UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES
GRADUATE FACULTY APPLICATION

1. Name: Rupak PATHAK, Ph.D.

2. UAMS Graduate Program Sponsor: Pharmaceutical Sciences Graduate Program Major field: Radiation Health

3. Present UAMS academic title or administrative position: Assistant Professor

Date appointed this rank/position: July 1, 2016 Employed by: College of Pharmacy, UAMS

4. **Comments of Department Chair/Head or Program Director including: evidence of scholarly development, effectiveness as a teacher, quality of publications and reallocation of duties if this application is approved.**

Dr. Pathak is a new appointment to a tenure-track position at the Assistant Professor level. His experience and strengths lie within the Radiation Health area and he will be involved in the further development of this focused research area at the graduate level. He has substantial experience with various grant projects and sub-projects and is actively working towards the submission of applications to the NIH and related agencies for funding. His teaching experience so far have involved pharmacy (Pharm.D.) students. However, he is ready to begin teaching at the graduate level.

~~Department Chair/Head or~~ Program Director — Date: 9/13/16 — Graduate Council Representative

I have read the comments of my Department Chair/Head or Program Director and I do, do not (circle one) wish to supply additional information in support of my application.

Rupak Pathak Digitally signed by Rupak Pathak Date: 2016.09.08 16:39:07 -05'00' — 9/8/2016

Applicant's Signature — Date

Approvals

Chair, Graduate Faculty Committee — 10/20/16 — Date

Chair, Graduate Council — 10/20/16 — Date

Dean of the Graduate School — 10.20.16 — Date

Approved 5/30/96
Updated 02/02/06

5. **List your planned involvement in graduate education (courses, theses, dissertations):**

Participation in graduate education within the focus area of Radiation Health as part of the PS-Track of the Pharmaceutical Sciences Graduate Program.

Serve as member of dissertation committees and as major advisor to students seeking degree (M.S., Ph.D.) in the PSGP or related programs.

6. **Briefly summarize your experience in graduate-level classroom teaching:**

At present no specific experience presenting lectures at the graduate level.

7. **Briefly summarize your experience in research and student research mentoring:**

Total of 25 research publications, 1 book chapter and 2 editorials with an additional 26 abstracts/presentations.
Substantial experience with various grants and sub-grant projects as both project PI and co-I.
Currently serving as a Mentor for Dr. Abdel Bachri (Associate Professor of Physics / Chair of Dept. of Engineering and Engineering Physics, Southern Arkansas University, AR) in Research Development Grant funded by Arkansas IDeA Network of Biomedical Research Excellence (INBRE).
Two graduate students (Joeline Brown and Hemant Kemkar) from College of Public Health, UAMS, worked with Dr. Pathak in Research Infrastructure Development grant funded by Arkansas Space Grant Consortium through the National Aeronautics and Space Administration.
Currently Kavya Pidaparthi, a graduate student from College of Public Health, UAMS, is working with Dr. Pathak in Research Infrastructure Development grant funded by Arkansas Space Grant Consortium through the National Aeronautics and Space Administration

8. **Attach Curriculum Vita** showing educational background (including institutions attended, degrees awarded and dates), honors or awards received, scholarly or professional organization affiliations, teaching experience (give school, dates and advanced and graduate subjects taught), including student theses and/or dissertations supervised. Cite publications and research in progress.

CURRICULUM VITAE

(August, 2016)

Rupak Pathak, Ph.D
Assistant Professor
Division of Radiation Health
Department of Pharmaceutical Sciences
University of Arkansas for Medical Sciences
Office: College of Pharmacy
University of Arkansas for Medical Sciences
4301 W. Markham, Slot# 522-3, Little Rock, AR 72205

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pathakrupak@yahoo.com

PERSONAL INFORMATION:

Place of Birth:	Kolkata, India
Citizenship:	India
Current status:	Permanent Resident of USA **(Green Card holder)**
Marital status:	Married
Website:	http://pharmcollege.uams.edu/facultyinfo/directory/faculty-member-rupak-pathak/

EDUCATION:

1999-2007:	Ph.D. Kalyani University, Nadia, West Bengal, India
1997-1998:	B.Ed. Jadavpur University, Kolkata, West Bengal, India
1994-1996:	M.Sc., North Bengal University, Darjeeling Govt. College, West Bengal, India

PROFESSIONAL EXPERIENCE:

