

CURRICULUM VITAE

Name: Professor Kuldip Singh **BEDI**

Address: Faculty of Health Sciences and Medicine
Bond University
Robina
Gold Coast
QLD 4229
Telephone: 07 55954434
Mobile: 0412021857
Fax: 07 55954122 (work)
email: kbedi@bond.edu.au

Degrees: 1996: DSc - Sheffield University, UK
1977: PhD - Sheffield University, UK
1973: BSc(Honours in Human Anatomy) - Sheffield University, UK

Employment History:

August 2005- Professor of Anatomy and Histology,
Bond University, Australia
1994-July 2005 Associate Professor and Reader in Anatomical Sciences,
University of Queensland, Australia.
1988-1993 Senior Lecturer in Anatomy,
University of Queensland, Australia.
1979-1988 Lecturer in Anatomy,
University of Aberdeen, Scotland.
1977-1979 Research Associate in the Department of
Child Health, University of Manchester.
1976-1977 John Stokes Research Fellow in the Department of
Human Biology and Anatomy, University of
Sheffield, England.

UNDERGRADUATE TEACHING EXPERIENCE:

Bond University (August 2005 – present)

1. Since joining Bond University I have been involved in formulating and delivering the anatomy component of the new medical course.
2. I have been closely involved in developing and writing tutor guides for the problem based learning cases used at bond University to deliver the medical program.
3. I have developed and commenced two new courses in Introductory Human Anatomy for our Batchelor of Medical Science students.

Queensland University: (January 1988-August 2005)

1. Since 1988 I was involved in teaching gross anatomy and neuroanatomy to medical students in the both the old and new Medical Programs. In the old program anatomy was taught primarily through dissection, small group tutorials and by lectures. The new medical program uses both traditional didactic forms of teaching as well as Problem Based Learning. Most of the gross anatomical teaching in the new course utilises prosected material.
2. Since 1988 I was the chief course coordinator and ran the Introductory Systematic Anatomy Course (BIOM2019 or its predecessors) for our second year science students.
3. I was also involved in teach gross anatomy to students of the Speech Therapy, Physiotherapy, and Human Movement Studies courses. These course were taught with the use of prosected human material.
4. I designed and presented a new third level course (AN315) in Developmental Neurobiology for our science students.
5. I introduced third level Human Dissection courses to our third level science students and I co-ordinated once of these course for a number of years.
6. I was the course co-ordinator for AN203 delivered to second level dental students since 1991. During the last few years of my tenure at the university of Queensland this course was modified to include a Problem Based Learning approach.

Aberdeen University: (September 1979- January 1988)

1. During my nine years as a lecturer in Anatomy I was closely involved with teaching Human Anatomy and Histology to both medical and science students. This involved lectures, tutorials and dissection classes.
2. During the last six years of my period in Aberdeen I was the chief course coordinator of the Neuroanatomy lecture and brain dissection program for both medical and science students.
3. For eight years I also organised and taught a ten week course in Advanced Neuroanatomy to our final year B.Sc. Honours students. This course emphasised the multidisciplinary approach to the study of various current research problems in developmental Neurobiology including mechanisms of axonal guidance, mechanisms involved in neural specificity and plasticity, learning, memory as well as the role of environmental experience on the process of brain development.
4. During my last three years in Aberdeen I ran a short course in quantitative methods in light and electron microscopy for our final year B.Sc. Honours students.

Sheffield University (October 1969-April 1977) and Manchester University (April 1977- September 1979)

During the years at these universities I demonstrated in gross anatomy dissection and histology classes to second and third year medical and dental students

POSTGRADUATE SUPERVISION EXPERIENCE

D) I have supervised the following B.Sc. Honours and B. Med. Science Students.

