

CURRICULUM VITAE

Dr. Ahmad Raza Khan

(Associate Professor/ Scientist-IV, RLS Fellow)
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Research Interest:

My research focuses on advanced neuroimaging techniques, specifically micro-structural and metabolic imaging of radiologically subtle brain disorders, such as mild traumatic brain injury, depression etc. Additionally, I am also interested to identify cellular underpinning of MRI signals with quantitative-immunohistochemistry. The overarching aim is to enhance the understanding of brain function, pathology, and neurodegenerative diseases, contributing to clinical diagnosis and therapeutic strategies.

Objective

To utilize my scientific skills and knowledge for the advancement of the organization and improvement of my professional and personal skills.

Position Held/ Professional experience

- ❖ **Associate Professor/ Scientist-IV:** At National Brain Research Centre (NBRC), since 22st August 2024- Till date.
- ❖ **Ramalingaswami Faculty Fellow:** At Centre of Biomedical Research (CBMR) SGPGIMS Campus, Raebareli Road, Lucknow, India, Since 26th September 2019-21st August 2024.
- ❖ **Assistant Professor:** At the Center of Functionally Integrative Neuroscience (CFIN), Aarhus University, Aarhus, Denmark from 15th Sep. 2017 –14th March 2019 & 15 July- 31st July 2019.
 - ❖ **Postdoctoral Fellow (Clinical Specialist):** At Department of Radiology, Aarhus University Hospital, Aarhus, Denmark, from April 2017- June 2017.
- ❖ **Postdoctoral Fellow:** At the Center of Functionally Integrative Neuroscience (CFIN), Aarhus University, Aarhus, Denmark July. 2014 -April 2017.
- ❖ **Postdoctoral Fellow (visiting Scientist):** At Oregon National Primate Research Center (ONPRC), Oregon Health and Science University (OHSU), Portland, Oregon, USA. July 2013-July 2014.
- ❖ **Research Fellow:** At Institute of Nuclear Medicine and Allied Sciences (INMAS), DRDO, Delhi, India. 16th Aug 2007 – 15th Aug 2012.
 - ❖ **Research Fellow:** At Central Pollution Control Board, Parivesh Bhawan, CBD Complex, Delhi, India. 6th Oct 2005 – 15th Aug 2007.

Qualification:

- ❖ **Ph.D. (2009-2013), Biochemistry**, Dept. of Biochemistry, Jamia Hamdard, New Delhi.
- ❖ **M.Sc. (2002-2004), Biotechnology**, Barkatullah University, Bhopal, M.P.
- ❖ **B.Sc. (1999-2002), Zoology, Botany, Chemistry**, Lucknow University, Lucknow, U.P.

Grant Review:

- ❖ **ICMR Small grant Project Selection Committee 08/24.**

Teaching Experience:

- ❖ M.Sc (Neuroscience) and Ph.D. course at National Brain Research Centre.

- ❖ Ph.D. courses at CBMR, Lucknow on MRI, MRS, and Brain cognition.

Award and Honours:

- ❖ Ramalingaswami Re-entry Fellowship, Department of Biotechnology (DBT), Delhi India
- ❖ Lundbeck Foundation travels grant 2017, 2018.
- ❖ Postdoctoral Fellowship 2017: Preclinical Imaging, ETH Zurich, Offer (Abnegated).
- ❖ Magna Cum Laude award, ISMRM, 2016.
- ❖ Trainee stipend award, ISMRM, 2014-2017.
- ❖ Korning's Foundation Travel grant 2015 (Avail), & 2019 (abnegated).

Invited talks:

- ❖ At International Symposium of artificial intelligence in biological sciences: Recent trends, Integral University 23rd April 2024.
- ❖ At National Magnetic Resonance Society (NMRS) meeting, CBMR, Lucknow. 02/2024.
- ❖ At National Magnetic Resonance Society (NMRS) meeting, IISER, Berhampur. 02/2023.
- ❖ At Translational Biomedical Research Society (TBRS) meeting, "Integrative Medicines and Health: From Basic to Translational Research". CBMR, Lucknow, 12/2020,
- ❖ At Diffusion Decay Meeting, 11th April 2016, Aarhus University, Aarhus, Denmark.

