

Curriculum Vitae

Name: **Ehtishamul Haq**

Permanent Address: Nadihal Bandipora, Jammu & Kashmir, India, 193502

Correspondence Address: Department of Biotechnology, University of Kashmir,
Srinagar, J&K, India, 190006

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Education & Employment:

Jan 2019 onwards **Professor**, Department of Biotechnology,
University of Kashmir, Srinagar, India

Jan 2016- Jan 2019 **Associate Professor**, Department of Biotechnology,
University of Kashmir, Srinagar, India

Feb 2016-Dec 2018 **Coordinator**, Centre for Bioinformatics, University of
Kashmir.

Sept 2009-Jan 2016 Sr. Assistant Professor, Department of Biotechnology,
University of Kashmir, Srinagar, India

Sept 2005 – Sept 2009 Assistant Professor, Department of Biotechnology,
University of Kashmir, Srinagar, India.

Dec. 2000-Sept. 2005 Postdoctoral fellowship, **Medical University of South
Carolina (MUSC), Charleston, SC, USA**

2000 Ph.D., “31st Oct 2000” Department of Biochemistry,
Postgraduate Institute of Medical Education &
Research (PGIMER), Chandigarh, India.

1995 Master of Science, Department of Biochemistry,
University of Kashmir, Srinagar, India.

1991 Bachelor of Science, University of Kashmir, Srinagar,
India.

Honors:

- **Gold Medal** from University of Kashmir for Securing First Position in the Faculty of Science, (Master’s programme in Biochemistry),.
- **Research Safety Officer**: Designated as Research Safety Officer for University of Kashmir by Chairman Bhabha Atomic Research Centre, Mumbai-India (2012).

Awards and Fellowships:

- 2009 **Best Performer** award by the “University of Kashmir”, Srinagar.
- 2000 **Senior Research Fellowship** from CSIR, New Delhi.
- 1996-1999 **Merit Scholarship from PGIMER**, Chandigarh for pursuing Ph.D.
- 1996 **G.A.T.E.** (percentile score 91.1),
- 1992-93 **Merit Scholarship**-University of Kashmir, for pursuing MSc Biochemistry.

Presentations/Conferences/Proceedings:

- ✓ Paper entitled “Peroxisomal participation in psychosine-mediated lipotoxicity” presented at **American Society for Neurochemistry**; August 14-18, 2004, **New York City, New York, USA.** {*Journal of Neurochem.* (2004), 90 (Suppl. 1),: 72.}
- ✓ Oral presentation at **2nd J&K Science congress**, entitled “AICAR inhibits adipocyte differentiation and restores metabolic alterations in Diet Induced Obesity mice model” 25-27th July, 2006, University of Kashmir, Srinagar, India.
- ✓ Incharge Technical/Programme Committee and Local Organizer for the “**International symposium on Genomic Instability and Cancer**”, held at Srinagar, J&K, India from July 22nd to 26th 2007.
- ✓ Contreras, M. A., Haq, E., Singh, I. & Singh, A. K. Hepatic toxicity in twitcher mice: effect on peroxisomes. in The FASEB Journal 21, A400–A400 (**Federation of American Societies for Experimental Biology, 2007**),.
- ✓ “**National conference on “Drug Discovery & Development”, at Bioinformatics center, S.V.C., University of Delhi**”, 21-23rd Jan, 2009.
- ✓ Presented 2 posters at workshop on “**Sustainable utilisation of Medicinal & Aromatic plants of Kashmir Himalaya in Regional development**”, at University of Kashmir. One poster received “**Best Poster Award**”, 15 Oct 2011.
- ✓ **Oral/Poster presentations** in “**8th J & K Science Congress**” organized by **University of Kashmir** in collaboration with Department of Science & Technology, Govt. of India New Delhi and State Council of Science & Technology, J&K from **17th – 19th Sep 2012**.
- ✓ **Oral & Poster presentations** in “**9th J & K Science Congress**” organized by **University of Kashmir** in collaboration with Department of Science & Technology, Govt. of India New Delhi and State Council of Science & Technology, J&K from **1st-3rd Oct 2013**.
- ✓ **Participated and presented Poster entitled** "No evidence of Ile587Val polymorphism of EIF2B5 gene in multiple sclerosis patients from Kashmir valley of India", in 2-day National