1. Birzgalis, A.R.: "A quantitative histological and histochemical study of muscles from rats undernourished during early life." B.Sc.(Hons) awarded 1979.
2. Taylor, A.M.: "A quantitative histological study of neurons and synapses in the visual cortex of previously undernourished rats." B.Sc(Hons) awarded 1981.
3. Blazquez, N.B.: "A quantitative morphological study of the effects of low-level lead exposure on the developing rat cerebellum." B.Sc.(Hons) awarded 1983.
4. Simpson, B.J.B.: "A morphological study of the effects of age and nutrition on the optic nerve and retina in developing rats. B.Sc.(Hons) awarded 1983.
5. Hunter, A.: "A quantitative morphological study of inter-strain variation in the developing rat optic nerve." B.Sc.(Hons) awarded 1984.
6. Mcfadden, R.: "A quantitative analysis of the effects of enucleation and dark rearing during early life on the rat optic nerve." B.Sc.(Hons) awarded 1985.
7. Mackay, D.: "The effects of light deprivation and/or unilateral enucleation on the rat superior colliculus." B. Med. Biol. awarded 1985.
8. Nicol, A.: "Effects of unilateral enucleation at birth on optic nerve and tract fibres." B.Sc.(Hons) awarded 1988.
9. Nairn, J.G. "Estimation of total Purkinje cell number in human cerebellum." B.Sc.(Hons) awarded 1988.
10. Tolley, L. "The effects of undernutrition during early life on the rat olfactory cortex." MSc(Qual) awarded 1992.
11. Smith, S. "Role of substrate in the regeneration of peripheral and central neurons in vitro" MSc(Qual) awarded 1993.
12. Goode, M.M. "The influence of predegenerated nerve grafts on axonal regeneration from pre-lesioned peripheral nerves." BSc(Hons) awarded 1993.
13. Brown, D.L. "The regeneration of CNS neurons into predegenerated nerve grafts" BSc(Hons) awarded in 1993
14. Pauli, J.L. "The effects of acute alcohol exposure during early life on brain and behaviour in rats" BSc(hons) awarded 1993.
15. Tomlinson, D. "The effects of acute alcohol exposure during early life on spatial learning ability in rats." BSc(Hons) awarded 1994.
16. Manning, L. "The effects of alcohol during early life on synapse-to-neuron ratios in the rat hippocampus". BSc (Hons) awarded 1996.
17. Van Bilson, A. "The effects of undernutrition during embryonic life on the cell cycle of mouse subventricular zone cells" Bsc (Hons) warded 1996.
18. Hollis, C. "Regeneration of thalamic neuronal axons into peripheral nerve grafts: effects of the age of the host" BSc(Hons) awarded 1996.
19. Wilson, N.H. "Mechanisms of neuronal regeneration in vitro" BSc (Hons) awarded 1999.
20. Prather, C. "The effects of fibroblast growth factor on axonal regeneration in central nervous system neurons" BSc(Hons) awarded in 1999.
21. Richards, E. "The effect of acute ethanol exposure during early life on the brain and behaviour in rats." BSc (Hons) awarded in 1999.
22. Pinjuh, D. "The effects of irradiation treatment of adult CNS tissues on neurite regeneration using a cryoculture technique". (Honours awarded in 2002)

23. Jahnke, S. S. "The effects of undernutrition during early life on neurogenesis, cell numbers and cell apoptosis in the rat brain". (Honours awarded in 2004).
24. Sayeed, G. "The effects of x-irradiation on the numbers of glia and neurons in the rat spinal cord" (Honours awarded in 2004)

II) I have supervised the following Postgraduate Doctoral and Masters Students.

1. Peeling, A.N.: "Quantitative histological investigation of effects of undernutrition on development of rat visual cortex." Doctorate awarded 1982.
2. Bhide, P.G.: "Interaction effects of nutrition and environment on the developing brain - Quantitative Neurohistology." Doctorate awarded 1983. .pa
3. Warren, M.A.: "A quantitative morphological study of some effects of undernutrition on rat body and brain growth." Doctorate awarded 1983.
4. El-Din Ahmed, M.G.: "A quantitative stereological study of the effects of a lengthy period of undernutrition on the cellular development of the hippocampus." Doctorate awarded 1986.
5. Smith S. "The effects of unilateral eye enucleation in the adult rat on the ipsi- and contra-lateral superior colliculi". Degree to be awarded in 1996.
6. Hassan N. A-K. E-S. "The influence of predegenerated nerve grafts on axonal regeneration from CNS and PNS tissues". MD awarded in 1996
7. Cunningham, J. "Cell death in the developing inferior olive nucleus of the rat". PHd awarded in 1999.
8. H. Chipperfield. "The isolation, proliferation and differentiation of adult neural progenitors." PhD awarded in 2004
9. Izhar M. Z. "The effects of cocaine intake during early life on brain development in rodents" (MPhil awarded in 2004)
10. Partadiredja, G." The effects of undernutrition at different periods on the longevity of rodents: effects on behaviour, neuron numbers and cell cycle parameters" (PhD awarded in march 2007).
11. Naiker, D. V. "The effects of chronic use of antipsychotic drugs on brain structure and function."
12. Manning, D. Setting the clock: The effects of preweaning and post weaning diet restriction on reactive oxygen species production, localization and the membrane integrity of purified rat liver mitochondria.

