Tanveer Ahmad

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DOB: 14-03-1983

EDUCATION

Institute/University	Degree	Field of Study	From	To
University of Kashmir	Masters	Biochemistry	01-03-2005	30-05-2007
Academy of Scientific & Innovative Research (AcSIR)	PhD	Biological Science	01-01-2011	30-05-2013
University of Rochester, New York, USA	Postdoctorate	01-07-2013	15-09-2014	15-09-2014
National Institutes of Health (NIH), MD, USA	Postdoctorate	16-09-2014	30-09-2017	30-09-2017
Jamia Millia Islamia, New Delhi, India	Assistant Professor	01-11-2017	Present	Present

RESEARCH PROJECTS

Title	Funding agency	Cost in Lakh	From	To
Altered Mitochondrial Calcium Dynamics in The Pathogenesis of Oral Submucous Fibrosis **Approved**	ICMR	5680000	20-3-2020	31-3-2023
Mindfulness Meditation and Yoga Based Psychological Intervention to Combat Depression and Anxiety in Students	DST	4970000		

Applied				
Garnering Regenerative Approaches for Transplantation (Co-Investigator) **Applied**	CSIR	11400000	01-01-2019	31-01-2020
Startup Grant **Applied**	UGC	1000000	01-7-2018	31-3-2019

AWARDS & HONOURS

- 2018 BioArt competition, FASEB, USA, 2018
- UGC-Faculty Recharge (Assistant Professor), India, 2017
- DST-INSPIRE faculty award, DST, India, 2014
- NIH, VF postdoctoral award, NIH, USA, 2014
- Associate faculty member in F1000, 2013
- Best Oral presentation award at the 3rd International conference on stem cells and cancer, Delhi, India, 2012
- Senior Research Fellowship (SRF) awarded by CSIR (2011)
- Travel Grant University of Rochester, New York (2014)
- Travel grant award by DBT-CTEP, 2010
- Travel grant award by CSIR, 2010
- Junior Research Fellowship (JRF) awarded by Lady TATA memorial trust (2009)
- Awarded NET for Lectureship by CSIR (2007)
- Science & Technology Award, Department of Science & Technology, 2004

RESEARCH HIGHLIGHTS

- Guest Editor for a special issue “Mitochondrial calcium in cell death and disease” Mitochondrion Journal.
- Reviewer @ Bio protocols and @ Journal of Medicinal Chemistry and @ Bio accent
- Supervised many graduate and Undergraduate students and reviewed articles for many reputed journals.

PUBLICATIONS

1. **Ahmad T,** Karavanova A, and Buonanno A**.** Optogenetic control of NRG3 trafficking into the axons via Rab4 containing vesicles (***Under review)***.

2. Rai A, **Ahmad T**, Parveen S, Parveen S, Faizan MI, Ali S. Expression of transforming growth factor beta in oral submucous fibrosis. **J Oral Biol Craniofac Res. 2020;10(2):166-170. doi:10.1016/j.jobcr.2020.03.015**

3. Kulshreshtha A, Singh S, Ahmad M, Khanna K, **Ahmad T**, Agrawal A, Ghosh B. Simvastatin mediates inhibition of exosome synthesis, localization and secretion via multicomponent interventions. **Sci Rep. 2019, 1637-1642. DOI: 10.1101/366211.**

4. **Vullhorst D, Ahmad T,** Karavanova A, Keating C, and Buonanno A. Structural Similarities Between Neuregulin 1-3 Isoforms Determine their Subcellular Distribution and Signaling Mode in Central Neurons. ***J Neurosci. 2017 May 24;37(21):5232-5249***.

5. **Ahmad T**, Sundar IK, Tormos AM, Lerner CA, Gerloff J, Yao H, Rahman I. Shelterin Telomere Protection Protein 1 Reduction Causes Telomere Attrition and Cellular Senescence via Sirtuin 1 Deacetylase in Chronic Obstructive Pulmonary Disease. **Am J Respir Cell Mol Biol. 2017 Jan;56(1):38-49.**

6. Pattnaik B, Bodas M, Bhatraju N, **Ahmad T**, Pant R, Guleria R, Ghosh B & Agrawal A. IL-4 promotes ADMA accumulation, oxo-nitrative stress and hypoxic response-induced mitochondrial loss in airway epithelial cells. **J Allergy Clin Immunol. 2016 Jul;138(1):130-141.e9.**

