

Curriculum Vitae

SAKHILA K. BANU, PhD.

Reproductive Endocrinology/Endocrine oncology/Toxicology

Assistant Research Professor

Interdisciplinary Faculty of Toxicology

Interdisciplinary Faculty of Reproductive Biology

Department of Veterinary Integrative Biosciences

College of Veterinary Medicine & Biomedical Sciences

Texas A&M University, Mail Stop: TAMU 4458

College Station, Texas 77843

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Education

Dec 12, 2002

PhD (Endocrinology)

Department of Endocrinology, WHO-ICMR Referral Center for Clinical Research in Human Reproduction, Institute of Basic Medical Sciences, University of Madras, Tamil Nadu, India.

March 26, 1993

MPhil (Endocrinology)

Department of Endocrinology, WHO-ICMR Referral Center for Clinical Research in Human Reproduction, Institute of Basic Medical Sciences, University of Madras, Tamil Nadu, India.

Dec 16, 1991

MSc (Zoology)

Department of Zoology, Madurai Kamaraj University, Tamil Nadu, India.

Dec 02, 1988

BSc (Zoology)

Department of Zoology, Madurai Kamaraj University, Tamil Nadu, India.

Professional Experience

2005-Present

Assistant Research Professor, *Endocrine/Reproductive Toxicology & Oncology*

Veterinary Integrative Biosciences, College of Veterinary Medicine & Biomedical Sciences, Texas A&M University, College Station, Texas 77843, USA.

2003-2004

Post Doctoral Fellowship- II, *Molecular Oncology*

Dept. Pathology and Microbiology, Faculty of Veterinary Medicine, University of Montreal, St. Hyacinthe, J2S 7C6, Quebec, Canada.

2001-2003

Post Doctoral Fellowship- I, *Reproductive Molecular Endocrinology*

Dept of Obstetrics & Gynecology, CHUL, Laval University, Quebec, Canada.

Teaching Experience

2005-Present

Texas A&M
University

Co-Director:

VIBS-604: Biomedical Neuroendocrinology & Endocrine Disorders

Lecturer:

VTPP-653: Molecular Endocrinology (thyroid and parathyroid glands)

Co-Instructor:

VIBS-685: Directed Studies

VIBS-691: Research

BIMS-485: Directed Studies

Research Interests

**Reproductive Toxicology
Endocrinology / Endocrine Oncology / Developmental Biology**

Professional Honors

| Title | Duration | Organization | Nature of work |
|--------------------------------------|--------------------------|---|---|
| Assistant Research Professor | March 2005 -Till date | Veterinary Integrative Biosciences, Texas A&M University, College Station, Texas 77843, USA | <ol style="list-style-type: none"> 1. Effect of endocrine disruptors (heavy metal toxins) on ovarian development in Wistar rats. 2. Prostaglandin E2 signaling in feline mammary tumors. 3. Cyclooxygenase-2-EGFR cross talk in canine mammary tumors. |
| Post Doctoral Researcher - II | 2003 - 2004 | Dept of Pathology & Microbiology, Univ. of Montreal, Quebec, Canada | <ol style="list-style-type: none"> 1. Molecular cloning and characterization of canine prostaglandin transporter (PGT). 2. Studying the role of prostaglandins biosynthetic, signaling and transporting mechanisms in skin cancer. |
| Post Doctoral Researcher- I | 2001 - 2003 | Dept Ob/Gyn, Reproductive Biology Research Centre, CHUL, Laval University, Quebec, Canada | <ol style="list-style-type: none"> 1. Molecular cloning and characterization of bovine PGT. 2. Studying the role of PGT in cellular and compartmental transport of PGs in uterine functions. 3. Studying the PGs biosynthetic and signaling mechanisms in uterine and corpus luteum functions. |
| Doctoral Researcher / | 1994 - 2000 Full time | Dept.of Endocrinology, University of Madras, Tamil Nadu, India. | <ol style="list-style-type: none"> 1. Interaction between sex steroids and TSH on thyroid gland growth, development and functions from birth to puberty in Wistar rats. 2. Mechanisms of sex steroids induced modulations of thyroid tumorigenesis. |
| Post Graduate II (MPhil) | 1992-1993 Full time | Dept.of Endocrinology, University of Madras, Tamil Nadu, India. | <ol style="list-style-type: none"> 1. Impact of thyroid hormones on prostatic lipogenesis. |