III) Post-graduate and Post-doctoral Research Assistant supervision

I have supervised the following postgraduate and postdoctoral research assistants.

1. Hall, R.: Postgraduate research assistant, 1978-1979.
2. Thomas, Y.M.: Postgraduate research assistant, 1977-1980.
3. Davies, C.A.: Post-doctoral research assistant, 1977-1980.
4. Bhide, P.G.: Post-graduate research assistant, 1980-1983.
5. Bhide, P.G.: Post-doctoral research assistant, 1983-1984.
6. Warren, M.A.: Post-doctoral research assistant, 1983-1985.
7. Campbell, L.F.: Postgraduate research assistant, 1986-1989.
8. Murray, D.: Postgraduate research assistant. 1990-1991.
9. Podbersek, A.: Postdoctoral research assistant. 1991-1992.
10. Miki Takanori. Postdoctoral research assistant 1997-2000
11. Esfandiari Ebrahim. Postdoctoral research assistant 1997-1998.

ADMINISTRATIVE EXPERIENCE

1. 2006 - present: I am a member of the Bond University Academic Senate
2. 1998 - 2002: I was the elected President of UQASA (University of Queensland Academic Staff Association) and as such was an *ex officio* member of a number of important University committees including Senate and the University Finance Committee.
3. 1999: The University of Queensland Teaching and Learning Committee
4. 1998-1999: The University of Queensland Student Disciplinary Committee.
5. 1996-1998: I was a committee member of the Faculty of Biological Sciences Research Committee assessing New Staff Grants and UQ Foundation grants.
6. 1995-2000: Chairman of the Departmental Research Committee
7. 1990-1996 : I was chairman of the Departmental Postgraduate Committee and was closely involved with a review and reform of the Departmental procedures in attracting and motivating postgraduate students.
8. 1994-2005: I was an elected member of the Academic Board of the University of Queensland.
9. 1988-2005: Member of the Science Faculty and Dental Faculty Boards of Queensland University.
10. 1983-1984: I was a member of the Curriculum Committee of the Science Faculty at Aberdeen University.
11. 1983-1988: I represented the Department of Anatomy on the Science Faculty and Medical Faculty Boards of Aberdeen University.
12. 1983-1988: I was an elected member of Aberdeen University Senate.
13. 1983-1987: Represented Aberdeen University at AUT (Scotland) committee.
14. 1982-1987: Elected committee member of the Aberdeen Branch of the AUT
15. 1974-1977: Whilst I was a postgraduate student I was elected as chairman of the University of Sheffield Student Anatomical Society.
16. 1977-present: I have been a member of many intra-departmental committees (e.g. Space Committee; Research Committee, Postgraduate Committee, Medical Curriculum Committee; Science Curriculum Committee, Teaching and Learning Committee, Computer Committee, Dissecting Room Committee, Museum Committee, Animal Users Committee, Equity in Workloads Committee).

CURRENT RESEARCH INTERESTS.

(1) I am currently studying the effects of the exposure to drugs of abuse (such as alcohol and cocaine) during early life on the development of the brain and behaviour in experimental rats. In this work I am particularly interested in the effects on the hippocampal formation and on spatial learning. I have already published a number of papers on the effects of alcohol exposure during early life on brain development (see publications list) over the last decade. I am currently preparing up to four papers for publication from work related to the effects of cocaine exposure on brain development.

(2) I have been interested in the effects of environmental enrichment and/or adversity on the brains of young animals for many years. One of my particular interests has been in the effects of malnutrition during early life on the morphological development of the brain and the effects of changes on behaviours including spatial learning and motor coordination. I have been particularly involved with applying recent advances in stereological techniques to the analysis analyses of the neuronal and synaptic contents of such brains. I am currently researching the effects of diet restriction on longevity. Such diet restriction is one of the few known ways of increasing the life span of animals. I am using molecular biological and other techniques to study the effects of diet restriction on a number of known factors thought to be involved in modulating the life span of animals. These factors include, *inter alia*, reactive oxygen species, insulin like growth factors and various neurotrophic factors. I currently have two postgraduate students (Ginus Partadiredja and Dylan Manning) involved in this project.

(3) Another research interest centers around the fact that the central nervous system (CNS) of adult higher vertebrates has long been known to lack significant axonal regrowth after lesion. This contrasts with the presence of regeneration in the CNS of lower vertebrates and in the peripheral nervous system of higher and lower vertebrates. The restriction of axonal elongation in the adult CNS is not due to an intrinsic incapability of axons to elongate, although the responsible factors are still not known. I am currently using tissue culture and fetal nervous tissue transplant techniques in order to more fully understand the factors involved in CNS regeneration.