7. Lerner CA, Rutagarama P, **Ahmad T**, Sundar IK, Elder A, Rahman I. "Electronic cigarette aerosols and copper nanoparticles induce mitochondrial stress and

promote DNA fragmentation in lung fibroblasts. **Biochemical and biophysical research communications. 2016 477(4):620-625.**

8. **Ahmad T**, Sundar IK, Lerner CA, Gerloff J, Tormos AM, Yao H, Rahman I. Impaired mitophagy leads to cigarette smoke stress-induced cellular senescence. ***FASEB J. 2015 Mar 19. pii: fj.14-268276.***

9. Sundar IK, **Ahmad T**, Yao H, Hwang JW, Gerloff J, Lawrence BP, Sellix MT, Rahman I. Influenza A virus-dependent remodeling of pulmonary clock function in a mouse model of COPD. **Sci Rep. 2015 Apr 29;4:9927.**

10. Singh VP, Aggarwal R, Singh S, Banik A, **Ahmad T**, Patnaik BR, Nappanveettil G, Singh KP, Aggarwal ML, Ghosh B, Agrawal A. Metabolic Syndrome is Associated with Increased Oxo-nitrative Stress and Asthma-like Changes in Lungs. **PLoS One. 2015 Jun 22;10(6): e0129850.**

11. **Ahmad T**, Mukherjee S, Pattnaik B, Kumar M, Singh S, Kumar M, Rehman R, Tiwari BK, Jha KA, Barhanpurkar AP, Wani MR, Roy SS, Mabalirajan U, Ghosh B, Agrawal A. Miro1 Regulates Intercellular Mitochondrial Transport and Enhances Mesenchymal Stem Cell Rescue Efficiency. **EMBO J. 2014 May 2; 33(9): 994-1010.**

12. Yao H, Sundar IK, **Ahmad T**, Lerner C, Gerloff J, Friedman AE, Phipps RP, Sime PJ, McBurney MW, Guarente L, Rahman I. SIRT1 protects against cigarette smoke-induced lung oxidative stress via FOXO3-dependent mechanism**. Am J Physiol Lung Cell Mol Physiol. 2014 May 1; 306 (9): L816-28.**

13. Mabalirajan U, **Ahmad T,** Rehman R, Agrawal A and Ghosh B. Baicalein reduces airway injury in allergen and IL-13 induced airway inflammation. ***PLoS One 2013 Apr 30; 8(4): e62916.***

14. Mabalirajan U, Rehman R, **Ahmad T**, Kumar S, Leishangthem GD, Singh S, Dinda

AK, Biswal S, Agrawal A, Ghosh B. 12/15-lipoxygenase expressed in non-epithelial cells causes' airway epithelial injury in asthma. ***Scientific reports, 2013; 3:1540.***

15. Mabalirajan U, Rehman R, **Ahmad T**, Kumar S, Singh S, Leishangthem GD, Aich J, Kumar M, Khanna K, Singh VP, Dinda AK, Biswal S, Agrawal A, Ghosh B. Linoleic acid metabolite drives severe asthma by causing airway epithelial injury. ***Scientific reports 2013; 3:1349.***

16. **Ahmad T**, Aggarwal K, Pattnaik B, Mukherjee S, Sethi T, Tiwari BK, Kumar M, Micheal A, Mabalirajan U, Ghosh B, Sinha Roy S, Agrawal A. Computational Classification of Mitochondrial Shapes Reflects Stress and Redox State. ***CDDis, 2013 Jan 17; 4:e461. doi: 10.1038/cddis.2012.213****.*

17. Kulshreshtha A, **Ahmad T**, Agrawal A, Ghosh B. Proinflammatory role of epithelial cell-derived exosomes in allergic airway inflammation. ***JACI, 2013 Feb 13. pii: S0091-6749(12)03565-8.***

18. **Ahmad T**, Kumar M, Mabalirajan U, Pattnaik B, Aggarwal S, Singh R, Singh S, Mukerji M, Ghosh B, Agrawal A. Hypoxia response in asthma: differential modulation on inflammation and epithelial injury. ***Am. J. Respir. Cell Mol. Biol. 2012; 47, 1-10.***

19. Sharma A, Kumar M, **Ahmad T**, Mabalirajan U, Aich J, Agrawal A, Ghosh B. Antagonism of mmu-mir-106a attenuates asthma features in allergic murine model. ***J. Appl. Physiol. 2012; 113, 459-464.***

20. Aich J, Mabalirajan U, **Ahmad T**, Agrawal A, Ghosh B. Loss-of-function of inositol polyphosphate-4-phosphatase reversibly increases the severity of allergic airway inflammation. ***Nat. Commun. 2012; 3:877.***

21. Aich J, Mabalirajan U, **Ahmad T**, Khanna K, Rehman R, Agrawal A, Ghosh B. Resveratrol attenuates experimental allergic asthma in mice by restoring inositol

polyphosphate 4 phosphatase (INPP4A). ***Int. Immunopharmacol. 2012; 14, 438-443***.