Symposium on "Biology, Biodiversity & Bioprospecting, organized by the Department of Botany, University of Kashmir, Srinagar, sponsored by SERB, DST, Govt. of India, New Delhi, held at University of Kashmir, Srinagar, from **April 1-2, 2015**.

- ✓ **Participated and presented Poster entitled** "Sequence analysis of EIF2B5 gene in multiple sclerosis patients from Kashmir region of India", in 3-day Conference on "Mathematical Modelling of Biological Systems, organized by the Department of Mathematics, University of Kashmir, Srinagar, in collaboration with National Network for Mathematical and Computational Biology, held at University of Kashmir, Srinagar, from **April 2-4, 2015**.
- ✓ Gul, T., Bhat, M. A. & Haq, E. (2017),. "3T3L1 Cell line as an in vitro model of Obesity" presented at '**One Day Conference on 'Recent Innovations in Science, Technology and Engineering'**. 76-79 (National Institute of technology (NIT), Srinagar, JK, India.
- ✓ Gul, T., Balkhi, H. M. & Haq, E (2017),. Effect of Crocin on Adipogenic transcriptional factors in in vitro model of Obesity, presented at "**4th Int Conference on Recent Advances in Eng Sci & Management**" pp 263-268 (Institute of Electronics and Telecommunication Engineers, Chandigarh, India.

Memberships:

- ⇒ Member International society for Neurochemistry (ISN)
- ⇒ Complementary member International society of Microbiology (ISM)

Workshops & Training modules:

- Participated **by Invitation** in an 11-day workshop "**School on Biomolecular simulations 2007**" organized by the centre for Computational material sciences **Jawaharlal Nehru Centre For Advanced Scientific Research (JNCASR)**, Bangalore India from 6th to 16th Nov. 2007.
- **Six-month training in Bio-informatics** at IBI Biosolutions limited, Panchkula, India on the title "**New Insights into Protein S-Nitrosylation: SNO DATABASE creation for SNO specific motifs, In Silico drug designing & PERL programming**" Aug 2007 to Jan 2008.
- **Successfully completed** the course module entitled "**Radiological Safety Aspects in Research Application of Ionizing Radiation**" conducted by RPAD, Bhabha Atomic Research Centre, Mumbai, India 09-17 th Jan, 2012.

Research Guidance:

- 4 students successfully supervised for the award of M.Phil degrees;
- 8 students successfully supervised for the award of PhD degrees; &
- 4 students presently undergoing PhD programme.

Projects/Extramural Funding:

- **Jan 2010–Jan 2012:** Principal-investigator for the project titled “Potential of Rheum emodi and Achilea millefolium to ameliorate LPS induced endotoxemia in mice model of sepsis” by **DST, India**.
- **Sept 2013-Sept 2016:** Co-investigator on the project “A study of natural osmolytes as potential therapeutics for Z α -1 antitrypsin (ZAT), induced chronic obstructive pulmonary disease (COPD), and liver cirrhosis” by **DST, India**.
- **Jan 2014-Dec 2016.** Co-investigator on the project “Evaluating the synergistic role of identified natural compounds on microenvironment modulation in model lung cancer cell lines”, by **NMPB, AYUSH, GOI**.
- **April 2014-April 2017.** Mentor for the **DST WOS-A** project entitled “Molecular & Functional Analysis of EIF2B5 gene in White matter disease of the brain”.
- **Sept 2014-Sept 2018:** Principal-investigator for the project title “The synergistic therapeutic effect of natural products on the amelioration of gliomas in C6 glioma rat model”. by **NMPB, AYUSH, GOI**.