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|------------------------------|-----------|---|--|
| Post Graduate I (MSc) | 1989-1991 | Dept of Zoology, Madurai Kamaraj University, India. | Environmental Impact of Cartap Hydrochloride on tobacco pests. |
| Under Graduate | 1985-1988 | Dept of Zoology, Madurai Kamaraj University, India. | Epidemiological studies on protein energy malnutrition in Indian rural children. |

Awards & Recognitions

| Name of the Awards | Organization/Role | Location | Year |
|---|--|---|-------------|
| USDA | USDA Role: Co-Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2008-2011 |
| Winn Grant Award | Winn Feline Foundation Role: Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2008-2009 |
| FY07-VIBS Program Development Award | Texas A&M University Integrative Biosciences Role: Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2007-2008 |
| FY08-VIBS Program Development Award | Texas A&M University Integrative Biosciences Role: Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2008-2009 |
| AAFP 2006 Annual Grant Award | American Association of Feline Practitioners Role: Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2006-2009 |
| CHF/AKC Research Grant Award | Canine Health Foundation – American Kennel Club Role: Principal Investigator | Integrative Biosciences, Texas A&M University, College Station, TX 77845, USA | 2007-2008 |
| CIHR Merit Award | CIHR, Govt. of Canada. | Dept of Ob/Gyn, CHUL, Laval University, Canada. | 2003 |
| Larry Ewing Memorial Award | Society for the Study of Reproduction (SSR), USA. | Dept of Ob/Gyn, CHUL, Laval University, Canada. | 2003 |
| USDA-NRI Merit Award. | USDA-NRI, USA | Dept of Ob/Gyn, CHUL, Laval University, Canada. | 2002 |
| CIHR Merit Award- | CHIR, Govt. of Canada. | Dept of Ob/Gyn, CHUL, Laval University, Canada. | 2002 |
| SSR Trainee Award-Finalist | Society for the Study of Reproduction, USA. | Dept of Ob/Gyn, CHUL, Laval University, Canada. | 2002 |
| Lady Tata Memorial –Senior Research Fellowship | Lady Tata Memorial Trust. | Bombay, India. | 1994 - 1996 |
| CSIR- Senior Research Fellowship | Council of Scientific and Industrial Research (CSIR) | New Delhi, Government of INDIA. | 1996 - 1999 |

Ongoing Research Projects

Current Support:

1. Source: **USDA**
 Project title: Cellular transport of Prostaglandins in Ovine Uterus
 Role: **Co-Principal Investigator**
 Duration: 09/01/2008 to 08/31/2011
 The goal of this research project is to identify the molecular and cellular aspects of prostaglandin transport in ovine endometrium.

2. Source: **Winn Feline Foundation**
 Project title: Prostaglandin E₂ biosynthesis in feline mammary cancers.
 Role: **Principal Investigator**
 Duration: 2008-2009
 The goal of this project is to study the PGE₂ biosynthesis in feline mammary cancers in order to provide basic knowledge for potential chemotherapy.

3. Source: **American Association of Feline Practitioners (AAFP)**
 Project title: Prostaglandin E₂ signaling in feline mammary cancer: a potential target for chemotherapy.
 Role: **Principal Investigator**
 Duration: 05/01/06 to 12/30/09
 The goal of this project is to study the PGE₂ signaling in feline mammary cancers in order to provide basic knowledge for potential chemotherapy.

4. Source: **Canine Health Foundation / American Kennel Club (AKC/CHF)**
 Project title: Epidermal growth factor receptor and Cyclooxygenase-2 cross-talk in canine mammary cancers:
 Role: **Principal Investigator**
 Duration: 06/01/07 to 05/01/08
 The goal of this project is to study the cross talk between EGFR and COX-2 in PGE₂ signaling in canine mammary cancers in order to provide basic knowledge for potential chemotherapy.

