

## **Prof. Sukhbir Kaur**

Department of Zoology,

Panjab University, Chandigarh

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### ❖ **Current Occupation**

Professor and Chairperson, Department of Zoology, Panjab University, Chandigarh

### ❖ **Academic Details**

- Ph.D. from Postgraduate Institute of Medical Education and Research in 1991
- B.Ed. from Mysore University in 1985
- M.Sc. from Madras University in 1984
- B.Sc. from Madras University in 1982

### ❖ **Awards**

- Merit Fellowship of PGIMER (1987-1990)
- CSIR Research Associateship (1992-1996)

### ❖ **Academic experience**

- Teaching : 1998 till date
- Research : 1991 till date

### ❖ **Academic Distinctions**

- 5<sup>th</sup> position in B.Sc. Zoology
- 4<sup>th</sup> position in M.Sc. Zoology
- 1<sup>st</sup> position in B.Ed.
- Merit Fellowship of PGIMER for Ph.D.
- Research Associateship of CSIR

### ❖ **Research highlights**

- **Parasite Immunology:** Designing of *Leishmania* specific first, second and third generation vaccines against experimental visceral leishmaniasis.
- **Parasite Therapeutics:** Antileishmanial efficacy of antineoplastic drugs, carboplatin and cisplatin in combination with different antioxidants and herbal drugs, Analysis of immunochemotherapy (combination of drugs with immunomodulators and vaccines) as a new approach for control of leishmaniasis, *in vitro* and *in vivo* testing of herbal drugs and various homeopathic drugs on drug sensitive and resistant strains of *Leishmania*.

### ❖ **Membership of societies and other academic bodies**

- Life member-Indian Society for Parasitology
- Life member-Punjab Science Congress
- Life member- Indian Science Congress
- Life member-National Academy of Vector Borne Diseases
- Life Member of Zoological Survey of India

## ❖ **Administrative responsibilities**

- Campus Coordinator, NSS, Panjab University, Chandigarh (2011-2013).
- Coordinator, Central Animal House, Panjab University, Chandigarh (2006-2012).
- Warden, Laxmi Bai Girls Hostel, Panjab University, Chandigarh (2001-2006).
- Warden, Working Women's Hostel, Panjab University, Chandigarh (2005-2006).

## ❖ **Achievements**

- Elected as a Fellow of Zoological Society of India (ZSI).
- Elected as President of the Indian Society for Parasitology (ISP), 2017-19.
- Chaired session at International Conference on Recent Trends in Climate Change Researches organized by Department of Animal Science, MJP Rohilkhand University, Bareilly, 3<sup>rd</sup>-4<sup>th</sup> December, 2012.
- Reviewed Research articles of various journals like Indian Journal of Medical Research, Integrated Biology, Pharmaceutical Biology, Vaccine, BMC Microbiology etc.
- Expert member for the Laboratory Research Council, Defense Institute of High Altitude Research, DRDO, Chandigarh.
- Member, Expert Committee (Zoology/ Life Sciences), Special Assistance Programme, UGC, 2014.
- Member, Expert Committee (Life Sciences), Post doctoral Fellow and Early Career Research Award, SERB-DST, 2015-2018
- Member of selection panel in Haryana Public Service Commission, February, 2017 for the post of Assistant Professors in Zoology.
- Member of selection committee in Bihar Public Service Commission, March 2017 for the Post of Assistant Professors in Zoology.
- Subject Expert (VC Nominee) in Sri Guru Gobind Singh College, Sector-26, Chandigarh for the Post of Assistant Professors in Zoology, May 2017.
- Subject Expert (VC Nominee) in Dev Samaj College for Women, Firozpur, for the Post of Assistant Professors in Zoology, May 2017.
- Chaired session at International Conference on Recent Trends in Climate Change Researches organized by Department of Animal Science, MJP Rohilkhand University, Bareilly, 3<sup>rd</sup>-4<sup>th</sup> December, 2012.

## ❖ **Publications**

- 1) Wangoo A, **Kaur S**, Ganguly NK, Bhatti G and Mahajan RC (1990). Quantitative estimation of suppressor-cytotoxic and helper T cells during acute and chronic *Plasmodium berghei* infection. Immunol. Cell Biol. 68: 187-190. **(Impact Factor: 4.2)**
- 2) Ganguly NK, Sodhi S, Kaul N, **Kaur S**, Malla N and Mahajan RC (1991). Effect of nifedipine on *Leishmania donovani* infection *in vivo* and *in vitro*: Chemiluminescence responses of peritoneal macrophages and neutrophils. J. Pharm. Pharmacol. 43: 140-142. **(Impact Factor: 1.742)**
- 3) **Kaur S**, Ganguly NK, Sodhi S, Malla N and Mahajan RC (1991). Effect of indigenous plant extracts on *Leishmania donovani* infection *in vitro* and *in vivo*. A preliminary report. Immunol. Infect. Dis. 1: 291-222.