2016-Present:	Assistant Professor (Tenure-track), Division of Radiation Health, Department of Pharmaceutical Sciences, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
2014-2016:	Assistant Research Professor, Division of Radiation Health, Department of Pharmaceutical Sciences, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
2010-2014:	Research Instructor, Division of Radiation Health, Department of Pharmaceutical Sciences, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
2007-2010:	Postdoctoral Research Associate, Armed Forces Radiobiology Research Institute, Bethesda, Maryland, USA.
2007-2007:	Assistant Professor, Department of Radiobiology, Manipal Life Sciences Center, Manipal University, Karnataka, India.
2005-2007:	Assistant Teacher in Biological Sciences, Alida Bagnar High School, South 24 Parganas, West Bengal, India.
2003-2005:	Research Fellow, Division of Radiation Biology, Inter University Accelerator Centre, New Delhi, India.
2001-2003:	Assistant Teacher in Biological Sciences, Alida Bagnar High School, South 24 Parganas, West Bengal, India.
1999-2001:	Research Fellow, Division of Radiation Biology, Inter University Accelerator Centre, New Delhi, India and Division of Zoology, Kalyani University, West Bengal, India.
1997-1999:	Part-time Lecturer in Biological Sciences, Maheshtala College, Maheshtala, Kolkata, India.

HONORS/AWARDS:

1996: Awarded University Medal from North Bengal University (West Bengal, India) for securing **1st Class 2nd position in M.Sc** with 74.9% marks.

1999: **UGC Funded University Project** (UFUP) fellowship by **UGC** from Inter-University Accelerator Centre (New Delhi, **India**).

2007: Award of Scholarship for **Postdoctoral Research Associate**, Henry M. Jackson Foundation, Rockville, Maryland, USA.

2008: Awards of **Resident Research Associateship** by **National Research Council** (NRC) of **the National Academies** of **USA**

2009: **Scholars-in-Training (SIT) Travel Award** by Radiation Research Society (RRS), Georgia, USA

2009: **Oral presentation in Mini-symposium** of at the 55th Annual Meeting of Radiation Research Society in Savannah, Georgia, USA.

PROFESSIONAL MEMBERSHIP:

- Regular member of **Radiation Research Society**
- Regular member of **Sigma Xi Scientific Research Society**

PEER-REVIEWED PUBLICATIONS:

1. **R. Pathak***, J. Wang, S. Garg, N. Aykin-Burns, K. U. Petersen, M. Hauer-Jensen, **2016.** Recombinant Thrombomdulin (Solulin) Ameliorates Early Intestinal Radiation Toxicity in a Preclinical Rat Model. ***Radiat Res.*** 186(2): 112-20. [PMID: 27459702]
2. S. Prior, I. R. Miousse, E. Nzabarushimana, **R. Pathak**, C. Skinner, K. R. Kutanzi, A. R. Allen, J. Raber, A. J. Tackett, M. Hauer-Jensen, G. A. Nelson, I. Koturbash, **2016**. Densely Ionizing Radiation Affects DNA Methylation of Selective LINE-1 Elements. ***Environ Res.*** 150: 470-81. [PMID: 27419368]
3. J. Chang, Y. Luo, Y. Wang, **R. Pathak**, V. Sridharan, T. Jones, X. W. Mao, G. Nelson, M. Boerma, M. Hauer-Jensen, D. Zhou, L. Shao. **2016**. Low Doses of Oxygen Ion Irradiation Cause Acute Damage to Hematopoietic Cells in Mice. ***PLoS One.*** 11(7): e0158097. [PMID: 27367604]
4. **R. Pathak***, A. Bachri, S. P. Ghosh, I. Koturbash, M. Boerma, R. K. Binz, J. R. Sawyer, M. Hauer-Jensen, **2016**. The Vitamin E Analog Gamma-Tocotrienol (GT3) Suppresses Radiation-Induced Cytogenetic Damage. ***Pharm Res***. 33(9): 2117-25. [PMID: 27216753]
5. S. P. Ghosh, **R. Pathak**, P Kumar, S. Biswas, S. Bhattacharyya, V. P. Kumar, M. Hauer-Jensen, R. Biswas, **2016.** Gamma-Tocotrienol Modulates Radiation-Induced MicroRNA Expression in Mouse Spleen. ***Radiat Res.*** 185(5): 485-95. [PMID: 27128741]
6. Y.L. Liu, Y. Yan, C. Webster, L. Shao, S.Y. Lensing, H. Ni, W. Feng, N. Colorado, **R. Pathak**, Z. Xiang, M. Hauer-Jensen, S. Li, D. Zhou, P.D. Emanuel; **2016.** Timing of the loss of PTEN protein determines disease severity in a mouse model of myeloid malignancy. ***Blood.*** 127(15): 1912-22. [PMID: 26764354]
7. Y. Wu, S. Lee, E. A. Williamson, B. L. Reinert, A. S. Jaiswal, G. Srinivasan, B. Patel, A. Brantly, D. Zhou, L. Shao, **R. Pathak**, M. Hauer-Jensen, S. Singh, K. Kong, X. Wu, J. H. Cho, F. Xia, H. Kim, T. Beissbarth, J. Gaedcke, S. Burma, J. A. Nickoloff, R. Hromas, **2015.** EEPD1 Rescues Stressed Replication Forks and Maintains Genome Stability by Promoting End Resection and Homologous Recombination Repair. ***PLoS Genet.*** 11(12):e1005675 [PMID: 26684013]
8. I.R. Miousse, M.G. Chalbot, **R. Pathak**, X. Lu, E. Nzabarushimana, K.Krager, N. Aykin-Burns, M. Hauer-Jensen, P. Demokritou, I.G. Kavouras, I. Koturbash, **2015.** In Vitro Toxicity and Epigenotoxicity of Different Types of Ambient Particulate Matter. ***Toxicol Sci.*** 148(2):473-87. [PMID: 26342214]