PUBLICATIONS

REFEREED PAPERS,

1. Zul Izhar Mohd. Ismail and K. S. Bedi (2007) Rats exposed to cocaine during late gestation and early postnatal life show deficits in hippocampal pyramidal and granule cells in later life. *J. Anatomy*, 210:749-760
2. S. Jahnke and K. S. Bedi (2007) Undernutrition during early life increases the level of apoptosis in the dentate gyrus but not in the CA2-CA3 region of the hippocampal formation. *Brain research* 27;1143:60-9.
3. Frederick Bellinger, Mark S Davidson, PhD; Kuldip S Bedi, PhD; Peter A Wilce (2006), Ethanol Prevents NMDA Receptor Reduction by Maternal Separation in Neonatal Rat Hippocampus; *Brain Res.* 1067:154-157.
4. Dineshree V. Naiker, Stanley V. Catts, Vibeke S. Catts, Kuldip S. Bedi, Lesley J Bryan-Lluka (2006) Dose determination of haloperidol, risperidone and olanzapine using an *in vivo* dopamine D₂-receptor occupancy method in the rat *European J of Pharmacol.* 540:87-90.
5. Hanayo Okamoto, Takanori Miki, Kyoung-Youl Lee, Toshifumi Yokoyama, Hiromi Kuma, Zhi-Yu Wang, He G^b, Hong-Peng L^b, Yoshiki Matsumoto^b, Satriotomo Irawan, Kuldip S. Bedi^c, Yu Nakamura, Yoshiki Takeuchi (2006) Oligodendrocyte myelin glycoprotein (OMgp) in rat hippocampus is depleted by chronic ethanol consumption. *2006 Neurosci Lett.* 2;406(1-2):76-80.
6. G. Partadiredja, R. Simpson and K. S. Bedi (2005) The effects of pre-weaning undernutrition on the expression levels of free radical deactivating enzymes in the mouse brain. *Nutritional Neuroscience*, 8:183-193
7. Chipperfield H, Cool SM, Bedi K, Nurcombe V. (2005) Adult CNS explants as a source of neural progenitors. *Brain Res Brain Res Protoc.* 2005 Apr;14(3):146-53.
8. T. Miki, I Satriotomo, H-P Li, Y Matsumoto, G. He, L. Kang, K. S. Bedi and Y Takeuchi (2005) Application of the physical disector central nervous system: estimation of the total number of neurons in the subdivisions of the rat hippocampus. (*Anatomical Science International*, 80:153-62.)
9. K. S. Bedi. and Z. I. Md. Ismail (2004) Rats exposed to cocaine during late gestation show a deficit in hippocampal pyramidal cells in later life. *Proceedings of the Federation of European neurosciences Meeting (Lisbon).*
10. Hiromi Kuma, Takanori Miki, Yoshiki Matsumoto, He Gu, Hong-Peng Li, Takashi Kusaka, Irawan Satriotomo, Hanayo Okamoto, Toshifumi Yokoyama, Kuldip S. Bedi, Shoju Onishi, Yoshiki Takeuchi (2004) Early maternal deprivation induces alterations in brain-derived neurotrophic factor expression in the developing rat hippocampus (*Neurosci Lett.* 2004 Nov 30;372(1-2):68-73)
11. T. Miki, S. J. Harris, P. A. Wilce, Y. Takeuchi and K. S. Bedi (2004) The effects of age and alcohol exposure during early life on pyramidal cell numbers in the CA1-Ca3 region of the rat hippocampus. (*Hippocampus*; 14:124-134).
12. T. Miki, S. J. Harris, P. Wilce, Y. Takeuchi and K. S. Bedi (2003) The effects of alcohol exposure during early life on neuron numbers in the rat hippocampus I) hilus neurons and granule cells (*Hippocampus*; 13: 388-398).
13. D. Pinjuh and K. S. Bedi (2003) X-irradiation of adult spinal cord increases its capacity to support neurite regeneration *in vitro* *Int. J. Devl. Neuroscience*, 21:409-416.
14. S-W You, K-F So, H. K. Yip and K. S. Bedi (2002) Axonal Regeneration of Retinal Ganglion Cells into a Normal or Pre-degenerated Peripheral Nerve Graft Following an Initial Lesion of the Optic Nerve in Adult Hamsters (*Visual Neuroscience*, 19: 661-668).