Reviewer:

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| ❖ Imaging Neuroscience | ❖ Frontiers in Neurosciences |
| ❖ Neuroimage | ❖ Heliyon |
| ❖ Scientific Reports | ❖ Progress in Neuro-Psychopharmacology & Biological Psychiatry |
| ❖ Journal of Neuroscience Research | ❖ Brain and Behavior |
| ❖ Neuroscience Letters | ❖ ISMRM abstract review |
| ❖ Journal of Clinical Medicine | |
| ❖ BMC Medical Imaging | |

Associate editor: Frontiers in Neuroscience

Topic Editor: Advances in the Imaging Techniques of Radiologically subtle CNS Disorders.

Technical and analytical skills

- ❖ Scanning experience on **3T system (Skyra, Siemens)**, **7T and 9.4T Animal MRI System (Bruker)**, and AVANCE-800 MHz high resolution NMR based **Metabolomics**.
- ❖ *In-vitro* Spectroscopy of biofluids and tissue extracts and ***in-vivo*¹H MRS**.
- ❖ Diffusion Tensor Imaging (**DTI**) and Diffusion kurtosis Imaging (**DKI**) analysis.
- ❖ Acquaintance of **LC Model** software for processing of ***in-vivo* MRS** data.
- ❖ Knowledge of statistical analysis software (**SPSS**) and **Matlab** programming.
- ❖ Confocal and light Microscopy, Stereology.
- ❖ Immunohistochemistry and, **Quantitative Histology**.

PUBLICATIONS:

1. **Khan, A.R.**, et al., Longitudinal, Multiparametric MRI Assessment of repetitive mild TBI in rats. bioRxiv, 2019: p. 666024..
2. Zia Hashim, Mansi Gupta, Zafar Neyaz, Shivani Srivastava, Vinita Mani, Alok Nath, **Khan, A.R.***. Biophysical modelling, and Diffusion kurtosis Imaging reveal microstructural alterations in normal appearing white matter regions of brain in sleep apnea. **Sleep Advances** 10.1093/sleepadvances/zpae031
3. **Khan, A.R.**, et al., Whole-Blood Metabolomics of a Rat Model of Repetitive Concussion. J Mol Neurosci, 2023. 73(9-10): p. 843-852.