9. E. Nzabarushimana, S. Prior, I. R. Miousse, **R. Pathak**, A. R. Allen, J. Latendresse, R. H. J. Olsen, J. Raber, M. Hauer-Jensen, G. A. Nelson, I. Koturbasha, **2015.** Combined Exposure to Protons and ^{56}Fe Leads to Over-expression of Il13 and Reactivation Repetitive Elements in the Mouse Lung. ***Life Sci Space Res.*** 11(7): 1-8. [PMID: 26553631]
10. **R. Pathak***, L. Shao, S. P. Ghosh, D. Zhou, M. Boerma, H. Weiler, M. Hauer-Jensen, **2015.** Thrombomodulin Contributes to Gamma Tocotrienol-Mediated Lethality Protection and Hematopoietic Cell Recovery in Irradiated Mice. ***PLoS One***. 10(4):e0122511. [PMID: 25860286]
11. **R. Pathak**, A. K. Cheema, S. M. Boca, K. J. Krager, M. Hauer-Jensen, N. Aykin-Burns, **2015.** Modulation of Radiation Response by the Tetrahydrobiopterin Pathway. ***Antioxidants (Basel).*** *4*(1): 68-81. [PMID: 26785338]
12. Y. You, R. Wen, **R. Pathak**, A. Li, W. Li, D. St Clair, M. Hauer-Jensen, D. Zhou, Y. Liang, **2014.** Latexin sensitizes leukemogenic cells to gamma-irradiation-induced cell cycle arrest and cell death through Rps3 pathway. ***Cell Death Dis.*** 5:e1493. [PMID: 25341047]
13. **R. Pathak**, L. Shao, S. M. Chafekar, W. Feng, U. Ponnappan, L.M. Fink, D. Zhou, M. Hauer-Jensen, **2014.** IKKβ Regulates Thrombomodulin in a Klf2-Dependent Manner. ***J Thromb Haemost.*** 12(9):1533-44 [PMID: 25039491]
14. A. K. Cheema, **R. Pathak**, F. Zandkarimi, P. Kaur, L. Alkhalil, R. Singh, X. Zhong, S. Ghosh, N. Aykin-Burns, M. Hauer-Jensen, **2014.** Liver Metabolomics Reveals Increased Oxidative Stress and Fibrogenic Potential in Gfrp Transgenic Mice in Response to Ionizing Radiation. ***J Proteome Res.*** 13(6): 3065-74. [PMID: 24824572]
15. S. A Pawar, L. Shao, J. Chang, W. Wang, **R. Pathak**, X. Zhu, J. Wang, H. Hendrickson, M. Boerma, E. Sterneck, D. Zhou, M. Hauer-Jensen, **2014.** C/EBPδ Deficiency Sensitizes Mice to Ionizing Radiation-Induced Hematopoietic and Intestinal Injury. ***PLoS One***, 9(4):e94967. [PMID: 24747529]
16. J. Wray, E. A. Williamson, S. B. Singh, Y. Wu, C. R. Cogle, D. M. Weinstock, Y. Zhang, S-H. Lee, D. Zhou, L. Shao, M. Hauer-Jensen, **R. Pathak**, V. Klimek, J. A. Nickoloff, and R. Hromas, **2013.** PARP1 is Required for Chromosomal Translocations. ***Blood.*** 121(21): 4359-65. [PMID: 23568489]