5. Source: Intramural support (Texas A&M University)
 Project title: Molecular biology of prostaglandins (PGs) in endometrial biology/pathology.
 Role: **Co-Principal Investigator**
 Duration: 01/01/2005 to 12/31/2009
 The goal of this research project is to identify the molecular and cellular aspects of PGE₂ and PGF_{2α} biosynthesis, transport and signaling in endometriosis and endometrial functions.

6. Source: Intramural support (Veterinary Integrative Biosciences, Texas A&M University)
 Project title: Role of Cyclooxygenase-2 in the promotion of endometriotic cell proliferation, migration and invasion in nude mice.
 Role: **Co-Principal Investigator**
 Duration: 01/06/2007 to 05/30/2008
 The goal of this research project is to identify the role COX-2 in development of endometriosis using immortalized human endometriotic cells and nude mice models.

7. Source: FY07PDA-Program Development Award, Veterinary Integrative Biosciences, Texas A&M University

Project title: Chromium Toxicity Impairs ovarian development in rats.

Role: **Principal Investigator**

Duration: 01/06/2007 to 05/30/2009

The goal of this research project is to understand the effect of chromium toxicity on the ovarian development in Wistar rats.

8. Source: FY07PDA-Program Development Award, Veterinary Integrative Biosciences, Texas A&M University
 Project title: Lactational exposure of chromium impairs ovarian development in rats.
 Role: **Principal Investigator**
 Duration: 03/01/2008 to 08/30/2008
 The goal of this research project is to understand the effect of chromium toxicity on the ovarian development in Wistar rats.

Pending Support:

1. Source: **NIH (Priority score 156; in fundable range, decision pending)**
 Project title: Effect of chromium toxicity on ovarian development.
 Role: **Principal Investigator**
 Duration: 10/01/2008 to 09/31/2010
 The goal of this research project is to identify the mechanism of chromium toxicity on ovarian development in rats.
2. Source: **ICMR-CDC**
 Project title: Cellular and Molecular Implications of COX-2 as a biomarker of Cadmium (Cd)-induced metal toxicity on immune and reproductive systems.
 Role: **Co-Principal Investigator**
 Duration: 10/01/09 to 11/30/11
 The goal of this project is to study cadmium toxicity on the immune system and the ovary.

Research Collaboration

| | Title | Institute | Collaborators | Duration |
|----------|---|--|----------------------------------|------------------|
| 1 | Heavy metal toxicity on ovarian development. | University of Arizona, Tucson. | Dr.Hoyer | 2007 – till date |
| 2 | Role of Prostaglandin E ₂ in Feline and Canine mammary cancers | Dept of Small Animal Clinical Sciences, Texas A&M University | Dr.Wilson, Dr.Arosh & Dr.Johnson | 2005-till date |
| 3 | Prostaglandins and ovarian cancer; chromium toxicity and ovarian development. | Veterinary Integrative Biosciences, Texas A&M University. | Dr.Burghardt | 2006-till date |
| 4 | Prostaglandins in Feline mammary carcinoma. | Utrecht University, The Netherlands | Dr.Henno Hendricks, PhD | 2005-till date |
| 5 | Prostaglandins in canine mammary carcinoma. | Uppsala University, Sweden | Dr.Eva Hellemen, PhD | 2005-till date |
| 6 | Thyroid cancers in Human | Texas A&M University Health Science Centre, Temple, TX. | Dr. V.O. Speights | 2006-till date |
| 7 | Effect of Cadmium Toxicity on the ovary and immune | University of Kalyani, West Bengal, India | Dr.Bhattacharyya | 2008-April |

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| | system. | ICMR-CDC INDO-US collaborative project. | | onwards |
| 8 | Chromium toxicity on gonadal development in mammals. | Department of Endocrinology, University of Madras, India. | Dr. Aruldas | 2007- Till date |
| 9 | Cadmium toxicity on gonadal development in mammals. | St.John's College, Palayamkottai, India. | Dr. Samuel | 2007- Till date |
| 10 | Cellular Transport of Prostaglandins in Uterus | Department of Animal Sciences, Texas A&M University. University of Connecticut. | Drs. Bazer & Spencer Dr. McCracken Dr.Arosh | 2005- till date |