15. H-P Li, T Miki, H. Gu, I. Satriotomo, Y. Mastumoto, H. Kuma, d. Gonzalez, K. S. Bedi, H. Suwaki and Y. Takeuchi (2002) The effect of the timing of prenatal X-irradiation on Purkinje cell numbers in rat cerebellum. (*Develop. Brain Res.* 139: 159-166).
16. R. D. Gurgo, K. S. Bedi, and V. Nurcombe (2002) Current Concepts in Central Nervous System Regeneration (*Journal of Clinical Neuroscience*, 9: 613-617)
17. F. R. Bellinger, M. S. Davidson, K. S. Bedi and P. Wilce (2002) Neonatal ethanol exposure reduces AMPA but not NMDA receptor levels in the rat neocortex. *Dev Brain Res.* 2002; 136(1):77-84.
18. H. Chipperfield, K. S. Bedi, S. M. Cool and V. Nurcombe (2002) Heparan sulphates isolated from adult neural progenitor cells can direct phenotypic maturation. (*International journal of Developmental Biology*, 46:661-670).
19. F. R. Bellinger, P. Wilce K. S. Bedi and P. Wilson (2002) Long-lasting synaptic modification in the rat hippocampus resulting from NMDA receptor blockade during development. (*Synapse* 43:95-101).
20. N. Wilson, E. Esfandiary and K. S. Bedi, (2000) Cryosections of pre-irradiated adult rat spinal cord tissue support axonal regeneration in vitro. (*Int J. Devl. Neurosci.* 18: 735-741)
21. S. J. Harris, P. Wilce and K. S. Bedi (2000) Exposure of rats to ethanol during early postnatal life increases the rate of loss of optic nerve axons during development and decreases their rate of myelination. (*J Anat.* 197:477-485)
22. T. Miki, S. J. Harris, P. Wilce, Y. Takeuchi and K. S. Bedi (2000) Neurons in the hilus region of the rat hippocampus are depleted in number by exposure to alcohol during early postnatal life. (*Hippocampus* 10: 284-295).
23. T. Miki, S. Harris, P. Wilce, Y. Takeuchi, and K. S. Bedi (2000) A stereological analysis of the effect of early postnatal ethanol exposure on neuronal numbers in rat dentate gyrus. (*Image Anal. Stereol.*; 19: 99-104).
24. Y. Fukui and K. S. Bedi (2000) Application of stereology to the central nervous system: estimation of numerical densities of neurons and synapses or neuron number. (*Congenital Anomalies*, 40, 1-7).
25. T. Miki, S. Harris, P. Wilce, Y. Takeuchi, and K. S. Bedi (1999) The effect of the timing of ethanol exposure during early postnatal life on totla number of Purkinje cells in the rat cerebellum. (*J. Anat.* 194: 423-431).
26. J.J. Cunningham, R.M. Sherrard, K. S. Bedi G.M. Renshaw and A.J. Bower (1999) Development of neurons and glial cells in the rat inferior olive: A combined immunocytochemical and stereological study. (*J. Comp. Neurol.* 406: 375-383).
27. F.P. Bellinger, K. S. Bedi, P. Wilson and P. A. Wilce (1999) Ethanol exposure during the third trimester equivalent results in long-lasting decreased synaptic efficacy but not plasticity in the CA1 region of the rat hippocampus. *Synapse* (*Synapse*: 31: 51-58)
28. M. Davidson, K. S. Bedi and P. Wilce (1998) Ethanol inhibition of brain ornithine decarboxylase activity in the postnatal rat. (*Neurotoxicol. and Teratology*; 20: 523-530)
29. S.A.Smith and K. S. Bedi (1998) Unilateral enucleation of adult rats does not affect the synapse-to-neuron ratio within the stratum griseum superficiale of the superior colliculi. (*Vision Research* 38:3041-3050).
30. D. Tomlinson, P. Wilce and K. S. Bedi (1997) Spatial learning ability of rats following differing levels of exposure to alcohol during early postnatal life. *Physiol and Behavior*, (*Physiology and Behavior*: 63:205-211)
31. Smith, S and K. S. Bedi (1997) Unilateral enucleation in adult rats causes neuronal loss in the contralateral superior colliculus. *J. Anat.* 190:481-490.
32. N. A-K E-S Hasan, M.M. Neumann, M.M. DeSouky, K-F. So and K.S. Bedi (1996)The influence of pre-degenerated nerve grafts on axonal regeneration from pre-lesioned peripheral nerves *J. Anat.* 189:293-302.