17. S. P. Ghosh, R. Singh, K. Chakraborty, S. Kulkarni, A. Uppal, Y. Luo, P. Kaur, **R. Pathak**, K.S. Kumar, M. Hauer-Jensen, A.K. Cheema, **2013.** Metabolomic Changes in Gastrointestinal Tissues after Whole Body Radiation in a Murine Model. ***Mol Biosyst.*** 9(4): 723-31. [PMID: 23403731]
18. **R. Pathak**, S. Pawar, Q. Fu, P. K. Gupta, M. Berbee, S. Garg, V. Sridharan, W. Wang, B. Prabath, K. Krager, M. Boerma, S. Ghosh, A. Cheema, H. Hendrickson, N. Aykin-Burns, M. Hauer-Jensen, **2013.** Characterization of Transgenic Gfrp Knock-in Mice: Implications for Tetrahydrobiopterin in Modulation of Normal Tissue Radiation Responses. ***Antioxid Redox Signal.*** 20(9): 1436-46. [PMID: 23521531]
19. M. Berbee, Q. Fu, M. Boerma, **R. Pathak**, D. Zhou, K. S. Kumar, M. Hauer-Jensen, **2011.** Reduction of Radiation-Induced Vascular Nitrosative Stress by the Vitamin E Analog γ-Tocotrienol: Evidence of a Role for Tetrahydrobiopterin. ***Int J Radiat Oncol Biol Phys.*** 79(3): 884-91. [PMID: 20950957]
20. **R. Pathak**, A. Ramakumar, U. Subramanian and P. G. S. Prasanna, **2009.** Differential Radiosensitivities of Human Chromosomes 1 and 2 in One Donor in Interphase- and Metaphase–Spreads after ^{60}Co γ-Irradiation. ***BMC Med Phys.*** 9: 6. [PMID: 19531236]
21. P.R. Choudhry, B. Pandit, **R. Pathak,** K. Chaudhuri, N.P.Bhattacharyya, **2008.** Increased Expression of Genes in a Radio-resistant Cell Strain: Modulation of hnRNP E2, Hsp90, and SSBP2 Genes in γ-irradiated Chinese Hamster V79 Cells. ***International Journal of Low Radiation,*** 4,313-331.
22. **R. Pathak,** S.K. Dey, A. Sarma, A.R. Khuda-Bukhsh, **2007.** Cell Killing, Nuclear Damage and Apoptosis in Chinese Hamster V79 Cells after Irradiation with Heavy-ion Beams of ^{16}O, ^{12}C and ^{7}Li. ***Mutat Res.*** 632,58-68 [PMID: 17532254]
23. **R. Pathak,** A. Sarma, B. Sengupta, S.K. Dey, A.R. Khuda-Bukhsh, **2007,** Response to High LET Radiation ^{12}C (LET, 295 keV/μm) in M5 Cells, a Radio Resistant Cell Strain Derived from Chinese Hamster V79 Cells. ***International Journal of Radiation Biology,*** **83,** 53-63 [PMID: 17357440]