- 4) Sodhi S, **Kaur S**, Ganguly NK, Malla N and Mahajan RC (1992). Effect of sodiumstibogluconate and pentamidine on in vitro multiplication of *Leishmania donovani* in peritoneal macrophages from infected and drug treated Balb/c mice. Immunol. Cell Biol. 70: 25-31. **(Impact Factor: 4.2)**
- 5) Vohra H, **Kaur S**, Wangoo A, Mahajan RC and Ganguly NK (1992). Inhibition of target cell adhesion by monoclonal antibody to the 66 KD surface antigen of *Entamoeba histolytica*. Infection. 20 (5): 279-282. **(Impact Factor: 2.051)**
- 6) **Kaur S**, Vohra H, Wangoo A, Ganguly NK and Mahajan RC (1993). Identification of a major surface antigen in liver pus from amoebic liver abscess patients with a monoclonal antibody. Trans. Roy. Soc. Trop. Med. Hyg. 87: 489. **(Impact Factor: 2.062)**
- 7) Mahajan S, **Kaur S**, Sehgal R, Ganguly NK and Mahajan RC (1994). T lymphocytes subsets in Balb/c mice infected with different strains of *Giardia lamblia*. J. Protozool. Res. 4: 105-110.
- 8) Kumar D, **Kaur S**, Bali H, Grover A, Khanduja KL and Ganguly NK (1995). Identification of a varied antigenic marker in RF/RHD. A followup study. J. Mol Cell. Cardiol. 27(6): A118. **(Impact Factor: 4.965)**
- 9) Chattopadhyay R, **Kaur S**, Ganguly NK and Mahajan RC (1996). Antigenic differences between "amastigotes and promastigotes of *Leishmania donovani*. Ind. J. Med. Res. 104: 349-354. **(Impact Factor: 1.516)**
- 10) **Kaur S**, Kumar D, Grover A, Khanduja KL, Kaplan EL, Gray ED and Ganguly NK (1997). Rheumatic B cell markers in rheumatic families/ rheumatic heart disease patients: Specificity associated with ethnicity. Pediat. Res. 42: 22A. **(Impact Factor: 2.604)**
- 11) **Kaur S**, Kumar D, Grover A, Khanduja KL, Kaplan EL, Gray ED and Ganguly NK (1998). Assessment of expression of susceptibility marker through monoclonals (to B cell) in RF/RHD patients, siblings and normal controls in North Indian populations. Int. J. Cardiol. 64: 9-14. **(Impact Factor: 3.469)**
- 12) Sharma N, Sharma VK, Gupta A, Kaur I, **Kaur S** and Ganguly NK (1998). Alterations in early biochemical events following T cell activation in leprosy patients. Clin. Immunol. Immunopathol. 88(2): 142-149. **(Impact factor: 3.932)**
- 13) Sharma N, Sharma VK, Gupta A, Kaur I, **Kaur S**, Ganguly NK. (1998). Alterations in Early Biochemical Events Following T Cell Activation in Leprosy Patients. Clinical Immunol. Immunopathol. 88(2), 142-149.
- 14) Kumar D, **Kaur S**, Grover A, Singal PK and Ganguly NK (1998). An easy detection of rheumatic antigen(s) in rheumatic fever/rheumatic heart disease by dot-ELISA. Can. J. Cardiol. 14(6): 807-810. **(Impact Factor: 1.292)**
- 15) Ganguly NK and **Kaur S** (1998). Rheumatic fever. Lancet. 351: 1272-1273. **(Impact Factor: 30.758)**
- 16) **Kaur S**, Bhatti G, Ganguly NK, Mahajan RC and Malla N (2000). [Cellular immune responses in human neurocysticercosis](#). Parasitol. Res. 86: 500-503. **(Impact Factor: 1.721)**
- 17) Kumar D, **Kaur S**, Grover A, Bali H, Khanduja KL, Kaplan EL, Gray ED and Ganguly NK (2000). [Further observations and characterization of monoclonal antibodies reacting with B cell alloantigens associated with rheumatic fever and rheumatic heart disease](#). J. Lab. Clin. Med. 135(3): 287-293. **(Impact Factor: 2.193)**
- 18) Kaul P, Malla N, **Kaur S**, Mahajan RC and Ganguly NK (2000). [Antibody responses to 200 KDa antigen of \*Leishmania donovani\* for diagnosis of visceral leishmaniasis](#). Trans. R. Soc. Trop. Med. Hyg. 94: 1-3. **(Impact Factor: 2.062)**
- 19) Grewal JS, **Kaur S**, Bhatti G, Ganguly NK, Mahajan RC and Malla N (2000). [Kinetics of humoral and cellular immune responses in experimental cysticercosis in pigs infected with \*Taenia solium\*](#). Ind. J. Med. Res. 111: 1271-1273. **(Impact Factor: 1.516)**