22. **Ahmad T**, Mabalirajan U, Hasija K, Ghosh B, Agrawal A. Mepacrine treatment attenuates allergic airway remodeling segregated from airway inflammation in mice. ***Int. Immunopharmacol. 2011; 11, 74-78.***

23. **Ahmad T**, Mabalirajan U, Sharma A, Aich J, Makhija L, Ghosh B, Agrawal A. Simvastatin improves epithelial dysfunction and airway hyperresponsiveness: from asymmetric dimethyl-arginine to asthma. ***Am. J. Respir. Cell Mol. Biol. 2011; 44, 531-539.***

24. Kumar M, **Ahmad T**, Sharma A, Mabalirajan U, Kulshreshtha A, Agrawal A, Ghosh B. Let-7 microRNA-mediated regulation of IL-13 and allergic airway inflammation. ***J. Allergy Clin. Immunol. 2011; 128, 1077-1085.***

25. **Ahmad T**, Mabalirajan U, Ghosh B, Agrawal A. Altered asymmetric dimethyl arginine metabolism in allergically inflamed mouse lungs. ***Am. J. Respir. Cell Mol. Biol. 2010; 42, 3-8.***

26. Mabalirajan U, **Ahmad T**, Leishangthem GD, Dinda AK, Agrawal A, Ghosh B. L-arginine reduces mitochondrial dysfunction and airway injury in murine allergic airway inflammation. ***Int. Immunopharmacol. 2010; 10, 1514-1519.***

27. Mabalirajan U, **Ahmad T**, Leishangthem GD, Joseph DA, Dinda AK, Agrawal A, Ghosh B. Beneficial effects of high dose of L-arginine on airway hyperresponsiveness and airway inflammation in a murine model of asthma. ***J. Allergy Clin. Immunol. 2010; 125, 626-635.***

28. **Ahmad T**, Mabalirajan U, Joseph DA, Makhija L, Singh VP, Ghosh B, Agrawal A. Exhaled nitric oxide estimation by a simple and efficient noninvasive technique and

its utility as a marker of airway inflammation in mice. ***J. Appl. Physiol. 2009; 107, 295-301***.

29. Agrawal A, Sinha A, **Ahmad T**, Aich J, Singh P, Sharma A, Ghosh B. Maladaptation of critical cellular functions in asthma: bioinformatic analysis. ***Physiol Genomics. 2009; 40, 1-7***.

MANUSCRIPTS IN PRESS/COMMUNICATED/IN PREPARATION

30. Vullhorst V, **Ahmad T,** Karavanova I and Buonanno A. Post translational modifications of Neuregulin CTa leads to its somatic retention. ***(in preparation)***.

REVIEW ARTICLES

31. Tunneling Nanotubes and Gap Junctions – their role in long-range intercellular communication during development, health, and disease conditions. **Ahmad T**, Jennifer Ariazi, Andrew Benowitz, Vern Biasi, Monique L. Den Boer, Stephani Cherqui, nathalie douillet, Eliseo A Eugenin, David Favre. ***Frontiers of Neuroscience. 2017.***

32. Agrawal A, Mabalirajan U, **Ahmad T**, and Ghosh, B. (2011). Emerging interface between metabolic syndrome and asthma. ***Am. J. Respir. Cell Mol. Biol. 44, 270-275***.

BOOK CHAPTERS

33. Mukherjee S, Bhatraju N, **Ahmad T** & Agrawal A. Regulation of Mitochondrial transport in Mesenchymal Stem Cells. The Biology and Therapeutic Application of Mesenchymal Cells, ***Wiley, 2015***. ISBN: 978-1-118-90751-1.