List of Collaborators:-

- Dr. Shailendra Giri, Associate Scientist, Henry Ford Hospital Detroit, MI , USA.
- Dr. Ravouf Asimi, Professor, Neurology, SKIMS.
- Dr. Javid A. Malik, Head Chest & Pulmonary Medicine, JVC, SMHS.
- Dr. Sawant Sanghpal, Senior Scientist, IIIM Jammu.
- Dr. Mushfiquddin Khan, Medical University of South Carolina, USA.
- Prof. Inderjit Singh, Medical University of South Carolina, USA.
- Prof. M A Zargar, Biochemistry, University of Kashmir
- Prof Amit Jain, Chandigarh University

Computer Knowledge:-

Proficiency with Microsoft office programs and a good working knowledge of bioinformatics tools. Experience in teaching statistics programs using Microsoft excel and other related tools.

Other experiences:

Member, Board of Post Graduate & Under Graduate Studies at University of Kashmir; Cluster University Kashmir; Islamia College of Science & Technology, Srinagar (J&K), India for the following subjects:

- Biotechnology
- Biochemistry
- Bioresources
- Bioinformatics

Publications:

1. **Haq E**, Sharma S, Khuller GK . Purification and characterization of cAMP dependent protein kinase from *Microsporium gypseum*. *Biochim Biophys Acta*. (2000), **1474 (1)**, 100-106.
2. **Haq E**, Sharma S, Khuller GK Purification of diacylglycerol kinase from *Microsporium gypseum* and its phosphorylation by the catalytic subunit of protein kinase A. *Arch Biochem Biophys*. (2001), **392(2)**, 219-225.
3. **Haq E**, Giri S, Singh I and Singh AK. Molecular mechanism of psychosine induced cell death in human oligodendrocyte cell line. *J Neurochem*. (2003), **86(6)**, 1428-1440.
4. Singh I, Paintlia AS, Khan M, Stanislaus R, Paintlia MK, **Haq E**, Singh AK, Contreras M. Impaired peroxisomal function in the central nervous system with inflammatory disease of experimental autoimmune encephalomyelitis animals and protection by lovastatin treatment. *Brain Res*. (2004), 1022(1-2), 1-11.
5. Khan M, **Haq E**, Giri S, Singh I and Singh AK . Peroxisomal participation in psychosine-mediated toxicity: Implications for Krabbe's disease. *J Neurosci Res*. (2005), **80(6)**, 845-54.
6. **Haq E**, Contreras M, Giri S, Singh I and Singh AK. Dysfunction of peroxisomes in twitcher mice brain: a possible mechanism of psychosine-induced disease. *Biochem Biophys Res Commun*. (2006), **343(1)**, 229-38.
7. Makkar RS, Contreras M, Paintlia AS, Smith BT, **Haq E** and Inderjit Singh. Molecular organization of peroxisomal enzymes: Protein–protein interactions in the membrane and in the matrix. *Archives of Biochemistry and Biophysics*. (2006), **451(2)**, 128–140.
8. Giri S, Rattan R, **Haq E**, Khan M, Yasmin R, Won JS, Key L, Singh AK, and Singh I. AICAR inhibits adipocyte differentiation in 3T3L1 and restores metabolic alterations in diet-induced obesity mice model. *Nutr Metab (Lond)*. (2006), 3(1), 31.
9. **Haq E**, Rohrer B, Nath N, Crosson CE, Singh I. S-nitrosoglutathione prevents interphotoreceptor retinoid-binding protein (IRBP;161-180),-induced experimental autoimmune uveitis. *J Ocul Pharmacol Ther*. (2007), **23(3)**, 221-31.
10. Contreras MA, **Haq E**, Uto T, Singh I, Singh AK Psychosine-induced alterations in peroxisomes of twitcher mouse liver. *Arch Biochem Biophys*. (2008), **477(2)**, 211-8.
11. Ganie SA, **Haq E**, Masood A & Zargar MA. Antioxidant activities of methanolic rhizome extract of *Podophyllum hexandrum* against CCl₄-induced kidney & lung injury in rats *J Pharm & toxicol*. (2010), **5(7)**, 334-342.
12. Ganie SA, Zargar MA, Masood A & **Haq E**. In vitro and in vivo evaluation of free radical scavenging potential of ethanolic extract of *Podophyllum hexandrum*. *Afr J of Biochem Res*. (2010), **4(8)**, 196-203.
13. Ganie SA, **Haq E**, Masood A & Zargar MA. Amelioration of carbon tetrachloride induced oxidative stress in kidney and lung tissues by ethanolic rhizome extract of *Podophyllum hexandrum* in Wistar rats. *J Med Plant Res*. (2010), **4(16)**, 1673-77.