33. N. A-K E-S Hasan, M.M. Neumann, M.M. DeSouky, K-F. So and K.S. Bedi (1996) The influence of pre-degenerated nerve grafts on axonal regeneration from pre-lesioned peripheral nerves *J. Anat.* 189:293-302
34. Pauli, J., P. Wilce and K.S. Bedi (1995) Spatial learning ability of rats following acute exposure to alcohol during early postnatal life *Physiol. and Behav.* 58:1013-1020.
35. Pauli, J., P. Wilce and K.S. Bedi (1995) Acute exposure to alcohol during early postnatal life causes a deficit in the total number of cerebellar Purkinje cells in the rat. *J. Comp Neurol.* 360:506-512.
36. Tolley, L.K. and K.S. Bedi. (1994) Undernutrition during early life does not affect the number of granule cells in the rat olfactory bulb. *J. Comp. Neurol.* 348:343-350.
37. Shewan, D.A., K.S. Bedi, M. Berry, J. Winter, and J. Cohen. (1994) Axon regeneration in vitro on physiologically relevant substrata. *Neuroprotocols*, 4: 142-145.
38. Bedi, K.S. (1994) Undernutrition of rats during early life does not affect the number of cortical neurons. *J. Comp Neurol.* 342: 596-602.
39. Shewan, D., M. Berry, K.S. Bedi and J. Cohen. (1993) Embryonic optic nerve tissue fails to support neurite outgrowth by central and peripheral neurons in vitro. *European Journal of Neuroscience*, 5:809-817.
40. Fukui, Y. and K.S. Bedi (1992). Quantitative study of the development of neurons and synapses in the visual cortex of rats reared in the dark during early postnatal life. *Forma*, 7: 167-181.
41. Bedi, K.S., J. Winter, M. Berry, and J. Cohen. (1992) Adult rat DRG neurons extend neurites on pre-degenerated but not on normal peripheral nerves in vitro. *European Journal of Neuroscience*, 4: 193-200.
42. Bedi, K.S. (1992) Spatial learning ability of rats undernourished during early postnatal life. *Physiology and Behaviour*, 51: 1001-1007.
43. K.S. Bedi, Campbell, L.F., and T.M. Mayhew (1992). A fractionator study of the effects of undernutrition during early life on rat Purkinje cell numbers (with a caveat on the use of nucleoli as counting units). *J. Anat.* 181: 199-208.
44. Bedi, K. S. (1992) Estimation of Section Thickness. In: *Protocols in Electron Microscopy* (ed: A.W. Robards and A.J. Wilson) John Wiley and Sons, England.
45. Bedi, K.S. (1991) The effects of undernutrition during early life on granule cell numbers in the rat dentate gyrus. *J. Comp. Neurol.* 311: 425-433
46. Bedi, K.S. (1991) Early life undernutrition causes deficits in rat dentate gyrus granule cell number. *Experientia* 47: 1073-1074.
47. Fukui, Y., S. Hayasaka, K.S. Bedi, H.S. Ozaki and Y. Takeuchi (1991). Quantitative study of the development of optic nerve in rats reared in the dark during early postnatal life. *J. Anat.* 174: 37-48.
48. Fukui, Y. and K.S. Bedi (1991). Quantitative study of the development of neurons and synapses in rats reared in the dark from birth until 30 days of age. i) Superior colliculus. *J. Anat.* 174: 49-60.
49. Nicoll, A., K.S. Bedi and P.M. Wigmore (1990). The effect of neonatal monocular enucleation on the optic nerves of the rat. *J. Anat.* 174: 27-36.
50. Warren, M.A. and K.S. Bedi (1990). Synapse-to-neuron ratios in the rat cerebellar cortex following lengthy periods of undernutrition. *J. Anat.* 170: 173-182
51. Nairn, J. G., K. S. Bedi, T. M. Mayhew and L.F. Campbell (1990) On the number of Purkinje cells in the human cerebellum: unbiased estimates obtained by using the "Fractionator". *J. Comp. Neurol.* 290: 527-532.
52. Bedi, K.S. (1990). The combined effects of unilateral enucleation and rearing in a "dim" red light on synapse-to-neuron ratios in the rat visual cortex. *J. Anat.* 167: 71-84.
53. Bedi, K.S., R.F. Massey and J.L. Smart (1989). Neuronal and synaptic measurements in visual cortex of adult rats after undernutrition during normal or artificial rearing. *J. Comp. Neurol.* 289: 89-98
54. Campbell, L.F. and Bedi, K.S. (1989). The effects of undernutrition during early life on the spatial learning ability of rats. *Physiology and Behaviour.* 45: 883-890.