34. Leishangthem G, Mabalirajan U, **Ahmad T**, Ghosh B, Agrawal A, Nag T, & Dinda A. Use of transmission electron microscopy for studying airway remodeling in a chronic ovalbumin mice model of allergic asthma. ***Microscopy: Science, Technology,***

***Applications and Education 2010**. ISBN: 978-84-614-6189-9.*

INVITED TALK/ PRESENTATIONS/ABSTRACTS IN CONFERENCES

1. Scientific Writing Skills for Research Papers and Projects" on April 07, 2018. GLA University, Mathura.
2. Spatiotemporal Dynamics of Vesicular Cargo in Hippocampal Neurons. National Symposium Cum Bioinformatics Workshop Programme- 2018. Aligarh, UP, India.
3. Beneficial Effects of L-Arginine in Arginase-NOS Paradox and Nitrosative Stress in murine model Of Asthma. *October 28-30, 2009 conference on "4th International Conference on Oxidative/Nitrosative Stress and Disease. New York Academy of Sciences 7 World Trade Center, New York, USA*.
4. Animals models of asthma. *33rd conference on annual day of laboratory animals. Hyderabad, India 2010.*
5. Mitochondrial biogenesis in murine model of asthma*. International conference on mitochondrial medicine and disease. MVDU, Katra, Jammu 2012.*
6. Mitochondrial transfer from stem cells to lung epithelial cells. *International Conference of Immunology, FIMSA, AIIMS NEW DELHI 2012.*
7. Engineered stem cells as efficient mitochondrial donors: Moving for a Cause*. 8th J&K science congress, 17th-19th September 2012, University of Kashmir, Srinagar Kashmir.*
8. Calcium/ATP dependent transfer of mitochondria from stem cells to lung epithelial cells. *3rd International conference on stem cells and cancer, Delhi, India, 2012.*

ABSTRACTS PRESENTED IN CONFERENCES

1. Vullhorst D**, Ahmad T,** Keating C, Karavanova I, Tao-Cheng JH, Bonifacino JS, Buonanno A. Exploring the functional role of neuregulin isoform diversity in the CNS. *NIH, NICHD DIR Scientific Retreat Program w/Poster Assignments & Updated Agenda, 2015.*
2. **Ahmad T**, IK. Sundar, H. Yao and Irfan Rahman. Mitochondrial Structural Changes during Cigarette Smoke-Induced Cellular Senescence in Lung Fibroblasts. *American*

thoracic society International conference. San Francisco USA, 2014.

3. I.K. Sundar, **Ahmad T**, H. Yao, K.C. Martin, M.T. Sellix, B.P. Lawrence, I. Rahma1. Influenza Virus-Induced COPD Exacerbation Disrupts Circadian Rhythms of Pulmonary Function and Clock Gene Expression. *American thoracic society International conference. San Francisco USA, 2014.*
4. Yao H, Sundar I, **Ahmad T**, Phipps R, Sime S, McBurney M, Guarente L, and Rahman I. SIRT1 protects against cigarette smoke-induced lung oxidative stress via FOXO3-dependent mechanism. *American thoracic society International conference. San Francisco USA, 2014.*
5. Singh S, Sinha S, Prakash Y.S, Kumar M, **Ahmad T**, Singh V.P, Ghosh B, Agrawal A. Asthma and Metabolic Syndrome in search of the Incipient Interfaces. *European Respiratory Society Annual Congress 2013 conference, September 7-11 2013, Barcelona, Spain.*
6. Mukherjee S, **Ahmad T**, Roy S. S, Mabalirajan U, Ghosh B and Agrawal A. Miro1 regulates intercellular mitochondrial transport and enhances Stem Cell rescue efficiency. 4th *International Conference on Stem Cells and Cancer (ICSCC), October 19-22, 2013 TBD, Mumbai, Maharashtra, India.*
7. **Ahmad T**, Mukherjee S, Pattnaik B, Kumar M, Singh S, Mabalirajan U, Ghosh B, Roy SS and Agrawal A. Miro 1 knockdown in stem cells inhibits mitochondrial donation mediated rescue of bronchial epithelial injury. *57th annual meeting of biophysical society, Philadelphia, USA, Feb 2013.*
8. Mukherjee S, **Ahmad T**, Pattnaik B, Kumar M, Singh S, Rehman R, Roy S.S, Mabalirajan U, Ghosh B and Agrawal A. Miro1 dependent movement of mitochondria from mesenchymal stem cells to injured epithelial cells. *3rd International Conference on Stem cells and cancer (ICSCC-2012), October 27-30 2012, Delhi, India. inStem Conference 2012, March 10-13, 2013, Banglore, Karnataka, India.*
9. **Ahmad T**, Mukherjee S, Pattnaik B, Mabalirajan U, Ghosh B and Agrawal A. Calcium/ATP dependent movement of mitochondria from mesenchymal stem cells to epithelial cells. 3rd *International Conference on Stem cells and cancer (ICSCC-2012), October 27-30 2012, Delhi, India.*