- 20) Kaur S, Khullar P and Kaul P (2001). [Programmed cell death in experimental visceral leishmaniasis](#). J. Parasitic Dis. 25(1): 30-33.
- 21) Prasad A, Kaur S, Malla N, Ganguly Nk and Mahajan RC (2001). [Ca<sup>2+</sup> signaling in the transformation of promastigotes to axenic amastigotes of \*Leishmania donovani\*](#). Mol. Cell. Biochem. 224: 34-39. **(Impact Factor: 1.896)**
- 22) Kaul P, Kaur S, Ganguly NK and Malla N (2002). Long term cultivation of *Leishmania donovani* in modified NNN medium with the addition of human serum. J. Parasit. Dis. 26(1):52-54.
- 23) Paintlia MK, Kaur S, Malla N, Gupta I, Ganguly NK and Mahajan RC (2002). [Specific IgA response in experimental intravaginal trichomoniasis](#). Parasitol. Res. 88: 338-343. **(Impact Factor: 1.721)**
- 24) Yadav M, Nagill R, and Kaur S (2004). [Leishmania donovani: Effect of pH on the infectivity of axenic amastigotes](#). J. Parasit. Dis. 28 (2): 90-95
- 25) Raina P and Kaur S (2006). [Chronic heat-shock treatment driven differentiation induces apoptosis in \*Leishmania donovani\*](#). Mol. Cell. Biochem. 289 (1-2): 83-90. **(Impact Factor: 1.896)**
- 26) Kaur S, Kaur T, Garg N, Mukherjee S, Raina P and Athokpam VD. (2008). [Effect of dose and route on the generation of CD 4+ Th1/Th2 type of immune response in murine visceral leishmaniasis](#). Parasitol. Res.103:1413-1419. **(Impact Factor: 1.721)**
- 27) Nagill R, Mahajan R, Sharma M and Kaur S. (2009). [Induction of cellular and humoral responses by autoclaved and heat-killed antigen of \*Leishmania donovani\* in experimental visceral leishmaniasis](#). Parasitol. Int. 58:359–366. **(Impact Factor: 1.701)**
- 28) Kaur S, Sachdeva H, Dhuria S, Sharma M, Kaur T (2010). [Antileishmanial effect of cisplatin against murine visceral leishmaniasis](#). Parasitol. Int. 59: 62–69. **(Impact Factor: 1.701)**
- 29) Nagill R and Kaur S (2010). [Enhanced efficacy and immunogenicity of 78 kDa antigen formulated in various adjuvants against murine visceral leishmaniasis](#). Vaccine. 28 (23): 4002-4012. **(Impact Factor: 3.616)**
- 30) Kaur T, Sobti RC and Kaur S (2011). [Cocktail of gp63 and Hsp70 induces protection against \*Leishmania donovani\* in BALB/c mice](#). Parasite Immunol. 33 (2): 95-103. **(Impact Factor: 2.208 )**
- 31) Kaur J, Kaur T and Kaur S (2011). [Studies on the protective efficacy and immunogenicity of Hsp70 and Hsp83 based vaccine formulations in \*Leishmania donovani\* infected BALB/c mice](#). Acta Trop. 119: 50-56 **(Impact Factor: 2.221)**
- 32) Nagill R and Kaur S (2011). [Vaccine candidates for leishmaniasis: A review](#). Int. Immunopharmacol. 11:1464-1488 **(Impact Factor:2.659)**
- 33) Raina P, Kaur S. (2012). [Knockdown of LdMC1 and Hsp70 by antisense oligonucleotides causes cell-cycle defects and programmed cell death in \*Leishmania donovani\*](#). Mol. Cell. Biochem. 359(1-2):135-149. **(Impact Factor: 1.896)**
- 34) Sharma M, Sehgal R and Kaur S (2012). [Evaluation of Nephroprotective and Immunomodulatory Activities of Antioxidants in Combination with Cisplatin against Murine Visceral Leishmaniasis](#). Plos NTD. 6(5):e1629. **(Impact Factor:4.7)**
- 35) Kaur J and Kaur S (2012). [ELISA and Western blotting for the detection of Hsp70 and Hsp 83 antigens of \*Leishmania donovani\*](#). J. Parasit.Dis. doi 10.1007/s12639-012-0133-0.
- 36) Kaur T, Thakur A, Kaur S (2012). [Protective immunity using MPL-A and autoclaved \*Leishmania donovani\* as adjuvants along with a cocktail vaccine in murine model of visceral leishmaniasis](#). J. Parasit. Dis. doi 10.1007/s12639-012-0171-7.
- 37) Kaur T, Makkar P, Randhawa K, Kaur S (2013). [Antineoplastic drug, carboplatin, protects mice against visceral leishmaniasis](#). Parasitol Res. 112(1):91-100. **(Impact Factor: 1.721)**