55. Warren, M.A. and Bedi, K.S. (1988). The effects of a lengthy period of undernutrition and subsequent nutritional rehabilitation on the granule-to-Purkinje cell ratio in the rat cerebellum. *Journal of Anatomy*. 159: 147-153.
56. Calverly, R.K.S., Bedi, K.S. and Jones, D.G. (1988). Estimation of the numerical density of synapses in rat neocortex: A comparison of the "disector" method with the "unfolding" technique. *Neuroscience Methods* 23: 195-205.
57. Bedi, K.S. (1987). A simple method of measuring the thickness of semi-thin and ultra-thin sections. *J. Microsc.* 148: 107-111.
58. Ahmed, M.G.E., Bedi, K.S., Warren, M.A. and Kamel, M.M. (1987). The effects of a lengthy period of undernutrition from birth and subsequent nutritional rehabilitation on the synapse-to-granule cell neuron ratio in the rat dentate gyrus. *J. Comp. Neurol*, 263: 146-158.
59. Mackay, D. and Bedi, K.S. (1987). The combined effects of unilateral enucleation and rearing in a "dim" red light on synapse-to-neuron ratios in the rat superior colliculus. *J. Comp. Neurol.* 256: 444-453.
60. Hunter, A. and Bedi, K.S. (1986). A quantitative morphological study of inter-strain variation in the developing rat optic nerve. *J. Comp. Neurol.* 245: 160-166.
61. Bhide, P.G. and Bedi, K.S. (1985). The effects of a 30 day period of environmental diversity on well-fed and previously undernourished rats: neuronal and synaptic measures in the visual cortex (Area 17). *J. Comp. Neurol.* 236: 121-126.
62. Warren, M.A. and Bedi, K.S. (1985). The effects of a lengthy period of undernutrition on the skeletal growth of rats. *J. Anat.* 141: 53-64.
63. Warren, M.A. and Bedi, K.S. (1985). The effects of a lengthy period of undernutrition on food intake and body and organ growth during rehabilitation. *J. Anat.* 141: 65-75.
64. Warren, M.A. and Bedi, K.S. (1984). A quantitative assessment of the development of synapses and neurons in the visual cortex of control and undernourished rats. *J. Comp. Neurol.* 227: 104-108.
65. Bhide, P.G. and Bedi, K.S. (1984). The effects of a lengthy period of environmental diversity on well-fed and previously undernourished rats. (ii) Synapse-to-neuron ratios. *J. Comp. Neurol.* 227: 305-310.
66. Bhide, P.G. and Bedi, K.S. (1984). The effects of a lengthy period of environmental diversity on well-fed and previously undernourished rats. (i) Neurons and glial cells. *J. Comp. Neurol.* 227: 296-304.
67. Simpson, B.J.B. and Bedi, K.S. (1984). A quantitative morphological study of the optic nerve of pre-weanling rats. *Experientia* 40: 855-856.
68. Bhide, P.G. and Bedi, K.S. (1984). The effects of environmental diversity on well-fed and previously undernourished rats. Neuronal and glial cell measurements in the visual cortex. *J. Anat.* 138: 447-461.
69. Bedi, K.S. and Warren, M.A. (1983). The effects of undernutrition during early life on the rat optic nerve fibre number and size frequency distribution. *Journal of Comparative Neurology* 219: 125-132.
70. Warren, M.A. and Bedi, K.S. (1982). Synapse-to-neuron ratios in the visual cortex of adult rats undernourished from about birth till 100 days of age. *Journal of Comparative Neurology* 210: 59-64.
71. Bhide, P.G. and Bedi, K.S. (1982). The effects of environmental diversity on well-fed and previously undernourished rats. I. Body and brain measurements. *Journal of Comparative Neurology* 207: 403-409.
72. Smart, J.L. and Bedi, K.S. (1982). Early life undernutrition in rats. III. Motor performance in adulthood. *British Journal of Nutrition* 47: 433-444.
73. Wareham, A.C., Mahon, M., Bedi, K.S. and Smart, J.L. (1982). Early life undernutrition in rats. II. Physiological characteristics of muscles from adult animals. *British Journal of Nutrition* 47: 433-437.