Administrative Experience

| Name of the Committee and Organization | Title | Activity | Year |
|---|--------|-----------------------------------|--------------------|
| Interdisciplinary Faculty of Reproductive Biology. | Member | Organize/Participate in seminars | 2006- till date |
| Interdisciplinary Faculty of Toxicology | Member | Organize/Participate in seminars | 2008- till date |
| Graduate student Association, College of veterinary Medicine, Texas A&M University. | Judge | Judge for the Poster presentation | 2005 - |

Ad Hoc Reviewer:

International Journal of Cancer
Molecular Reproduction and Development
Journal of Food and Chemical Toxicology
BBA-Mol Cell Research
Canadian Veterinary Journal

Grant Reviews: Canine Health Foundation, American Kennel Club

Membership in professional / scientific societies

- 1) Society for Study of Reproduction, USA
- 2) Indian Society for the Reproductive Biology and Comparative Endocrinology

Invited Talk

1. University of Arizona, Tucson, AZ, 01-24-2008
Title: Chromium toxicity on ovarian development.
2. University of Michigan, Ann Arbor, MI, 08-21-2008
Title: Lactational exposure to chromium induces follicular atresia in female offspring: A mechanism mediated through Reactive Oxygen Species.
3. American Association of Feline Practitioners (AAFP) 2008 Fall Conference, 09-22-2008
Title: Prostaglandin E2 signaling in feline mammary cancer: A potential target for chemotherapy.

Publications
(Scientific Papers)

(PubMed search: **Banu SK** or **Banu KS**. Papers published in Indian journals are not accessible through PubMed presently). **** Corresponding author**

Published

1. ****Banu SK**, Samuel JB, Burghardt R, Arosh JA, Aruldas MM. Lactational exposure to chromium (VI) impairs ovarian development, decreases steroid and pituitary hormones synthesis and delays puberty in developing Wistar rats. *Toxicology & Applied Pharmacology*, 2008 – 232: 180-189.
2. **Banu SK**, Starzinski-Powitz A, Speights VO, Burghardt RC, Arosh JA. *Induction of peritoneal endometriosis in nude mice using human immortalized endometriotic epithelial and stromal cells: A potential experimental tool to study molecular pathogenesis of endometriosis in human. Fertility and Sterility* 2008 (PMID: 18722604)
3. **Banu SK**, Lee J, V.O. Speights, Starzinski-Powitz A, Arosh JA. *Cyclooxygenase-2 regulates survival, migration and invasion of human endometriotic cells through multiple mechanisms. Endocrinology*, 2008; 149(3) 1180-9.
4. **Banu SK**, Lee J, Starzinski-Powitz A, Arosh JA. *Gene expression profiles and functional characterization of human immortalized endometriotic epithelial and stromal cells. Fertility and Sterility*, 2007; PMID: 18001719.
5. **Banu SK**, Lee J, Satterfield MC, Spencer TE, Bazer FW, Arosh JA. *Molecular cloning and characterization of prostaglandin transporter in ovine endometrium: Evidence for multiple cell signaling cross-talk on transport of prostaglandin F2 alpha. Endocrinology* 2008 ; 149(1) 219-31.
6. **Banu SK**, Arosh JA, Chapdelaine P, Fortier MA. Expression of prostaglandin transporter PGT in uterus and fetal membranes during pregnancy in cattle. *Biol Reprod* 2005, 73: 230-236.
7. Arosh JA*, **Banu SK***, Chapdelaine P, Kimmins S, MacLaren LA, Fortier MA. Effect of interferon-tau on prostaglandin biosynthesis, transport, and signaling at the time of maternal recognition of pregnancy in cattle: evidence of polycrine actions of prostaglandin E2. *Endocrinology*. 2004, 145: 5280-5293. (*equal contribution).
8. Arosh JA*, **Banu SK***, Chapdelaine P, Fortier MA. Prostaglandin biosynthesis, transport and signaling in corpus luteum: a basis for autoregulation of luteal function. *Endocrinology* 2004, 145:2551-2560 (*equal contribution).
9. Arosh JA*, **Banu SK***, Chapdelaine P, Fortier MA. Expression and regulation of COX-1 and 2 and FP, EP2, EP3 and EP4 in uterus and fetal membranes during different days of bovine pregnancy. *Endocrinology* 2004, 145:407-417 * (equal contribution).
10. **Banu SK**, Arosh JA, Chapdelaine P and Fortier MA. Molecular cloning and spatio-temporal expression of the prostaglandin transporter-PGT: A basis for the action of prostaglandins in the bovine reproductive system. *PNAS* 2003, 11747-11752.
11. Arosh JA, **Banu SK**, Chapdelaine P, Emond V, Kim JJ, MacLaren LA, Fortier MA. Molecular cloning and Characterization of Bovine Prostaglandin E₂ receptors EP2 and EP4: Expression and Regulation in Endometrium and Myometrium during the Estrous Cycle and Early Pregnancy. *Endocrinology* 2003, 144: 3076-3091.