- 38) Sharma M, and **Kaur S** (2013). [Protective efficacy of antioxidants in cisplatin induced tissue damage caused in \*Leishmania donovani\* infected BALB/c mice against murine visceral leishmaniasis.](#) J Interdiscipl. Histopathol.1(0).
- 39) Sharma M, and **Kaur S** (2013). [Histological evaluation of cisplatin-induced gonadotoxicity against murine visceral leishmaniasis.](#) Global J. Curr. Res. 1(1): 27-30.
- 40) Kaur S, Kaur G, Sachdeva H and Kaur J (2013). [In vivo evaluation of the antileishmanial activity of two immunomodulatory plants, \*Emblica officinalis\* and \*Azadirachta indica\* in BALB/c mice.](#) Int. J. Ayurvedic Herbal Med. 3(1): 1066-1079.
- 41) Sachdeva H, Sehgal R, **Kaur S** (2013). [Studies on the protective and immunomodulatory efficacy of \*Withania somnifera\* along with cisplatin against experimental visceral leishmaniasis.](#) Parasitol. Res. 112(6):2269-80. **Impact Factor: 2.852**
- 42) Sachdeva H, Sehgal R and **Kaur S** (2014). [Asparagus racemosus ameliorates cisplatin induced toxicities and augments its antileishmanial activity by immunomodulation in vivo.](#) Parasitol Inter. 63(1):21-30. **Impact Factor: 2.372**
- 43) Sachdeva H, Sehgal R and **Kaur S** (2014). [Tinospora cordifolia as a protective and immunomodulatory agent in combination with cisplatin against murine visceral leishmaniasis.](#) Exp. Parasitol 137 (2014) 53–65. **Impact Factor: 2.154.**
- 44) Joshi J and **Kaur S.** (2014). [To investigate the therapeutic potential of immunochemotherapy with cisplatin + 78 kDa + MPL-A against \*Leishmania donovani\* in BALB/c mice.](#) Parasit. Immunol. 36: 3–12. **Impact Factor: 2.208.**
- 45) Joshi J and **Kaur S.** (2014). [Studies on the protective efficacy of second-generation vaccine along with standard antileishmanial drug in \*Leishmania donovani\* infected BALB/c mice.](#) Parasitology. 141(4):554-62.
- 46) Joshi, J and **Kaur, S.** (2014). [A comparative evaluation of efficacy of chemotherapy, immunotherapy and immunochemotherapy in visceral leishmaniasis-an experimental study.](#) Parasitol Int. 63(4):612-20.
- 47) **Kaur S,** Chauhan K, Sachdeva H. (2014). [Protection against experimental visceral leishmaniasis by immunostimulation with herbal drugs \*Withania somnifera\* and \*Asparagus racemosus\*.](#) J Med Microbiol. 2014 Jul 31. pii: jmm.0.072694-0. doi: 10.1099/jmm.0.072694-0. [Epub ahead of print].
- 48) Rajendra Pal Singh, Tejinder kaur, Jyoti Joshi and **Sukhbir Kaur.** [Characterization of pathogenic strains of \*Yersinia enterocolitica\* in and around Chandigarh, India.](#) IOSR Journal of Pharmacy and Biological Sciences (IOSR-JBPS), 2014, 9(6).
- 49) Joshi J and **Kaur S** (2015). [To evaluate the curative potential of single dose of cisplatin in combination with immunotherapy in inbred BALB/c mice against visceral leishmaniasis.](#) International journal of biopharmaceutics.6(1), 13-17.
- 50) Joshi J and **Kaur S** (2015). [To investigate the protective efficacy and immunomodulatory potential of single dose combination of SSG along with KLD/78kDa antigen+MPL-A in inbred BALB/c mice.](#) Medical science. 16(63), 05-10.
- 51) Thakur A, Kaur H and **Kaur S** (2014). [Evaluation of the immunogenicity and protective efficacy of Killed \*Leishmania donovani\* antigen along with different adjuvants against experimental visceral leishmaniasis.](#) Med Microbiol Immunol. Impact Factor:2.43
- 52) Kaur K, Kaur S, Prabha V. (2014) [Exploitation of sperm-\*Escherichia coli\* interaction at the receptor-ligand level for the development of anti-receptor antibodies as the vaginal contraceptive.](#) Andrology. doi: 10.1111/andr.290. [Epub ahead of print]
- 53) Thakur A, Kaur H and **Kaur S** (2015). [Evaluation of the immunoprophylactic potential of a killed vaccine candidate in combination with different adjuvants against murine visceral leishmaniasis.](#) Parasitol. Int. 64:70-78. Impact factor:2.11