10. Pattnaik B, **Ahmad T**, Negi V, Ghosh B and Agrawal A. Unraveling the Role of Nuclear Factor I-B type in Asthma. *3rd International Conference on Stem cells and cancer (ICSCC-2012), October 27-30 2012, Delhi, India.*
11. **Ahmad T**, Pattnaik B, Mabalirajan U, Ghosh B and Agrawal A-Mitochondrial transfer from Stem Cell to Epithelial Cells – FIMSA. March 14-17, 2012, New Delhi-INDIA.
12. Aich J, Mabalirajan U, **Ahmad T**, Agrawal A and Ghosh B. Involvement of inositol polyphosphate 4 phosphatase (INPP4a) in airway hyperresponsiveness and inflammation in bronchial asthma. *FIMSA. March 14-17, 2012, New Delhi, India.*
13. **Ahmad T**, Mukherjee S, Ghosh B and Agrawal A. Engineered stem cells as efficient mitochondrial donors: Moving for a Cause*. 8th J&K science congress, 17th-19th September 2012, University of Kashmir, Srinagar Kashmir.*
14. Kulshreshtha A, **Ahmad T**, Agrawal A and Ghosh B. Role of exosomes in Bronchial Asthma. 1st International Meeting of ISEV (International Society for Extracellular Vesicles), *University of Gothenburg, Gothenburg, Sweden, April 18-21, 2012.*
15. Ahmad T, Kumar M, Pattnaik B, Mabalirajan U, Singh S, Ghosh B & Agrawal A-Hypoxia inducible factor-1 in asthma pathogenesis: Hypoxia and asthma-*99th National Science Congress-from January 3-7, 2012. Bhubaneswar-Odisha-INDIA.*
16. Kulshreshtha A, **Ahmad T**, Agrawal A and Ghosh B. Role of exosomes in Bronchial Asthma. *FIMSA. March 14-17, 2012, New Delhi-INDIA*.
17. Aich J, Mabalirajan U, **Ahmad T**, Leishangthem G, Agrawal A and Ghosh B. Inositol polyphosphate 4 phosphatase (INPP4A) is reduced in murine model of Allergic Airway Inflammation *Keystone Symposium, Colorado, USA, February, 2011.*
18. **Ahmad T**, Mabalirajan U, Joseph A, Agrawal A and Ghosh B. L-arginine in Arginase-NOS paradox and nitrosative stress in murine model of asthma. *American thoracic society International conference, 14th May to 19th may 2010, New Orleans, Louisiana, USA.*
19. **Ahmad T**, Mabalirajan U, Ghosh B, and Agrawal A. Differential role of mitochondria in asthmatic murine lung. *ICMRM, Nov 2010.*
20. Sharma A, Kumar M, **Ahmad A**, Mabalirajan U, Aich J, Agrawal A and Ghosh B. Identification of microRNA involved in IL-10 expression and its implication in inflammation and asthma. *Keystone Symposium, Colerado, USA, January 2010.*

21. Kumar M, Sharma A, **Ahmad T**, Agrawal A and Ghosh B. Regulation of Expression of Interleukin -10 and -13 by microRNAs and its implication in Inflammation and Asthma. *SBC, Dec 2010.*
22. Sharma A, Kumar M, **Ahmad T**, Mabalirajan U, Aich J, Agrawal A and Ghosh B. Identification of microRNA involved in IL-10 expression and its implication in inflammation and asthma. *Indian Immunological Society, 16-18th December 2009, Bangalore, India.*
23. **Ahmad T**, Mabalirajan U, Joseph A, Makhija L, Singh VP, Ghosh B, and Agrawal A. A simple and efficient non – invasive technique to estimate exhaled nitric oxide in small animals. *35th Indian Immunological Society Conference, 12th -14th December 2008, Bhubaneswar, Orissa, India*
24. Mabalirajan U, **Ahmad T**, Joseph A, Agrawal A and Ghosh B. L-Arginine, a nutritional supplement, alleviates the features of asthma by modulating arginase NO pathway. *35th Indian Immunological Society Conference, 12th -14th December 2008, Bhubaneswar, Orissa, India.*

    Note: Presenting author is underlined.

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