12. **Banu SK**, Govindarajulu P, Aruldhas MM. Testosterone and estradiol differentially regulate TSH-induced thyrocyte proliferation in immature and adult rats. *Steroids* 2002 6: 573-9.
13. **Banu SK**, Govindarajulu P, Aruldhas MM. Testosterone and estradiol up-regulate androgen and estrogen receptors in immature and adult rat thyroid glands in vivo. *Steroids* 2002 67:1007-1014.
14. **Banu SK**, Govindarajulu P, Aruldhas MM. Developmental profiles of TSH, sex steroids, and their receptors in the thyroid and their relevance to thyroid growth in immature rats. *Steroids* 2002, 67:137-144.
15. **Banu SK** and Aruldhas MM. Sex steroids regulate TSH-induced thyroid growth during sexual maturation in Wistar rats. *Experimental and Clinical Endocrinology and Diabetes* 2002, 11:1-6.
16. **Banu SK**, Govindarajulu P, Aruldhas MM. Testosterone and estradiol modulate TSH-binding in the thyrocytes of Wistar rats: Influence of age and sex. *Journal of Steroid Biochemistry and Molecular Biology* 2001; 78:329 - 342.
17. **Banu SK**, Govindarajulu P, Aruldhas MM. Testosterone and estradiol have specific differential modulatory effect on the proliferation of human thyroid papillary and follicular carcinoma cell lines independent of TSH action. *Endocrine Pathology* 2002; 12:315-328.
18. **Banu SK**, Arosh JA, Govindarajulu P, Aruldhas MM. Testosterone and estradiol differentially regulate thyroid growth in Wistar rats from immature to adult age. *Endocrine Research* 2001; 27:447-463.
19. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. The effect of SMB on follicular dynamics during superovulation in crossbred cows. *Indian Journal of Animal Reproduction* 2001; 22:103-108.
20. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. Estradiol profile and ovarian response, embryo recovery and quality of embryos in prostaglandin F2 alpha and syncro-mate B induced superovulated crossbred cows. *Indian Journal of Animal Sciences* 2001; 71:421-424.
21. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. The pattern of superoestrus and its influence on ovarian response, embryo recovery and quality of embryos in prostaglandin F2 alpha and syncro-mate B induced superovulated crossbred cows. *Indian Journal of Animal Sciences* 2001; 71:425-429.
22. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. Progesterone, estradiol, luteinizing hormone and follicle stimulating hormone profiles and their relationship with embryo production and quality of embryos in crossbred cows treated with prostaglandin F2 alpha and Folltropin. *Indian Journal of Animal Sciences* 2001; 71:910-914.
23. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. Progesterone profile and ovarian response, embryo recovery and quality of embryos in prostaglandin F2 alpha and syncro-mate B induced superovulated crossbred cows. *Indian Journal of Animal Sciences* 2000;70: 254-257.
24. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. Luteinizing hormone profile and its correlation with ovarian response, embryo recovery and quality of embryos in prostaglandin F2 alpha and syncro-mate B induced superovulated crossbred cows. *Indian Journal of Animal Sciences* 2000; 70:576-581.
25. Arosh JA, **Banu SK**, Devanathan TG, Kathiresan D. Follicle stimulating hormone profile and its correlation with ovarian response, embryo recovery and quality of embryos in prostaglandin F2 alpha and syncro-mate B induced superovulated crossbred cows. *Indian Journal of Animal Sciences*. 2000; 70:679-683.
26. Vanathy B, **Banu SK**, Aruldhas MM, Manimaran MM, Arunakaran J, Govindarajulu P. Effect of testosterone on basal and thyrotropin induced changes on thyroidal adenosine triphosphatases. *Journal of Endocrinology and Reproduction* 1997; 1:35-49.