74. Bedi, K.S., Birzgalis, A.R., Mahon, M., Smart, J.L. and Wareham, A. (1982). Early life undernutrition in rats. I. Quantitative histology of skeletal muscles from underfed young and re-fed adult animals. *British Journal of Nutrition* 47: 417-431.
75. Gupta, M., Mayhew, T.M., Bedi, K.S., Sharma, A.K. and White, F.H. (1982). Inter-animal variation and its influence on the overall precision of morphometric estimates based on nested sampling designs. *Journal of Microscopy*, 131: 147-154.
76. Bedi, K.S., Hall, R., Davies, C.A. and Dobbing, J. (1980). A stereological analysis of the cerebellar granule and Purkinje cells of 30-day-old and adult rats undernourished during early postnatal life. *Journal of Comparative Neurology* 193: 863-870.
77. Bedi, K.S., Thomas, Y.M., Davies, C.A. and Dobbing, J. (1980). Synapse-to-neuron ratios of the frontal and cerebellar cortex of 30-day-old and adult rats undernourished during early postnatal life. *Journal of Comparative Neurology*. 193: 49-56.
78. Bedi, K.S. and Horobin, R.W. (1980). The chemical nature of de Tomasi Schiff reagent. Changes of certain physical-chemical and histochemical properties during ageing. *Histochemistry* 68: 197-209.
79. Thomas, Y.M., Peeling, A., Bedi, K.S., Davies, C.A. and Dobbing, J. (1980). Deficits in synapse-to-neuron ratio due to early undernutrition show evidence of catch-up in later life. *Experientia* 36: 556-557.
80. Thomas, Y.M., Bedi, K.S., Davies, C.A. and Dobbing, J. (1979). A stereological analysis of the neuronal and synaptic content of the frontal and cerebellar cortex of weanling rats undernourished from birth. *Early Human Development* 3: 109-126.
81. Bedi, K.S. and Goldstein, D.J. (1978). Microdensitometric and autoradiographic comparison of the DNA contents of foetal and adult rat liver nuclei. *Histochemistry* 55: 63-74.
82. Bedi, K.S., and Goldstein, D.J. (1976). Apparent anomalies in nuclear Feulgen-DNA contents; role of systematic microdensitometric errors. *Journal of Cell Biology*, 71: 68-86.
83. Bedi, K.S. and Horobin, R.W. (1976). An alcohol-soluble Schiff's reagent: a histochemical application of the complex between Schiff's reagent and phosphotungstic acid. *Histochemistry* 48: 153-159.
84. Bedi, K.S. and Goldstein, D.J. (1974). Cytophotometric factors causing apparent differences between the Feulgen-DNA contents of different leucocyte types. *Nature* 251: 439.
85. Bedi, K.S., Cope, G.H. and Williams, M.A. (1974). An E.M. stereological analysis of the zymogen granule content of the parotid glands of starved rabbits and of changes induced by feeding. *Arch. Oral Biol.* 19: 1127-1133

REVIEW ARTICLES AND BOOK CHAPTERS

1. K. S. Bedi (2005) Cell death in the developing nervous system: In Key Lectures in Developmental Neurobiology (ed B. Key); pp183-207
2. K. S. Bedi (2003) Nutritional effects on neuron numbers. (Nutritional Neuroscience, 6: 141-152).
3. Sharma, A. K., Bedi K. S., Sima, A.A.F., James, N.T., Abdulrazzaq Y. M. and Behara, M (1996) (Editors): Morphometry: Application to Medical Sciences. Macmillan, India LTD. ppxvi + 289. ISBN 0333929870.
4. Bedi, K. S. (1996) The effects of undernutrition during early life on neuron numbers in the rat brain. In: (A.K. Sharma, Y. Abdulrazzaq, K. S. Bedi, N.T. James, A.A.F. Sima and S. Yagihashi. - editors) Morphometry: Applications to Medical Sciences. Macmillan, India. pp177-192.
5. Bedi, K.S. (1992), Malnutrition, Environment, Brain and Behaviour. Proceedings of the Australian Society for Human Biology, 5: 125-142.
6. Bedi, K.S. and Warren, M.A. (1988). Effect of Nutrition on Cortical Development. In: Cerebral Cortex - Development and Maturation of Cerebral Cortex (E.G. Jones and A. Peters eds.). Plenum Publishing Corp., New York. Vol. 7: 441-478.
7. Bedi, K.S. and Bhide, P.G. (1988). Effects of environmental diversity on brain morphology. Early Human Development. 17: 107-143.
8. Bedi, K.S. (1987). Lasting neuroanatomical changes following undernutrition during early life. In: Early Undernutrition and Later Achievement, ed. J. Dobbing. pp1-49, Academic Press, London.
9. Bedi, K.S. (1986). Nutrition, Environment and Brain Development. Science Progress, 70: 555-570.
10. Bedi, K.S. (1984). The effects of undernutrition on brain morphology. A critical review of methods and results. In: Current topics in Research on Synapses. Vo. 2, ed. D.G. Jones. Published by A.R. Liss, pp93-163.

In addition I have published over 120 abstracts in various conference proceedings.