4. Al-Absi, A.R., et al., Df(h22q11)/+ mouse model exhibits reduced binding levels of GABA(A) receptors and structural and functional dysregulation in the inhibitory and excitatory networks of hippocampus. *Mol Cell Neurosci*, 2022. 122: p. 103769.
5. **Khan, A.R.**, et al., Editorial: Advances in the imaging techniques of radiologically subtle CNS disorders. *Front Neurosci*, 2022. 16: p. 1059705.
6. Reinert, L.S., et al., Brain immune cells undergo cGAS/STING-dependent apoptosis during herpes simplex virus type 1 infection to limit type I IFN production. *J Clin Invest*, 2021. 131(1).
7. **Khan, A.R.**, et al., Stress-Induced Morphological, Cellular and Molecular Changes in the Brain-Lessons Learned from the Chronic Mild Stress Model of Depression. *Cells*, 2020. 9(4).
8. Al-Absi, A.R., et al., Layers II/III of Prefrontal Cortex in Df(h22q11)/+ Mouse Model of the 22q11.2 Deletion Display Loss of Parvalbumin Interneurons and Modulation of Neuronal Morphology and Excitability. *Mol Neurobiol*, 2020. 57(12): p. 4978-4988.
9. **Khan, A.R.**, et al., Neurite atrophy in dorsal hippocampus of rat indicates incomplete recovery of chronic mild stress induced depression. *NMR in Biomedicine*, 2019: p. e4057.
10. **Khan, A.R.**, et al., Diffusion MRI and MR spectroscopy reveal microstructural and metabolic brain alterations in chronic mild stress exposed rats: A CMS recovery study. *Neuroimage*, 2018. 167: p. 342-353.
11. **Khan, A.R.**, et al., Differential microstructural alterations in rat cerebral cortex in a model of chronic mild stress depression. *PLoS One*, 2018. 13(2): p. e0192329.
12. **Khan, A.R.**, et al., Microstructural and Metabolic Recovery of Anhedonic Rat Brains: An In Vivo Diffusion MRI and 1H-MRS Approach. *Data*, 2018. 3(3): p. 29.
13. Hansen, B., et al., White matter biomarkers from fast protocols using axially symmetric diffusion kurtosis imaging. *NMR Biomed*, 2017. 30(9): p. e3741.
14. Rana, P., et al., Early Differential Neurometabolite Response of Hippocampus on Exposure to Graded dose of Whole-Body Radiation: An in Vivo 1H MR Spectroscopy Study. *Defence Life Science Journal*, 2017. 2(3).
15. **Khan, A.R.**, et al., Biophysical modeling of high field diffusion MRI demonstrates microstructural aberration in chronic mild stress rat brain. *Neuroimage*, 2016. 142: p. 421-430.
16. Kjolby, B.F., et al., Fast diffusion kurtosis imaging of fibrotic mouse kidneys. *NMR Biomed*, 2016. 29(12): p. 1709-1719.
17. **Khan, A.R.**, et al., Summary of high field diffusion MRI and microscopy data demonstrate microstructural aberration in chronic mild stress rat brain. *Data Brief*, 2016. 8: p. 934-7.
18. **Khan, A.R.**, et al., 3D Structure tensor analysis of light microscopy data for validating diffusion MRI. *NeuroImage*, 2015. 111: p. 192-203.
19. Rana, P., et al., NMR based metabolomics reveals acute hippocampal metabolic fluctuations during cranial irradiation in murine model. *Neurochem Int*, 2014. 74: p. 1-7.
20. Rana, P., et al., Altered brain metabolism after whole body irradiation in mice: a preliminary in vivo 1H MRS study. *Int J Radiat Biol*, 2013. 89(3): p. 212-8.
21. Tyagi, R., et al., Differential biochemical response of rat kidney towards low and high doses of NiCl₂ as revealed by NMR spectroscopy. *J Appl Toxicol*, 2013. 33(2): p. 134-41.
22. Gupta, M., et al., Comparative evaluation of brain neurometabolites and DTI indices following whole body and cranial irradiation: a magnetic resonance imaging and spectroscopy study. *NMR Biomed*, 2013. 26(12): p. 1733-41.
23. Trivedi, R., et al., Radiation-induced early changes in the brain and behavior: serial diffusion tensor imaging and behavioral evaluation after graded doses of radiation. *J Neurosci Res*, 2012. 90(10): p. 2009-19.
24. **Khan, A.R.**, et al., Nuclear magnetic resonance spectroscopy-based metabonomic investigation of biochemical effects in serum of gamma-irradiated mice. *Int J Radiat Biol*, 2011. 87(1): p. 91-7.
25. Tyagi, R., et al., Study of acute biochemical effects of thallium toxicity in mouse urine by NMR spectroscopy. *J Appl Toxicol*, 2011. 31(7): p. 663-70.

26. **Khan, A.R.**, et al., NMR spectroscopy based metabolic profiling of urine and serum for investigation of physiological perturbations during radiation sickness. *Metabolomics*, 2011. 7(4): p. 583-592.
27. Tyagi, R., et al., Urinary metabolomic phenotyping of nickel induced acute toxicity in rat: an NMR spectroscopy approach. *Metabolomics*, 2011. 8(5): p. 940-950.

Book/Book Chapter:

1. **Khan, A.R.** and R. Roy, Metabolic profiling leading to clinical phenomics: From bench to bedside, in *Epigenetics and Metabolomics*. **2021. p. 371-382.**
2. **Ahmad Raza Khan**, B Hansen, M Ardan, SS Raza. *Advances in the imaging techniques of radiologically subtle CNS disorders*. **ISBN 978-2-83250-812-1**

Media:

Ahmad Raza Khan, Brian Hansen, Sune N. Jespersen, Ove Wiborg. Depression ændrer hjernens mikrostruktur (Danish). *BEST PRACTICE Magazine* April 2018.

Sleep apnea can now be detected through advanced MRI. *The statesman*. June 2024.