- 54) Kaur H, Thakur A, **Kaur S**. [Studies on cocktails of 31kDa, 36kda and 51kda antigens of \*Leishmania donovani\* along with saponin against murine visceral leishmaniasis](#). Parasite Immunol. 2015 doi: 10.1111/pim.12176. [Epub ahead of print].
- 55) Thakur A, Kaur H, **Kaur S**. [Studies on the protective efficacy of freeze thawed promastigote antigen of \*Leishmania donovani\* along with various adjuvants against visceral leishmaniasis infection in mice](#). Immunobiology. 2015 220(9):1031-8.
- 56) Nagill R, Kaur T, Joshi J and **Kaur S**. (2015). [Immunogenicity and efficacy of recombinant 78 kDa antigen of \*Leishmania donovani\* formulated in various adjuvants against murine visceral leishmaniasis](#). Asian Pacific Journal of Tropical Medicine (2015)412-420.
- 57) Ganeti A, Kaur R, Kaur J, **Kaur S** (2015). [In vitro antileishmanial activity and cytotoxicity of some indian traditional medicinal plants against sensitive and resistant strains of \*leishmania donovani\*](#). European Journal of Biomedical and Pharmaceutical sciences. **2**:1368-1382
- 58) Sood A, Kaur R, Kaur J and **Kaur S** (2016). [In vitro and In vivo Evaluation of Antileishmanial Activity of \*Phyllanthus niruri\* \(Family: Euphorbiaceae\)](#) International journal of tropical disease & Health 13(1): 1-15,
- 59) Bhalla G, **Kaur S**, Kaur J, Kaur R, Raina P (2016). [Antileishmanial and immunomodulatory potential of \*Ocimum sanctum\* Linn. and \*Cocos nucifera\* Linn. in murine visceral leishmaniasis](#). J Parasit Dis. DOI 10.1007/s12639-016-0753-x.
- 60) **Kaur S**, Kaur T, Joshi J. Immunogenicity and protective efficacy of DNA vaccine against visceral leishmaniasis in BALB/c mice. The Journal of Biomedical Research, 2016, 30(3):1-9
- 61) R Kaur, J Kaur, **S Kaur**, J Joshi. [Evaluation of the antileishmanial efficacy of medicinal plant \*Chenopodium album\* linn. Against experimental visceral leishmaniasis](#). International Journal of Pharmacy and Pharmaceutical Sciences, 2016, 8 (7):1-9.
- 62) Dhaliwal JS, Albuquerque RF Jr, Fakhry A, Kaur S, Feine JS. [Customized SmartPeg for measurement of resonance frequency of mini dental implants](#). Int J Implant Dent. 2017;3(1):4.
- 63) H Sachdeva and **S Kaur**. [Cisplatin along with herbal drug treatment reduces the percentage of regulatory T cells and decreased the severity of experimental visceral leishmaniasis](#). Journal of Microbiology, Immunology and Infection, 2017.