24. **R. Pathak,** S. K. Dey A. Sarma and A. R. Khuda-Bukhsh, **2007.** Genotoxic Effects in M5 Cells and Chinese Hamster V79 Cells after Exposure to ^{7}Li-beam (LET = 60 keV/μm) and Correlation of their Survival Dynamics to Nuclear Damages and Cell Death. ***Mutat Res.*** 628,56-66 [PMID: 17258499]
25. **R. Pathak,** A. R. KhudaBukhsh, S. K. Dey, U. Ghosh, B. Sen Gupta, M. Semwal, N. P. Bhattacharyya, **2007.** Resistance to Induction of Micronuclei, Chromosomal Aberrations and Apoptosis by ^{60}Co γ- ray in a Cell Strain M5, Derived from Chinese Hamster V79 Cells. ***Journal of Radio-analytical and Nuclear Chemistry,*** 274,441-447.

BOOK CHAPTER:

1. **R. Pathak*** and P. G. S. Prasanna, **2014,** Premature Chromosome Condensation in Human Resting Peripheral Blood Lymphocytes without Mitogen Stimulation for Chromosome Aberration Analysis Using Specific Whole Chromosome DNA Hybridization Probes. ***Methods Mol Biol.*** vol. 1105, 171-181, 2nd Eds. Springer (A product of Humana Press)

EDITORIALS:

1. **Rupak Pathak***, Martin Hauer-Jensen, **2015**, Potential use of dietary antioxidant to prevent radiation-induced genomic instability. ***MOJ Bioequivalence & Bioavailability***, 1(1):00002. (Corresponding author) (http://medcraveonline.com/MOJBB/MOJBB-01-00002.pdf)
2. **Rupak Pathak***, Martin Hauer-Jensen, **2015**, Particle Beam may have Higher Effectiveness in Treating Chemo-resistant Cancers than Low-LET Photon Beam Therapy, ***Research and Reviews: Journal of Pharmacy and Pharmaceutical Sciences***, 4(2) 1-2. [PMID: 26779544]

POSTER IN INTERNATIONAL CONFERENCE:

1. **Rupak Pathak**, Abdel Bachri, Igor Koturbash, Gregory A Nelson, Marjan Boerma, Martin Hauer-Jensen, **Effect of microgravity on radiation-induced endothelial cell damage,** 6th Biennial IDeA Symposium of Biomedical Research Excellence, Wardman Park Marriott Hotel, Washington DC, 26-28 June.
2. **Rupak Pathak**, Abdel Bachri, Sanchita P. Ghosh, Igor Koturbash, Marjan Boerma, Martin Hauer-Jensen, GT3 suppresses ionizing radiation- and/or microgravity-induced genomic instability: Possible role of RAD50. 2016, Human Research Program Investigators' Workshop, Galveston Island Convention Center, Galveston, 8-11 February.
3. Isabelle R. Miousse, Sara Prior, Etienne Nzabarushimana, **Rupak Pathak**, Lijian Shao, Jianhui Chang, Antino R. Allen, John R. Latendresse, Marjan Boerma, Martin Hauer-Jensen, Gregory A. Nelson, Igor Koturbash, Short- and Long-Term Effects of Exposure to Low Doses of High-LET Radiation in the Mouse Lung. 2015, Southeast Regional IDeA Conference, Biloxi, Mississippi, November 11 – 13.
4. Kimberly J. Krager, **Rupak Pathak**, Qiang Fu, Martin Hauer-Jensen, Nukhet Aykin-Burns, The Role of Tetrahydrobiopterin (BH4) Bioavailability in Radiation-induced Skin Injury. **2015**, The Society for Redox Biology and Medicine's (SFRBM) 22nd Annual Meeting, Boston, Massachusetts, November, 18 – 21.
5. **Rupak Pathak**, Abdel Bachri, Sanchita P. Ghosh, Igor Koturbash, Marjan Boerma, Martin Hauer-Jensen, Does GT3 modulate ionizing radiation- and/or microgravity-induced genomic instability? **2015,** 61st Annual International Meeting of the Radiation Research Society, Weston, Florida, September 19 – 22.
6. **Rupak Pathak**, Abdel Bachri, Joeline Brown, Sanchita P. Ghosh, Igor Koturbash, Marjan Boerma, Martin Hauer-Jensen, The effect of ionizing radiation on genomic instability under microgravity with or without GT3 pre-treatment, **2015**, 23rd Annual Arkansas Space Grant Symposium, Hot Springs, Arkansas, 10th April.
7. **Rupak Pathak**, Sanchita P. Ghosh and Martin Hauer-Jensen, Vitamin E analogue gamma tocotrienol (GT3) suppresses radiation-induced cytogenetic damage in mice, **2014**, 60th

Annual International Meeting of the Radiation Research Society, Las Vegas, Nevada, September 21-24, (PS2-66).