Review

Aruldhas MM, Kalpana M, Vengatesh G, **Banu SK** and Govindarajulu P. Genetics of Medullary thyroid carcinoma. *Journal of Endocrinology and Reproduction* 2001; 5:59-76.

Up-coming papers as the corresponding author (2009)

1. **Sakhila K. Banu**, Jawahar B. Samuel, Joe A Arosh, Robert C. Burghardt & Michael M. Aruldhas. Gestational exposure to Cr(VI): Implications on the fetal growth and development. **Reproductive Toxicology (2009)**.
2. **Sakhila K. Banu**, Joe A. Arosh, JeHoon Lee & Robert C. Burghardt & Michael M. Aruldhas. Chromium (VI)-induced apoptosis of ovarian granulosa cells: Roles of p53, ROS, MAPK and Caspase-3 pathways. **Journal of Biological Chemistry (2009)**.
3. **Sakhila K. Banu**, Jawahar B. Samuel, Joe A. Arosh, JeHoon Lee, Robert C. Burghardt & Michael M. Aruldhas. Disruption of endocrine glands by cadmium toxicity: Effect on the development of the ovary and uterus. **Toxicology and Applied Pharmacology (2009)**.
4. **Sakhila K. Banu**, Joe A. Arosh, JeHoon Lee & Robert C. Burghardt. Chromium (VI) and Cadmium toxicities on the ovarian granulosa and theca cells survival and apoptosis: Protective roles of antioxidants. **Toxicological Sciences (2009)**.
5. **Sakhila K. Banu**, Joe A Arosh, Mark Johnson, Henno Hendricks, Kenita Rogers & George E. Lees. Lessons from Prostaglandin E2 signaling in feline mammary cancers: A potential target for non-estrogen receptor targeted therapy. **British Journal of Cancer (2009)**.
6. **Sakhila K. Banu**, Joe A Arosh, JeHoon Lee, Heather Wilson, Mark Johnson, Kenita Rogers, Eva Hellemen & George E. Lees. Cyclooxygenase-2 and Epidermal Growth Factor Receptor signaling cross-talk in mammary cancer cell survival and apoptotic pathways. **Cancer Letters (2009)**.

Appendix- II

(Conferences/ Seminars / workshop participated)

1. **Banu SK**, Arosh JA, Lee J, Rodriguez, R, Aruldhas MM, and Burghardt RC. Maternal exposure of Chromium induces ovarian toxicity in developing rats. TFRS Meeting, April 17-18, 2008, Houston.
2. Lee J, **Banu SK** and Arosh JA. Selective inhibition of prostaglandin E2 receptor, EP2 and EP4 signaling Prevents proliferation of human endometriotic epithelial and stromal cells through distinct cell cycle arrest TFRS Meeting, April 17-18, 2008, Houston.
3. **Banu SK**, Subbarao T, Lee J, Starzinski-Powitz A and Arosh JA. *Gene Expression Profiles in Human Immortalized Endometriotic Epithelial and Stromal Cells: Cyclooxygenase-2 Regulates Cell Proliferation, Migration and Invasion.* 39th Annual meeting of Society for the Study of Reproduction, 2007. San Antonio, July 21-25.
4. Arosh JA, Lee J, Rodriguez R, Starzinski-Powitz A and **Banu SK**. *Prostaglandin E₂ Signaling in Pathophysiology of Endometriosis in Human.* 39th Annual meeting of Society for the Study of Reproduction, 2007. San Antonio, July 21-25.
5. Rodriguez R, Samuel JB, Arosh JA, Lee J, Aruldhas, MM and **Banu SK**. *Chromium Toxicity Induces Ovarian Follicular Developmental Arrest, Apoptosis, and Deregulated Steroidogenesis: Vitamin C Restores Follicular Survival and Function.* 39th Annual meeting of Society for the Study of Reproduction, 2007. San Antonio, July 21-25.