### Completed projects

S.No.	Title	Cost in Lakh	Duration	Role as PI/ Co-PI	Agency	Status
1.	Evaluation of protective and immunomodulatory activity of selected Indian medicinal plants in combination with cisplatin against murine visceral leishmaniasis.	Rs 36.27 Lacs	3 years (2011-2014)	PI	ICMR	COMPLETED
2.	Immunogenicity and efficacy of recombinant 78 kDa antigen of <i>Leishmania donovani</i> formulated in various adjuvants against murine visceral leishmaniasis	Rs 18.75 Lacs	3 years (2009-2012)	PI	ICMR	COMPLETED
3.	Combinative immunoprophylactic potential of gp63 and Hsp70 against <i>L. donovani</i> in BALB/c mice	Rs 40 Lacks	3 years (2008-2012)	PI	ICMR	COMPLETED
4.	Studies on the protective efficacy of 78 kDa antigen of <i>Leishmania donovani</i> in Balb/c mice	11,45,566	3 years (2006-2008)	PI	ICMR	COMPLETED

5.	Characterization of stage-specific antigen of axenic amastigotes of <i>Leishmania donovani</i>	Rs 20,000	3 years (1999-2001)	PI	ICMR	COMPLETED
6.	To evaluate the anti-leishmanial potential of some homeopathic drugs in experimental visceral leishmaniasis	56 Lacs	3 years (2016-2019)	PI	CCRH	2016-2019
7.	Co investigator in EMR funded by DST SERB "Integrated morpho-molecular approach for the differentiation of species and complexes of Culex and Aedes (Diptera:Culicidae)	(31lacs)	3 years	PI	DST-SERB	2017-2020

### ❖ PhD thesis Titles

S.No.	Title	Year of submission	Submitted By
1.	Studies on the protective efficacy of 78 KDA antigen of <i>Leishmania donovani</i> formulated in various adjuvants in BALB/C mice	2009	Rajeev Nagill
2.	Evaluation of the ameliorating effects of adjuvant based GP63 against murine visceral leishmaniasis	2010	Tejinder Kaur
3.	Studies on the diagnostic and immunoprophylactic potential of two heat shock proteins of <i>Leishmania donovani</i> in BALB/C mice	2011	Jaspreet Kaur
4.	Investigations into the possible role of certain genes in programmed cell death process in <i>Leishmania donovani</i>	2011	Puneet Raina
5.	Studies on the antileishmanial effects of antineoplastic drug, cisplatin along with antioxidants in BALB/C mice	2012	Meenakshi Sharma
6.	Epidemiology and molecular characterization of isolated strains of <i>Yersinia enterocolitica</i> in and around Chandigarh	2013	RP Singh
7.	Evaluation of immunomodulatory activity and protective efficacy of herbal drugs <i>Withania somnifera</i> , <i>Asparagus racemosus</i> and <i>Tinispora cordifolia</i> in combination with cisplatin against murine visceral leishmaniasis	2013	Heena Scahdeva
8.	A comparative evaluation of chemotherapy, immunotherapy and immunochemotherapy for the control of visceral leishmaniasis-an experimental study	2014	Jyoti Joshi
9.	Protective efficacy and immunogenicity of 31kDa, 36kDa and 51kDa antigens of <i>Leishmania donovani</i> along with various adjuvants against murine visceral leishmaniasis	2015	Harpreet Kaur
10.	Evaluation of the protective efficacy and immunogenicity	2015	Ankita Thakur

	of three killed <i>Leishmania</i> vaccine formulations in combination with different adjuvants against murine visceral leishmaniasis		
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❖ **Participation in and contribution to the committee work in the various university bodies**