8. Lijian Shao, **Rupak Pathak**, Wei Feng, Jianhui Chang, Junru Wang, Marjan Boerma, Barry Hart, Daohong Zhou and Martin Hauer-Jensen, Inhibition of TGF-β activation by small molecular IPW-5371 may protect against radiation-induced intestinal and hematopoietic injury, **2014**, 60th Annual International Meeting of the Radiation Research Society, Las Vegas, Nevada, September 21-24, (PS7-42).
9. Sarita Garg, Wenze Wang, **Rupak Pathak**, and Martin Hauer-Jensen, Radiation-induced intestinal barrier dysfunction in mouse: Role of endothelial nitric oxide synthase, **2014**, 60th Annual International Meeting of the Radiation Research Society, Las Vegas, Nevada, September 21-24, (PS3-64).
10. Lijian Shao, Hongliang Li, Wei Feng, Jianhui Chang, Yi Lou, **Rupak Pathak**, Martin Hauer-Jensen, Aimin Meng and Daohong Zhou, Mitigation of total body irradiation-induced long-term bone marrow injury and genomic instability via induction of senescent hematopoietic stem cells and expansion of normal hematopoietic stem cells, **2014**, 60th Annual International Meeting of the Radiation Research Society, Las Vegas, Nevada, September 21-24, (PS4-48).
11. Wenze Wang, Sarita Garg, Herbert A Schmid, **Rupak Pathak**, Lijian Shao, Wen Feng, Daohong Zhou and Martin Hauer-Jensen, Effect of SOM230 on cell cycle regulation in cultured intestinal epithelial (IEC-6) cells, **2013**, 59th Annual Meeting of the Radiation Research Society, New Orleans, Lousiana, USA, 15th to 19th September.
12. **Rupak Pathak**, Lijian Shao, Sarita Garg, Sanchita P. Ghosh, Daohong Zhou and Martin Hauer-Jensen, Thrombomodulin plays a critical role in vitamin E analog Gamma Tocotrienol (GT3)- mediated G-CSF induction, granulopoiesis and radiation protection *in vivo,* **2013,** 59th Annual Meeting of the Radiation Research Society, New Orleans, Lousiana, USA, 15th to 19th September.
13. Prem Gupta, **Rupak Pathak**, Martha Hubbard, Martin Hauer-Jensen and Howard Hendrickson, The BiopterinMetabolome – Unlocking the mysteries of ionizing radiation injury, **2013**, The Association of Biomolecular Resource Facilities, Palm Spring, CA, March 2-5, 2013.
14. Kimberly J. Krager, **Rupak Pathak**, Snehalata A. Pawar, Prem Gupta, Qiang Fu, Maaike Berbée, Prabath Biju, Sarita Garg, Wenze Wang, Howard Hendrickson, Martin Hauer-Jensen, Nukhet Aykin-Burns, *De novo* biosynthesis of tetrahydrobiopterin is critical in protecting against ionizing radiation, **2012**, Society for Free Radical Biology and Medicine Meeting, San Diego, CA, November 14-18, 2012
15. **Rupak Pathak**; Kimberly J. Krager; Snehalata A. Pawar; Prem Gupta; Qiang Fu; Maaike Berbée; Prabath Biju; Sarita Garg; Wenze Wang; Howard Hendrickson; Martin Hauer-Jensen; Nukhet Aykin-Burns, De novo biosynthesis of BH4 is critical in protecting against ionizing radiation-induced injury, **2012**, 58th Annual Meeting of the Radiation Research Society, San Juan, Puerto Rico, USA September 30 – October 3, 2012
16. KushalChakraborty; **Rupak Pathak**; Kevin Hieber; K Sree Kumar; Martin Hauer–Jensen[2]; and Sanchita Ghosh, **2012**, Combined effect of gamma-tocotrienol and statin as radioprotectants, 58th Annual Meeting of the Radiation Research Society, San Juan, Puerto Rico, USA September 30 – October 3, 2012
17. Sarita Garg; Wenze Wang; Kimberly Krager; **Rupak Pathak**; Nukhet Aykin-Burns; Howard Hendrickson; and Martin Hauer-Jensen, **2012**, Tetrahydrobiopterin: Regulator of endothelial nitric oxide synthase in radiation-induced injury, 58th Annual Meeting of the Radiation Research Society, San Juan, Puerto Rico, USA September 30 – October 3, 2012
18. **Rupak Pathak**; Lijian Shao; Sidhartha Chafekar; Usha Ponnappan; Daohong Zhou; and Martin Hauer-Jensen, **2012**, Inhibitory kappa B kinase-β regulates endothelial thrombomodulin in an NF-κB-independent manner,58th Annual Meeting of the Radiation Research Society, San Juan, Puerto Rico, USA September 30 – October 3, 2012
19. Pawar, S. A., **Pathak, R.**, Wang, J., Sterneck, E. and Hauer-Jensen, M. **2011**, Role of the transcription factor C/EBP delta in ionizing radiation response. ABI Fall Research Symposium, Little Rock, AR, Sept 21, 2011