6. Lee J, **Banu SK** and Arosh JA. *Interferon Tau Regulates Prostaglandin F_{2α} Release Through JAK/SRC/EGFR/ERK1/2 Pathways in Ovine Endometrial Epithelial Cells*. 39th Annual meeting of Society for the Study of Reproduction, 2007. San Antonio, July 21-25.
7. **Banu SK**, Lee J, Arosh JA. *Cross-talk between interferon tau and epidermal growth factor receptor in ovine endometrium*. 38th Annual meeting of Society for the Study of Reproduction, 2006 Omaha, July 29 –August 1.
8. Lee J, **Banu SK**, Arosh JA. *Does prostaglandin F2 alpha play pleiotropic role during establishment of pregnancy in ruminants?* 38th Annual meeting of Society for the Study of Reproduction, 2006 Omaha, July 29 –August 1.
9. **Banu SK**, Spencer TE, Bazer FW and Arosh JA. *Molecular cloning and characterization of ovine prostaglandin transporter: expression and regulation in uterus during establishment of pregnancy*. 37th Annual meeting of Society for the Study of Reproduction, 2005. Quebec, Canada, July 24-28.
10. **Banu SK**, Arosh JA, Kimmins S, Chapdelaine P, MacLaren LA and Fortier MA. Effect of interferon tau on prostaglandin biosynthesis, transport and signaling during maternal recognition of pregnancy in cattle: evidence of polycrine action of PGE₂. 37th Annual meeting of Society for the Study of Reproduction, 2004. Vancouver, Canada, Aug 1-4.
11. Arosh JA, **Banu SK**, Chapdelaine P, Madore E, Sirois J and Fortier MA. Prostaglandin biosynthesis, transport and signaling in corpus luteum: a basis for autoregulation of luteal function. 37th Annual meeting of Society for the Study of Reproduction, 2004, Vancouver, Canada, Aug 1-4.
12. Aruldas MM and **Banu SK**. Do sex steroids influence the postnatal development of the thyroid gland? Vth Congress of the Asia Oceania Society for Comparative Endocrinology, 2004, P 48 Nara, Japan.
13. **Banu SK**, Samuel JB, Govindarajulu P, Aruldas MM. Chromium toxicity impairs ovarian development by altering the balance between reactive oxygen species and antioxidant system. 21st National Symposium on Reproductive Biology and Comparative Endocrinology. Proceedings of Journal of the Society for Reproductive Biology and Comparative Endocrinology, 2004 pp. 43, Madras, India.
14. Fortier MA, Arosh JA, **Banu SK**, and Chapdelaine P. **A novel integrated view of the role of prostaglandins for recognition and establishment of pregnancy in ruminants.** 21st National Symposium on Reproductive Biology and Comparative Endocrinology, Proceedings of Journal of the Society for Reproductive Biology and Comparative Endocrinology, 2004 pp. 65, Madras, India.
15. **Banu SK**, Arosh JA, Chapdelaine P and Fortier MA. Expression and regulation of prostaglandin transporter in corpus luteum and utero-ovarian plexus during the bovine estrous cycle and pregnancy. *Biol Reprod* 2003 69 Suppl Abst #155.
16. Arosh JA, **Banu SK**, Chapdelaine P, and Fortier MA. Dynamic expression and regulation of prostaglandin receptors EP2, EP3, EP4, and FP as well as cyclooxygenases 1 and 2 in caruncles, intercaruncles and fetal membranes during bovine pregnancy. *Biol Reprod* 2003 69 Suppl 1 Abst #332.
17. Arosh JA, **Banu SK**, Chapdelaine P, and Fortier MA. Expression and regulation of prostaglandin receptors and transporter, and cyclooxygenases 1 and 2 in bovine Corpus luteum during the estrous cycle and maternal recognition of pregnancy. *Annual conference proceedings of Society for Theriogenology* 2003, pp19.
18. **Banu SK**, Arosh JA, Chapdelaine P, and Fortier MA. Molecular cloning and expression of bovine prostaglandin transporter (bPGT) in uterus and in utero-ovarian plexus during the estrous cycle and pregnancy. *Biol Reprod* 2002 66 Suppl 1 Abst #64.