- Member, Advisory Committee, Central Animal House, Panjab University, Chandigarh, 1999
- Added Member, Faculty of Dairying, Animal Husbandary & Agriculture, Panjab University Senate, 1999-2005
- Member, Technical Committee, Department of Zoology, P.U. Chandigarh, 2001.
- Secretary, Technical Committee, Department of Zoology, P.U. Chandigarh, 2002
- Member, Board of Post-Graduate Studies in Zoology, Department of Zoology, P.U. Chandigarh, 2001-2003
- Member, Board of Undergraduate Studies in Zoology Department of Zoology, P.U. Chandigarh, 2001-2003.
- Secretary, Faculty of Dairying, Animal Husbandry & Agriculture, Panjab University Senate, 2002-2003
- Member, Institutional Ethics Committee, Panjab University, Chandigarh, 2001-2004
- Member, Research Degree Committee in Zoology, Department of Zoology, P.U. Chandigarh, 2001-2002, 2003-2005, 2008-2009
- Member, Panel of Judges in the state level essay writing competition 2008-2009 organized by Punjab State Council for Science and Technology.
- Member, Selection committee for staff appointment in UGC project at Department of Biochemistry, Panjab University, Chandigarh.
- Member, Selection Committee for JRF appointment at Department of Biotechnology, Panjab University, Chandigarh.
- Member, Selection Committee for staff appointment in ICMR project at Department of Biophysics, Panjab University, Chandigarh (2009).
- Member, Technical Committee (2009) of the Department cum Centre for women studies and Development, Panjab University Chandigarh
- Member, Selection Committee for the selection of lecturers at Sukhdeva Krishna College of Education for Girls, Ghall Kalan, Moga in 2008
- Reviewer, Panjab University Research Journal (Science) in August, 2008.
- Expert in the selection committee for the selection of lecturers in Zoology at Shri Guru Har Rai Sahib college for women, Chabbewal, Hoshiarpur in July, 2007.
- Member Inspection Committee Sri Guru Gobind Singh College, Sector 26, Chandigarh in 2014.
- Member Inspection Committee D.A.V College, Sector 10, Chandigarh in 2014.
- Member Inspection Committee Govt. Girls College, Sector 11, Chandigarh in 2014.
- Subject Expert in Guru Nanak College for Girls, Sri Muktsar Sahib in 2014.
- Subject Expert in Sant Baba Bhag Singh Memorial Girls College, Moga in 2014.
- Subject Expert in S.G.G.S Khalsa College, Mahilapur, Hoshiarpur in 2014.

- Member of the selection committee for the selection of Assistant professor in the Department of applied animal science under school of Bio Science and Biotechnology in the BBAU University, Lucknow in 2015.
- Nominee and Subject expert for the selection of Assistant Professor at Arya college, Ludhiana in 2015
- Nominee and Subject expert for the selection of Assistant Professor at KHALSA college for Women, Ludhiana in 2015
- Member of the inspection committee at SGGGS College, Chandigarh in 2016.
- Subject Expert to interview candidates in UGC MRP awarded to Dr APSingh, PG Department of Zoology, SGGGS college, Sector -26 Chandigarh in 2016.
- Subject Experts on the selection committee for selection of Assistant Professor/s in Zoology in Dev Samaj College for Women, Ferozpur in 2016.
- Subject Experts on the selection committee for selection of Assistant Professor/s in Zoology in Sri Guru Gobind Singh College, Chandigarh in 2017.
- Subject Experts on the selection committee for selection of Assistant Professor/s in Zoology in Dev Samaj College for Women, Firozpur in 2017.

#### ❖ **Research Guidance**

- ❖ MSc -- 23 Students
- ❖ MPhil -- 3 (supervised)
- ❖ PhD -- 10 (completed) 3 (Registered) 4 (Enrolled)

#### ❖ **Invited talks/ Extension lectures delivered**

1. Guest lectures (theory and practicals) in immunology to MSc 1<sup>st</sup> year (Stem Cell and Tissue Engineering), Department of Biotechnology, UIET, Panjab University, Chandigarh, during 2008.
2. Practical training in the subject of Immunology imparted to M.Sc 2<sup>nd</sup> year students from JC DAV College, Dasuya during 2005-06.
3. Extension lectures on selected topics on Methodology & Instrumentation and Immunology Papers for M.Sc 2<sup>nd</sup> year students from JC DAV College, Dasuya during 2002-05.
4. "The Immune System in Health and Diseases" at Refresher Course on Improvement of Science Education in School System, Dept. of Botany, P.U. Sept. 12, 2004.
5. "Leishmaniasis" at Vacation Programme on Biosensor-2004 organized by Ashoka Trust for Research in Ecology & the Environment (ATREE) at Dept. of Zoology, P.U. from May 26-June 21, 2004.
6. "Mechanism of Transmission and resistance to diseases" in Trainer's Training Programme in Basic Zoology at Dept. of Biotechnology, P.U. July 11, 2003
7. Lectures in the subject of Immunology at IAS Coaching Centre, P.U. Chandigarh for students appearing in CSIR/NET/UGC Examination, Nov. 2001.
8. "Basic Concepts in Immunology" at Dept. of Botany, P.U. Refresher Course for College Teachers, Oct. 30, 2001.
9. Guest lectures in Immunology to B.Sc.2<sup>nd</sup> (Vocational Biotechnology) & M.Sc 1<sup>st</sup> (Immunology & Immunotechnology) Students at the Dept. of Biotechnology P.U, Chandigarh during the session July 2000 to Feb. 2001.
10. "Monoclonal Antibodies: Principles & Practice" at Refresher Course in Life Sciences at Dept. of Zoology, P.U. Nov. 15, 2000.