Papers accepted/ presented in conferences:

1. **Ahmad Raza Khan**. Advancement of Neuroimaging using Artificial Intelligence. **Invited Lecture at** International Symposium on Artificial Intelligence on Biological; Sciences: Recent Trends. Integral University, Lucknow, April 23, 2024.
2. **Ahmad Raza Khan**, Kamlesh Bhaisora, Zafar Neyaz. Advance Diffusion MRI parameters as in-vivo MR microscope. **Invited Lecture at** National Magnetic Resonance Society (NMRS), Berhampur, February 2-5th, 2024.
3. Samiya Zehra, A K Barnwal, Kamlesh Bhaisora, **Ahmad Raza Khan**. Subacute metabolic markers of repetitive mild head injury rat model. **P108**, Indian Academy of Neuroscience (IAN) Gwalior, 4-6 October 2023.
4. Jyoti Chaurasia¹, Samiya Zehra, AK Baranwal, Kamlesh Singh Bhaisora, **Ahmad Raza Khan**. Ex vivo metabolic alterations in a rat model of repetitive brain injury. **P50**, Indian Academy of Neuroscience (IAN) Gwalior, 4-6 October 2023.
5. **Ahmad Raza Khan**, Samiya Zehra, Kamlesh Bhaisora, Zafar Neyaz. Microstructural alterations in mild and repetitive mild traumatic brain injuries. Regional Yong Investigator Meet, CDRI, Lucknow. 13-15 Sep. 2023.
6. **Ahmad Raza Khan**, Zafar Neyaz, Shivani Srivastava, Mansi Gupta, Zia Hashim. Biophysical modelling and Diffusion kurtosis Imaging reveal microstructural alterations in white matter regions in sleep apnea. **ASMRM2023**, Delhi, 25-27th August 2023.
7. **Ahmad Raza Khan**. Microstructural Imaging of the brain of radiologically subtle neurological disorders. (**Invited Talk**) at National Magnetic Resonance Society (NMRS), Berhampur, February 24 - 27, 2023.
8. **Ahmad Raza Khan**, S. Zehra, D. Kumar, A K Barnwal, Kamlesh Bhaisora. NMR based acute metabolic markers of repetitive mild head injury in a rat model. PP3, TBRS, 2-3 Feb 2023, Lucknow.
9. **Ahmad Raza Khan***, Atul Kumar Baranwal, Dinesh Kumar, Kamlesh Singh Bhaisora. NMR based Metabolomics of Mild and Repetitive Brain injury in a realistic rat model. **P109**. Indian Academy of Neuroscience (IAN) Shillong, 7-10 December 2022.
10. Jelle Veraart, ..., **Ahmad Raza Khan**, et al. A data-driven variability assessment of brain diffusion MRI preprocessing pipelines. ISMRM, London, 4983, 07-12 May, 2022.
11. **Ahmad Raza Khan**, Brian Hansen, Nina Kerting Iversen, Jonas Lynge Olesen, Mariana Angoa-Perez, Donald M. Kuhn, Sune N. Jespersen. Functional and microstructural alterations in the rat hippocampus after repetitive mild traumatic brain injury. ISMRM Montreal, 3434 11-16 May **2019**.
12. **Ahmad Raza Khan**, Brian Hansen, Nina K Iversen, Mariana Angoa-Perez, Donald M. Kuhn, Sune N. Jespersen. Longitudinal metabolic alterations in the cerebral cortex of rats after repetitive mild traumatic brain injury. **MRS Workshop Oct 2-5, 2018**, Utrecht, Netherlands.
13. **Ahmad R. Khan**, Brian Hansen, Ove Wiborg, Christopher D. Kroenke, Sune Nørhøj Jespersen. MRI based metabolic and microstructural recovery from anhedonia in a rat depression model. **Acta Neuropsychiatrica 2018**, Volume 30, supplement 2:P10. Aarhus, 2-5 May, Denmark.
14. **Ahmad R. Khan**, B Hansen, O Wiborg, C Kroenke, S Jespersen. Ex-vivo diffusion MRI reveals microstructural alterations in stress-sensitive brain regions: A chronic mild stress recovery study. **Joint ISMRM and ESMRMB conference, 16-21 June (2018), Italy**.