20. Snehalata A. Pawar, **Rupak Pathak**, Jun Wang, EstaSterneck, Martin Hauer-Jensen, **2011,** Role of the Transcription Factor C/EBP delta In Ionizing Radiation Response, 14th International Congress of Radiation Research, Warsaw, Poland
21. **Rupak Pathak**, Snehalata A. Pawar, Prem Gupta, Qiang Fu, MaaikeBerbée, PrabathBiju, Sarita Garg, K. Sree Kumar, Howard Hendrickson, Martin Hauer-Jensen, **2011,** Characterization of transgenic Gfrp knock-in mice: Implications for BH4 in modulation of radiation response, 14th International Congress of Radiation Research, Warsaw, Poland.
22. **Rupak Pathak,** Therese Barber, Alexander Shakhov, Elena Feinstein, Vijay K. Singh, **2010,** Modulation of NF-κB and cytokine expression by radio-protective TLR agonists in hematopoietic cells, 56th Annual Meeting of the Radiation Research Society, Maui, Hawaii, USA (PS1.12)
23. **Rupak Pathak,** Adarsh Ramakumar, Uma Subramanian, Pataje G.S. Prasanna, **2009,** Analysis of chromosomal aberrations involving human chromosome 1 and 2 in interphase- and metaphase-spreads after ^{60}Co γ-irradiation, 55th Annual Meeting of the Radiation Research Society, Savannah, GA, USA (MS602)
24. **Rupak Pathak,** Subrata K. Dey, Asiti Sarma, Anisur R. Khuda-Bukhsh, **2006,** Correlation of cell survival and nuclear damages in Chinese hamster cells after exposure to heavy ion irradiation. Indian Journal of radiation research, **3,** 201 (Abs. No. 74).
25. **Rupak Pathak,** Asiti Sarma, Subrata K. Dey, Nitai P. Bhattacharyya, **2006,** Response to high LET radiation ^{12}C (LET, 295 keV/μm) in M5 cells, a radio resistant cell strain derived from Chinese hamster V79 cells. *Application of radiotracers in chemical, environmental and biological sciences,* **2,** 265-267.
26. **Rupak Pathak**, Asiti Sarma, Manoj Semwal, Subrata K. Dey and Nitai P. Bhattacharyya, **2004,** High LET radiation induced chromosomal aberrations, micronuclei formation and apoptosis in Chinese hamster V79 cells. *Indian Journal of Radiation Research: International Conference on Recent Trends in Radiation Biology,* **1,** RD-6.

INVITED TALK:

1. University of Arkansas for Medical Sciences, College of Pharmacy Seminar Lecture Series, **Mechanisms of Radiation Protection by the Vitamin E Analog γ-Tocotrienol,** April 1, 2016.
2. Arkansas Space Grant Consortium, AR NASA-EPSCoR Conference, Hot Springs; Hotel Hot Springs and Spa, **Role of the Vitamin E Analog γ-Tocotrienol (GT3) in Modulating Ionizing Radiation-Induced Cytogenetic Damage,** April 16, 2016.

RESEARCH SUPPORT:

ONGOING

1. Grant title: Effects of microgravity and GT3 on proton-induced genomic instability in endothelial cells
   Grant Number: NNX15AK32A
   Principal Investigator: **Rupak Pathak**, PhD
   Period: 01/01/2016-02/03/2017
   My role: **Principal Investigator**; responsible for the conceptualization of the entire project and the grant application as well as supervision and overall direction of the entire project.
   Grant Amount: $50K

2. Grant title: Effect of microgravity and GT3 on radiation-induced genomic instability in endothelial cells
   Grant Number: Arkansas IDeA Network of Biomedical Research Excellence (INBRE)
   Principal Investigator: Dr. Abdel Bachri
   Period: 06/01/2015/ to 12/17/2017
   My role: **Mentor**. To train and provide support for successful accomplishment of the grant, where role of gamma tocotrienol (GT3) will be investigated after radiation exposure and/or microgravity condition.
   Grant Amount: $334K