11. Western blotting, Principles and Applications, at Refresher Course in Life Sciences (Zoology) at Dept. of Zoology, P.U. Dec. 16, 1999.
12. Invited talk on Drug development initiatives for leishmaniasis-revisiting and refining alternatives from herbal medicine, at 101<sup>st</sup> Indian science Congress 3<sup>rd</sup>-7<sup>th</sup> February 2014 under session (Women Science Congress)
13. Invited talk “ Leishmaniasis drug development: Revisiting and refining alternatives from herbal medicine” at the 26<sup>th</sup> All India Congress of Zoology and International Symposium on Innovation in Animal Sciences for Food Security, Health Security and Livelihood held at BBAU, Lucknow from October 29-31, 2015.
14. Invited talk on ‘Leishmaniasis: (a neglected tropical disease) an understanding on the challenges and its control measures’ at P.G Department of Zoology from February 22-28, 2016 under Faculty Development Programme in Biological Sciences.
15. Invited Talk on Leishmaniasis: (a neglected tropical disease) Current understanding on the disease processes, diagnostics and control measures. at DAV College, Sector-10, Chandigarh Seven Day workshop under the aegis of Department of Higher education under RUSA scheme of MHRD entitled “ To Generate Innovative Ideas and Knowledge – A Step towards interdisciplinary approach
16. Invited Talk on entitled “ Control measures against human tropical diseases with special emphasis on leishmaniasis on 30<sup>th</sup> August 2016 during the National Seminar on “Animal Diseases: Impact on Human Health & Control Issues” at MCM-DAV, Sector-36, Chandigarh.
17. Invited Talk on ‘Integrative approaches for the control of visceral leishmaniasis’ in a UGC sponsored Two Day – NATIONAL CONFERENCE (INNOVATION-2017) on the Advancement in Life Sciences: Impact of Emerging Technology on 06<sup>th</sup> – 07<sup>th</sup> March 2017.
18. Invited Talk on ‘Leishmaniasis Treatment: Current challenges and newer approaches’ in 27<sup>th</sup> National Congress for Parasitology’ in NIMHANS, Bangalore from 25-27 April, 2017.

#### **Organization of Conferences/Symposia etc.**

1. Chairperson of the National Conference ZOOCON-2016 on “**Integrating Biodiversity for Rephrasing Therapeutics and Sustainability**” in the Department of Zoology, Panjab University, Chandigarh, November 17-18, 2016.
2. Chairperson of the National conference on “**Leveraging Biodiversity for Translational Therapeutic Research**” in the Department of Zoology, Panjab University, March 17-18, 2016
3. Chairperson of the National Workshop on “**Research Methodologies in Animal Sciences**” organized by Department of Zoology, Panjab University, Chandigarh from March 21-28, 2017.
4. Jt. Organizing Secretary, National seminar-cum-workshop on “**Exploring new vistas in biodiversity research and sustainable development**”, Department of Zoology, Panjab University, Chandigarh. January, 22-24, 2011.
5. Organizing Secretary, **21<sup>st</sup> National Congress of Parasitology**, Department of Zoology, Panjab University, Chandigarh. November 14-16, 2009.

6. Organizing Secretary, **UGC-sponsored 2<sup>nd</sup> National Symposium on Biodiversity: Cell & Molecular Biology**, Department of Zoology, Panjab University, Chandigarh. March 1-2, 2009.
7. Jt. Organizing Secretary, **UGC Conference on Trends in Parasitology** organized by Department of Zoology, Panjab University, Chandigarh Feb. 21-24, 2004.

**Participation at International level in Summer Schools/Workshops/conferences.**

- International Workshop on *Streptococci* and Streptococcal diseases at Braunschweig, Germany from 01.09.97 to 04.09.97.
- Presented a poster entitled 'Studies on protective efficacy of immunochemotherapy in murine visceral leishmaniasis' in ICOPA XIII, Mexico 2014.
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**Association with professional bodies**

- Reviewed a national project entitled '**Identification and characterization of E3 ligases in mitochondrial autophagy**' by Kerala Biotechnology Commission (KBC) in 2016.
- Reviewed an international project entitled ' *Leishmania* virulence factors and host peptidases associated with visceral leishmaniasis' by MRC, University of Glasgow in 2015.

(Sukhbir Kaur)