15. **Ahmad R. Khan**, B. Hansen, A. Chuhutin, O. Wiborg, C.D. Kroenke, S.N. Jespersen. Diffusion MRI based neurite density reveals marked atrophy in the stress circuit: A chronic mild stress recovery study **ESMRMB, 334, Barcelona, Oct 19-21, 2017.**
16. **Ahmad R. Khan**, Brian Hansen, Ove Wiborg, Christopher D. Kroenke, Sune Nørhøj Jespersen. Diffusion MRI and magnetic resonance spectroscopy reveal microstructural and functional alteration in chronic mild stress exposed rat brains: A CMS recovery study. *Proc. Intl. Soc. Mag. Reson. Med, Hawaii, p 1082, 22-27 April, 2017.*
17. Brian Hansen, **Ahmad R. Khan**, Noam Shemesh, Torben E. Lund, Ryan Sangill, Leif Østergaard, Sune Nørhøj Jespersen. White matter biomarkers from fast protocols using axially symmetric diffusion kurtosis imaging. *Proc. Intl. Soc. Mag. Reson. Med, Hawaii, p 1082, 22-27 April, 2017.*
18. **Ahmad Raza Khan**, Ove Wiborg, Christopher D Kroenke, Jens R Nyengaard, Brian Hansen, and Sune Nørhøj Jespersen. Differential response of neurite density in anhedonic and resilient rats in cortical region after CMS paradigm. **C139, 2-6 July, 2016.**
19. **Ahmad Raza Khan**, Andrey Chuhutin, Ove Wiborg, Christopher D Kroenke, Jens R Nyengaard, Brian Hansen, and Sune Nørhøj Jespersen. Chronic mild stress induces changes in neurite density in the amygdala as revealed by diffusion MRI and validated with novel histological analyses. *Proc. Intl. Soc. Mag. Reson. Med, Singapore, p 1082, 7-13 May 2016. (Magna Cum Laude Award).*
20. **Ahmad Raza Khan**, Andrey Chuhutin, Brian Hansen, Ove Wiborg, Christopher D Kroenke, and Sune Nørhøj Jespersen. Biophysical modelling of high field diffusion MRI demonstrates micro structural aberration in Chronic Mild Stress (CMS) rat brain. *Proc. Intl. Soc. Mag. Reson. Med, Toronto, Canada, p 1368, 30th May-5th June 2015.*
21. Andrey Chuhutin, **Ahmad Raza Khan**, Brian Hansen, and Sune Nørhøj Jespersen. The Mean Kurtosis evaluation measurements show a considerable disparity from the analytically evaluated ones for a clinically used range of b-values. *Proc. Intl. Soc. Mag. Reson. Med, Toronto, Canada, p6852, 30th May-5th June 2015.*
22. **Ahmad Raza Khan**, Lindsey A Leigland, Steven G Kohama, Anda Cornea, Sune Nørhøj Jespersen, and Christopher D Kroenke. 3D structure tensor analysis of light microscopy data for validating diffusion MRI. Joint Annual Meeting **ISMRM-ESMRM, Milan, Italy 4426, 10-16 May, 2014.**
23. **Ahmad R. Khan**, Lindsey A Leigland, Steven G Kohama, Anda Cornea, Sune N. Jespersen, Christopher D. Kroenke. 3D structure tensor analysis of light microscopy data for validating diffusion MRI. **Neuro Future Conference, University of Washington, P 33, June 17-18 2014.**