14. Ganie SA, **Haq E**, Masood A, Hamid A & Zargar MA. Antioxidant and protective effect of ethyl acetate extract of Podophyllum hexandrum rhizome on carbon tetrachloride induced rat liver injury. *Evidence-based Complement and Alter Medicine*. (2010), 2011 1-12.
15. Bashir A & **Haq E**. Effect of psychosine on inducible nitric-oxidesynthase expression under different culture conditions: implications for Krabbe Disease. *Eur Rev Med Pharmacol Sci* (2011), 15(11), 1282-1287.
16. Ganie SA, **Haq E**, Hamid A, Masood A, Zargar MA. Long dose exposure of hydrogen peroxide (H₂O₂), in albino rats and effect of Podophyllum hexandrum on oxidative stress. *Eur Rev Med Pharmacol Sci*. (2011), Aug;15(8);:906-15.
17. Ganie SA, **Haq E**, Hamid A, Qurishi Y, Mahmood Z, Zargar BA, Masood A, Zargar MA. Carbon tetrachloride induced kidney and lung tissue damages and antioxidant activities of the aqueous rhizome extract of Podophyllum hexandrum. *BMC Complement Altern Med*. (2011), Feb 28; 11:17. doi: 10.1186/1472-6882-11-17.
18. Amreen Nazir, S. M. Wani, Adil Gani, F. A. Masoodi, **E. Haq**, S. A, Mir, Umayya Riyaz (2013),. Nutritional, Antioxidant and Antiproliferative properties of persimmon (Diospyros kaki), - a minor fruit of J&K India. *International Journal of Advanced Research*, 1, 545-554.
19. Zahoor I, Hamid Z, Asimi R & **Haq E**. Novel mutations identified in EIF2B5 gene in Kashmiri patients as susceptibility factor for multiple sclerosis. *Ind J Biochem Biophys* (2014), 51(2), 115-120.
20. Henah Mehraj Balkhi, Taseen Gul, **Haq E**. Antineoplastic Action of CAPE in invitro model of glioma. *Int J of Advanced Research* 2015, 3(10), 653-660.
21. Zahoor I, Asimi R & **Haq E** (2015),. No evidence for a role of Ile587Val polymorphism of EIF2B5 gene in multiple sclerosis in Kashmir Valley of India. *Journal of the Neurological Sciences*. 359(1-2), 172-176.
22. Balkhi HM, Gul T, **Haq E**. Anti-Neoplastic and Calcium Modulatory Action of Caffeic Acid Phenethyl Ester and Dasatinib in C6 Glial Cells: A Therapeutic Perspective. *CNS Neurol Disord Drug Targets*. 2016;15(1);:54-63
23. Hazari YM, Habib M, Bashir S, Bashir A, Hilal N, Irfan S, **Haq E**, Fazili KM (2016),. Natural osmolytes alleviate GRP78 and ATF-4 levels: Corroboration for potential modulators of unfolded protein response. *Life Sci*. 146:148-53. doi: [10.1016/j.lfs.2016.01.002](https://doi.org/10.1016/j.lfs.2016.01.002).
24. Bandy, MZ, Sameer AS, Mir AH, Mokhdomi TA, Chowdri NA, **Haq E** (2016),. Matrix metalloproteinase (MMP), -2, -7 and -9 promoter polymorphisms in colorectal cancer in ethnic Kashmiri population — A case–control study and a mini review. *Gene* 589, 81–89 doi: [10.1016/j.gene.2016.05.028](https://doi.org/10.1016/j.gene.2016.05.028). (PMID:27222481),
25. Bandy MZ, Balkhi HM, Hamid Z, Sameer AS, Chowdri NA, **Haq E** (2016),. Tumor necrosis factor- α (TNF- α),-308G/A promoter polymorphism in colorectal cancer in ethnic Kashmiri population - A case control study in a detailed perspective. *Meta Gene*. 9:128-36. doi: [10.1016/j.mgene.2016.06.001](https://doi.org/10.1016/j.mgene.2016.06.001).