3. Grant title: *Center for Research on Cardiac, Vascular, and Acute Effects of Space Radiation*

Grant Number: RE03701 from National Space Biomedical Research Institute, USA
Principal Investigator: Dr. Marjan Boerma
Period: 06/01/2014 to 05/31/2017
My role: **Collaborator**. The goal of this project is to characterize the risks of and identify interventions in cardiovascular injury from exposure to space radiation.
Grant Amount: $4.3M (for 3 years)

4. Grant title: *Advanced development of SOM230 as a radiation mitigator*
Grant Number: HHSO10020110045C/ BARDA
Principal Investigator: Dr. Marin Hauer-Jensen
Period: 09/26/2011 to 09/26/2015
My role: **Collaborator**. To conduct GLP mouse and nonhuman primate studies for the development of SOM230 as a human medical countermeasure against radiation
Grant Amount: $14M (for 5 years)

5. Grant title: *The role of NADPH oxidase(s) in therapy-related myelodysplastic syndrome and acute myelogenous leukemia (t-MDS/AML)*
Grant Number: Edward P. Evan's Foundation
Principal Investigator: Dr. Daohong Zhou
Period: 04/01/2012 to 03/31/2017
My role: **Co-investigator**. To investigate the role of NADPH oxidase in therapy-related myelodysplastic syndrome/acute myeloid leukemia (tMDS/AML) by studying chromosome aberrations in mouse bone marrow cells using various cytogenetic techniques including Spectral karyotyping that allows painting all the mouse chromosomes with different colors.
Grant Amount: $5M (for 5 years)

COMPLETED

1. Grant title: Effect of microgravity and GT3 on radiation-induced genomic instability in endothelial cells
Grant Number: Arkansas Space Grant Consortium
Principal Investigator: **Rupak Pathak,** PhD
Period: 12/01/2014/ to 10/17/2015
My role: **Principal Investigator**; responsible for the conceptualization of the entire project and the grant application as well as supervision and overall direction of the entire project.
Grant Amount: $50K

2. Grant title: *Genomic Instability in Irradiated Endothelial Cells: GT3 and Microgravity Effects*
Grant Number: INBRE summer fellowship
Principal Investigator: Dr. Abdel Bachri
Period: 05/24/2014/ to 08/01/2014
My role: **Mentor**. To train and provide support for successful accomplishment of the summer project, where role of gamma tocotrienol (GT3) will be investigated after radiation exposure and/or microgravity condition.
Grant Amount: $20K (for 10 weeks)

TEACHING RESPONSIBILITIES:

RESEARCH MENTORING

2015 – Present: Mentor, Arkansas IDeA Network of Biomedical Research Excellence (Arkansas INBRE) Research Development Grant, PI: Dr. Abdel Bachri
2014 – 2015: Advisor, Students: Ms. Joeline Brown and Mr. Hemant Kemkar
2013: Mentor, Arkansas IDeA Network of Biomedical Research Excellence (Arkansas INBRE) Summer Fellowship, Summer Fellow: Dr. Abdel Bachri

CLASSROOM TEACHING

2015 – Present: Instructor, Molecular Biology and Biotechnology, University of Arkansas for Medical Sciences Pharmacy curriculum, Little Rock, AR, USA
2007 – 2007: Assistant Professor, Department of Radiobiology, Manipal Life Sciences Center, Manipal University, Karnataka, India.
2001 – 2003: Assistant Teacher in Biological Sciences, Alida Bagnar High School, South 24 Parganas, West Bengal, India.
1997 – 1999: Part-time Lecturer in Biological Sciences, Maheshtala College, Maheshtala, Kolkata, India

REVIEW SERVICE:

Associate Editor:

Research and Reviews: Journal of Pharmacy and Pharmaceutical Sciences (http://www.rroij.com/jpps/index.php/jpps/about/editorialTeam).

MOJ Bioequivalence & Bioavailability (http://medcraveonline.com/MOJBB/editorial-board)

Manuscript Reviewer:

Radiotherapy and Oncology
International Journal of Radiation Oncology, Biology, Physics
Radiation Research
Human and Experimental Toxicology
International Journal of Radiation Biology
Mutagenesis
International Journal of Biotechnology Research
Plos One
Journal of Medicine and Medical Sciences
Journal of Nanomaterials

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