24. **Ahmad R. Khan**, Anda Cornea, Sune Nørhøj Jespersen, Christopher D Kroenke. Depth dependent point spread function measurement for an Oil immersion objective of confocal microscope. **Bioimaging at the nanoscale, Oregon Health and Science University, P10, April 13-14, 2014.**
25. Poonam Rana, Mamta Gupta, **Ahmad Raza Khan**, B.S.H Kumar, Raja Roy, and Subash Khushu. High resolution ¹H NMR spectroscopy reveals acute changes in hippocampal metabolic physiology in a mouse model for cranial irradiation. **ISMRM-ESMRM, Milan, Italy 3756, 10-16 May 2014.**
26. **Ahmad Raza Khan**, Poonam Rana, Hemanth BS Kumar, Shilpi Modi, Saleem Javed and Subash Khushu. Whole body radiation exposure induced neurometabolic alteration in murine brain: An In-vivo approach of 1H and 31P MR Spectroscopy. *Proc. Intl. Soc. Mag. Reson. Med, Utah, USA, p4007, 20-26 April, 2013.*
27. Ritu Tyagi, Poonam Rana, Mamta Gupta, **Ahmad Raza Khan**, Deepak Bhatnagar, Rajendra P Tripathi and Subash Khushu. Tungsten Alloy Based Heavy Metals in Ammunition and Armament May Cause Metabolic Disturbances: A Urinary Metabolomic Approach. *Proc. Intl. Soc. Mag. Reson. Med, Utah, USA, p4023, 20-26 April, 2013.*
28. **Ahmad Raza Khan**, Poonam Rana, Ritu Tyagi, Saleem Javed and Subash Khushu. NMR based metabolomics of biofluids: A rapid diagnostic approach for assessment of vital organs and disease diagnosis. Oral presentation at national conference on **Bioelectronics & biomedical technology, Jamia Hamdard, New Delhi, Feb 2-4, 2013.**
29. Poonam Rana, **Ahmad Raza Khan**, Shilpi Modi, Richa Trivedi, B.S Hemanth, Rajendra P Tripathi, Subash Khushu. 1H Magnetic Resonance Spectroscopy Reports Osmotic Dysregulation in Brain during Whole Body Radiation Induced Radiation Sickness. *Proc. Intl. Soc. Mag. Reson. Med, Melbourne, Australia, p4430, 5-11 May, 2012.*
30. Richa Trivedi, **Ahmad Raza Khan**, Poonam Rana, Seenu Haridas, BS Hemanth Kumar, Kailash Manda, Ram KS Rathore, Rajendra P Tripathi, Subash Khushu. Radiation-Induced Early Changes in the Brain and Behavior: Serial Diffusion Tensor Imaging and Behavioral Evaluation after Graded Dose of Radiation. *Proc. Intl. Soc. Mag. Reson. Med, Melbourne, Australia, p3201, 5-11 May 2012.*
31. Mamta Gupta, Richa Trivedi, Poonam Rana, **Ahmad Raza Khan**, Ravi Soni, Subash Khushu. Differential Effects of Fractionated and Single Radiation Dose on Diffusion Tensor Imaging in Mice Brain *Proc. Intl. Soc. Mag. Reson. Med, Melbourne, Australia, p 3214, 5-11 May 2012.*