26. Banday MZ, Sameer AS, Chowdri NA, **Haq E** (2017),. Interleukin-10 -592C/A, but not -1082A/G promoter single nucleotide polymorphism, is associated with a decreased risk of colorectal cancer in an ethnic Kashmiri population: a case-control study. *Eur J Cancer Prev.* 26(6),:476-490. [doi: 10.1097/CEJ.0000000000000370](https://doi.org/10.1097/CEJ.0000000000000370).
27. Banday MZ, Mir AH, Sameer AS, Chowdri NA, **Haq E** (2017),. Interleukin-1 β (IL-1 β), -31C/T and -511T/C promoter single nucleotide polymorphism in colorectal cancer in ethnic Kashmiri population - a case control study. *Meta Gene* 12, pp 94–103. doi.org/10.1016/j.mgene.2017.02.004
28. Banday MZ, Balkhi HM, Sameer AS, **Haq E** (2017),. Strong association of interleukin-6 -174G/C promoter single nucleotide polymorphism with a decreased risk of colorectal cancer in ethnic Kashmiri population: A case control study. *Tumor Biology* 39(3),:1-13. [DOI: 10.1177/1010428317695940](https://doi.org/10.1177/1010428317695940). (PMID:28349833),
29. Gul, T., Balkhi, H. M. & **Haq, E** (2017),. Inhibition of Adipocyte Differentiation by Crocin in in vitro Model of Obesity. *Haya Saudi J. Biol. Sci.* 2, 306–311.
30. Wani SM, FA Masoodi, **E Haq**, M Ahmad, SA Ganai (2020),. Influence of processing methods and storage on phenolic compounds and carotenoids of apricots. *LWT-Food Science & Technology*. Vol 132:109846. DOI: 10.1016/j.lwt.2020.109846
31. Bukhari S.N.H., Jain A., **Haq E.**, Khder M.A., Neware R., Bholra J., Najafi M.L. Machine Learning-Based Ensemble Model for Zika Virus T-Cell Epitope Prediction. *J. Health Eng.* 2021;2021:9591670. doi: 10.1155/2021/9591670.
32. Bukhari SNH, Jain A, **Haq E**, Mehbodniya A, Webber J. Machine Learning Techniques for the Prediction of B-Cell and T-Cell Epitopes as Potential Vaccine Targets with a Specific Focus on SARS-CoV-2 Pathogen: A Review. *Pathogens.* 2022; 11(2),:146. <https://doi.org/10.3390/pathogens11020146>
33. Bukhari SNH, Jain A, **Haq E**, Mehbodniya A, Webber J. Ensemble Machine Learning Model to Predict SARS-CoV-2 T-Cell Epitopes as Potential Vaccine Targets. *Diagnostics.* 2021;11(11),:1990. <https://doi.org/10.3390/diagnostics11111990>
34. Bukhari, S. N. H., Jain, A. & **Haq, E.** A novel ensemble machine learning model for prediction of Zika virus T-cell epitopes. In *Proceedings of Data Analytics and Management. Lecture Notes on Data Engineering and Communications Technologies* Vol. 91 (eds Gupta, D. et al.), (Springer, 2022),. https://doi.org/10.1007/978-981-16-6285-0_23.

