriptome of the rat: impact of uterine progesterone resistance. 48th Annual Meeting of the Society for the Study of Reproduction, Annual Meeting. Puerto Rico, USA.

Rumi MAK, Kubota K, Cui W, Chakraborty D, **Dhakal P**, Lei T, Borosha S, Roby, KF, Vivian, JL, and Soares MJ. (2014) Defining roles for ESR2 isoforms in the regulation of female fertility. 47th Annual Meeting of the Society for the Study of Reproduction. Grand Rapids, Michigan, USA.

Dhakal P, Rumi MAK, Kubota K, Chakraborty D, Cui W, Roby KF, Chien J, and Soares MJ. (2014) Neonatal Progesterone Programs Adult Uterine Responses to Progesterone and Susceptibility to Uterine Disease. 12th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, MO. **Best Poster Award.**

Cui W, Chakraborty D, Rumi MAK, Rosario GX, **Dhakal P**, Kubota K, Vivian JL, and Soares, MJ. (2014) Matrix metalloproteinase 12 and the endovascular invasive trophoblast lineage. 47th Annual Meeting of the Society for the Study of Reproduction. Grand Rapids, Michigan, USA.

Dhakal P, Rumi MAK, Kubota K, Chakraborty D, Cui W, Roby KF, Chien J, and Soares MJ. (2014) Neonatal Progesterone Programs Adult Uterine Responses to Progesterone and Susceptibility to Uterine Disease. 47th Annual Meeting of the Society for the Study of Reproduction. Grand Rapids, Michigan, USA.

Rumi MA, **Dhakal P**, Kubota K, Lei T, Larson MA, Wolfe MW, Roby KF, Vivian JL, and Soares MJ. (2013) Targeted ESR1 knockout in rat using zinc finger nuclease-mediated genome editing. 46th Annual Meeting of Society for the Study of Reproduction. Montreal, Canada.

Dhakal P, Nambo Y, Tanaka Y, Tsunoda N, Taniyama H, Nagaoka K, Sato F, Watanabe G, and Taya K. (2012) Activin A during Thoroughbred pregnancy and immunohistochemical localization of its receptors and intracellular mediators in equine fetal gonads. Proceedings of the 17th International Congress on Animal Reproduction (ICAR). Vancouver, Canada.

Dhakal P, Nambo Y, Harada T, Tsunoda N, Tanaka Y, Taniyama H, Nagaoka K, Sato F, Murase H, Watanabe G, and Taya K. (2012) Possible Role of Activin A during Equine Pregnancy. Proceedings of the 153rd Conference of the Japanese Society of Veterinary Science. Saitama, Japan.

Dhakal P, Nambo Y, Tsunoda N, Taniyama H, Nagaoka K, Watanabe G, and Taya K. (2011) Immunolocalization of activins, anti-mullerian hormone (AMH) and their receptors in the equine fetal gonad and placenta. The 104th Society of Reproduction and Development Meeting. Morioka, Japan. **Oral Presentation.**

Dhakal P, Otsuka A, Nambo Y, Harada T, Tsunoda N, Itoh M, Watanabe G, and Taya K. (2010) Dynamic change in circulating pituitary and gonadal hormones from birth to puberty in the thoroughbred colts and fillies. 43rd Annual Meeting of the Society for the Study of Reproduction Biology of Reproduction, Milwaukee, MI, USA.

Dhakal P, Otsuka A, Nambo Y, Tsunoda N, Taniyama H, Watanabe G, and Taya K. (2010) Changes in Circulating Follicle Stimulating Hormone (FSH), Luteinizing Hormone (LH), Immunoreactive (Ir) Inhibin, Prolactin, Progesterone, Testosterone and Estradiol-17 β in Thoroughbred Colts and Fillies from Birth to 63 weeks of Age. The 14th International Congress of Endocrinology ICE. Kyoto, Japan.

Dhakal P, Tsunoda N, Ito M, Toishi Y, Taniyama H, Watanabe G, and Taya K. (2010) Biphasic changes in testosterone with changes in estradiol from the testes of thoroughbred stallion in response

to human chorionic gonadotropins (hCG). Proceedings of the 150th Conference of the Japanese Society of Veterinary Science. Obihiro, Japan.

REVIEWER:

Biology of Reproduction, Gene, BioFactors

ACTIVITIES:

- Trainee Organizer, 13th Annual Gilbert S. Greenwald Symposium on Reproduction, Kansas City, Missouri, Nov 6-7th, 2016.
- Trainee Volunteer - Society for Study of Reproduction 2016.
- Member, KUMC Postdoctoral Association, University of Kansas Medical Center, 2013-2017
- Executive Member, Kansas City Nepalese Society (2016).

MEMBERSHIPS:

- Society for the Study of Reproduction
- Postdoctoral association (The university of Kansas medical center)
- Nepal Veterinary Association
- Bird Conservation Nepal

CERTIFICATION:

- Nepal Veterinary Council (Veterinary License, Nepal)

TRAININGS:

1. **Food risk assessment** organized by National institute of health sciences, Japan, 20-22 April, 2010.
2. **Rapid diagnosis of emerging and re-emerging infectious diseases** organized by National institute of infectious diseases, Japan, 1-3 July, 2009.
3. **Animal Birth Control Surgery** organized by Help in Suffering, Jaipur, India, 8-19 March, 2007.
4. **Instructional Skills** organized by Training Institute for Technical Instruction, Bhaktapur, Nepal, 7-11 November, 2005.
5. **Social Mobilization in Animal Based Food Safety and Zoonotic Diseases** organized by Institute of Agriculture and Animal Science, Rampur, Chitwan, Nepal, 25th December, 2004 to 2nd January, 2005.
6. **Participatory Rural Appraisal** organized by Social Mobilization Experimentation and Learning Centre, IAAS, Rampur, Chitwan, Nepal, 20-27 March, 2002
7. **Diploma in Computer Application** course from Intel Institute Pvt. Ltd., Kathmandu, Nepal, 20 June 2000 to 30 February, 2001

8. **Basic Computer Training** course from New Creative Computer Institute, Surkhet, Nepal, 20 March to 20 April, 1997.
9. **Effective Public Speaking course** organized by Nepal Junior Chamber (Nepal Jaycees), 12-13 May 1996.
10. **International Leadership Development Training Program** organized by Japanese Red Cross Society, Tokyo, Japan, 22 July to 3 August, 1994.