32. Mamta Gupta, Poonam Rana, **Ahmad Raza Khan**, Richa Trivedi, BS Hemanth Kumar, Ravi Soni, Subash Khushu. A Comparative Evaluation of Brain Metabolites following Whole Body and Cranial Irradiation: A Prospective 1H MRS Study. *Proc. Intl. Soc. Mag. Reson. Med, Melbourne, Australia, May p 4433, 5-11 May 2012.*
33. Mamta Gupta, Poonam Rana, Richa Trivedi, **Ahmad Raza Khan**, Ravi Soni, Subash Khushu. In vivo assessment of Brain metabolites following Whole Body and Cranial Irradiation: A 7T 1H MRS study. *18th National Magnetic Resonance Society (NMRS) at IISC, Bangalore Feb 5-8, 2012.*
34. Mamta Gupta, Richa Trivedi, Poonam Rana, **Ahmad Raza Khan**, Ravi Soni, Subash Khushu. Diffusion tensor imaging screening of radiation induced changes in mice brain after single and fractionated cranial irradiation. *18th National Magnetic Resonance Society (NMRS) at IISC, Bangalore, February 5-8, 2012.*
35. Ritu Tyagi, Mamta Gupta, Poonam Rana, **Ahmad Raza Khan**, P.J.S Bhalla, Subash Khushu. "Metabolic profiling studies on the Toxicological effects of Nickel chloride in rat urine by 1H NMR spectroscopy. *17th National Magnetic Resonance Society (NMRS) at Guru Nanak Dev University, Amritsar, Mar. 1-4 2011.*
36. Ritu Tyagi, **Ahmad Raza Khan**, Priyanka Saxena, Poonam Rana and, Subash Khushu. Study of thallium 201 induced changes in functional metabolites in mice using NMR Spectroscopy. *26th Annual meeting of ESMRMB, Antalya, Turkey, 3364, 2010.*
37. **Ahmad Raza Khan**, Poonam Rana, Shubhra Chaturvedi and Subash Khushu. Acute effect of gamma irradiation in mice by NMR based metabolic profiling of urine. *Proc. Intl. Soc. Mag. Reson. Med, Stockholm, Sweden, 926, 2010.*
38. Poonam Rana, **Ahmad Raza Khan**, M. M. Devi, S. Pal, and S. Khushu. NMR spectroscopy-based study of physiological perturbations during recurrence of symptoms in radiation sickness. *Proc. Intl. Soc. Mag. Reson. Med, Stockholm, Sweden, 3370, 1-7 May 2010.*
39. Ritu Tyagi, Poonam Rana, **Ahmad Raza Khan**, Memita Devi, Shubhra Chaturvedi, Subash Khushu. Toxicological effect of thallium in mice by NMR-based metabolic profiling of urine. *Proc. Intl. Soc. Mag. Reson. Med, Stockholm, Sweden, 3368, 1-7 May 2010.*
40. **Ahmad Raza Khan**, Poonam Rana, M. Memita Devi, Shubhra Chaturvedi, Subash Khushu. NMR spectroscopy-based study of physiological perturbations in radiation sickness. *Poster presented at 16th NMRS Meeting, at CBMR, Lucknow, India, Feb. 21-24 2010.*
41. Ritu Tyagi, Poonam Rana, **Ahmad Raza Khan**, Priyanka Saxena and Subash Khushu. NMR spectroscopy for the identification of changes in functional metabolites in biofluids on exposure to Thallium-201 in mice. *16th National Magnetic Resonance Society (NMRS) Meeting, at CBMR, Lucknow Feb, 21-24 2010.*
42. **Ahmad Raza Khan**, Poonam Rana, S. Moza, S. Chaturvedi, Subash Khushu. NMR spectroscopic based metabonomic investigation on the biochemical effects induced by γ radiation exposure in mouse serum *Proc. Intl. Soc. Mag. Reson. Med. Honolulu, Hawaii, 4306, 18-24 April 2009.*
43. Poonam Rana, **Ahmad Raza Khan**, Poonam Singh, S. Chaturvedi, R. P. Tripathi, Subash Khushu. High Resolution MR Spectroscopy Reveals Radiation Induced Metabolic Changes in Mouse Liver Tissues. *Proc. Intl. Soc. Mag. Reson. Med. Honolulu, Hawaii, 4299, 18-24 April 2009. Cited by: 2*
44. Poonam Rana, Ritika Agarwal, **Ahmad Raza Khan**, Shubhra Chaturvedi, Rajendra Prasad Tripathi, Subash Khushu. Exploration of the Effect of Whole-Body Ionising Radiation Exposure on the Metabolism of Renal Tissue in Mice Using High Resolution 1H NMR Spectroscopy. *Proc. Intl. Soc. Mag. Reson. Med. Honolulu, Hawaii, 18-24 April 2009.*
45. Poonam Rana, **Ahmad Raza Khan**, Ritika, Poonam Singh, Shubhra Chaturvedi, and Subash Khushu. Exploration of the Effect of Whole-Body Ionizing Radiation Exposure on the Renal and Hepatic Tissue Metabolism in Mice Using High Resolution 1H NMR Spectroscopy. *Poster presented at 15th NMRS Meeting, Held at IICT, Hyderabad, Feb. 5-8 2009.*
46. Poonam Rana, **Ahmad Raza Khan**, Sahil Moza, Shubhra Chaturvedi, Subash Khushu. Metabolic Profiling of Serum from Mice under Radiation Stress using High Resolution NMR Spectroscopy. *IISc Centenary Symposium on Future Directions in NMR Bangalore, 2008.*
47. Poonam Rana, A. Varshney, G. Shreepathy, **Ahmad Raza Khan**, R.K. Marwah and S. Khushu. Muscle Bioenergetics in subclinical hypothyroidism: A 31P MRS study. *Poster presented at 14th NMRS Meeting, INMAS, Delhi, Jan. 16-19, 2008.*