19. Arosh JA, **Banu SK**, Kimmins S, Chapdelaine P, MacLaren LA and Fortier MA. Dynamic regulation of prostaglandin receptors FP, EP2, EP3 and EP4 by interferon tau at the time of maternal recognition of pregnancy in Bovine. Annual conference proceedings of Society for Theriogenology 2002 pp 39.
20. Arosh JA, Chapdealine P, **Banu SK** and Fortier MA. Molecular cloning and expression of bovine prostaglandin E2 receptors EP2 and EP4 in uterus during the estrous cycle and pregnancy in vivo and in bovine endometrial cells in vitro. Biol Reprod 2002 66 ; Abst #3.
21. **Banu SK**, Thiruvengadam A, Govindarajulu P and Arulldhas MM. Gender Specific effects of testosterone and estradiol in thyroid cell proliferation in immature Wistar rats. 17th National Conference of Society for Reproductive Biology and Comparative Endocrinology, 1999, Gujarat, India.
22. **Banu SK**, Thiruvengadam A, Govindarajulu P and Arulldhas MM. Testosterone and estradiol modulate the proliferation of human thyroid papillary, follicular and medullary carcinoma cell lines by increasing their own receptors. XV Asia Pacific Cancer Conference, 1999, Madras, India.
23. **Banu SK**, Thiruvengadam A, Govindarajulu P, Thangaraju P, Kumanan K and Arulldhas MM. Modulatory effects of testosterone and estradiol on the proliferation of thyroid cancer cells are cancer type specific (OP 2). XIV National Symposium on Reproductive Biology and Comparative Endocrinology, 1998, Trivandrum, Kerala, India.
24. Arosh JA, Devanathan TG, Kathiresan D, Arulldhas MM, Thiruvengadam A, **Banu SK** and Govindarajulu P. The influence of prostaglandin F₂ alpha and Syncromate-B on embryo production and quality of embryos in superovulated cows. XIV National Symposium on Reproductive Biology and Comparative Endocrinology, 1998, Trivandrum, Kerala, India.
25. Thiruvengadam A, **Banu SK**, Arulldhas MM and Govindarajulu P. Increased Concentration of androgen receptor in the thyroid carcinoma of men. XIV National Symposium on Reproductive Biology and Comparative Endocrinology, 1998, Trivandrum, Kerala, India.
26. Thiruvengadam A, **Banu SK**, Govindarajulu P and Arulldhas MM. Do the concentrations of sex steroids and their receptors in the thyroid determine the promotion of experimental tumorigenesis? XV National All India Symposium on Reproductive Biology and Comparative Endocrinology, 1996, Ahmedabad, India.
27. Vanathy B, **Banu SK**, Arulldhas MM, Manimaran RR and Govindarajulu P. Effect of testosterone on thyrotropin induced changes on few thyroidal enzymes. XII National Symposium on Reproductive Biology and Comparative Endocrinology, 1994, Pondicherry, India.
28. **Banu SK**, Thiruvengadam A, Vanathy B, Govindarajulu P and Arulldhas MM. Sex steroids concentration in normal and pathological human thyroid tissue. XII National Symposium on Reproductive Biology and Comparative Endocrinology, 1994, Pondicherry, India.
29. **Banu SK**, Thiruvengadam A, Vanathy B, Govindarajulu P and Arulldhas MM. Impact of sex steroids on the histoarchitecture of thyroid gland of male and female immature and adult rats. XII National Symposium on Reproductive Biology and Comparative Endocrinology, 1994, Pondicherry, India.