Review Articles:

35. Banday MZ, Bashir A, **Haq E.** Molecular pathobiology of diabetic retinopathy. *Bioresearch Bulletin.* (2010), **3**: 102-115.
36. Bashir A, Banday MZ & **E Haq.** Lipopolysaccharide, mediator of sepsis enigma: Recognition and Signaling *Intl J of Biochem Res & Review* (2011), **1**: 1-13.
37. **E Haq.** Honey: Food with Healing potential. *Int J Agr & Food Sci Tech.* (2012), **3(2)**,:33.83-91.

38. Zahoor I, Hamid Z & **E Haq**. Multiple Sclerosis: Searching a link between Eukaryotic Translation Initiation Factor-2B and Multiple Sclerosis. *Int J App Biotech & Biochem*. (2014), 4(1), 1-7.
39. **Haq, E**, Zahoor I and Asimi R (2015),. Multiple Sclerosis and Gene Polymorphisms: are we Groping in the Dark? *J. Mult. Scler*. 2, 16.
40. Khan M, Zahoor I, **Haq E** (2015), Human Immunodeficiency Virus and Multiple Sclerosis Risk: Probing for a Connection. *J Mult Scler* 2: 1000141. doi:10.4172/2376-0389.1000141
41. Hazari YM, Bashir A, **Haq E**, Fazili KM (2016),. Emerging tale of UPR and cancer: an essentiality for malignancy. *Tumor Biology* 37(11), pp 14381–14390.
42. Zahoor I, **Haq E** & Ravouf Asimi (2017),. Multiple Sclerosis in Kashmir: Where We Stand. *J Neurol. Sci*. 373, 129-133.
43. Zahoor I, **Haq E**, Ravouf Asimi, Yousuf Wani (2017),. Demographic and clinical profile of Multiple Sclerosis in Kashmir: A short report. *Mult Scler Relat Disord*. 13:103-106. doi: [10.1016/j.msard.2017.02.018](https://doi.org/10.1016/j.msard.2017.02.018).
44. Zahoor I, **Haq E** (2017),. Multiple sclerosis in India: Iceberg or volcano. *J Neuroimmunol*. 307:27-30. doi: 10.1016/j.jneuroim.2017.03.015.
45. Hazari YM, Bashir A, Habib M, Bashir S, Habib H, Qasim MA, Shah NN, **Haq E**, Teckman J, Fazili KM (2017),. Alpha-1-antitrypsin deficiency: Genetic variations, clinical manifestations and therapeutic interventions. *Mutation Research/Reviews in Mutation Research* 773, pp 14–25. <https://doi.org/10.1016/j.mrrev.2017.03.001>
46. Q Taban, PT Mumtaz, KZ Masoodi, **E Haq**, SM Ahmad (2022),. [Scavenger receptors in host defense: from functional aspects to mode of action](#). *Cell Communication and Signaling* 20(1), 1-17. PMID: 34980167

Books & Book Chapters:

47. Pathobiology of Diabetic Retinopathy (Diabetes, Diabetic Retinopathy and Medicinal Plants), Author: **Dr. Ehtishamul Haq**; ISBN 978-3-8473-3177-0. Year: 2011; Publisher: LAP, LAMBERT Academic Publishing GmbH & Co. KG Germany.
48. Sepsis: Pathobiology and Alternative Treatment Strategies (Herbal Medicine in Sepsis Therapy), Author: **Dr. Ehtishamul Haq**; ISBN 978-3-8473-4075-1. Year: 2012; Publisher: LAP, LAMBERT Academic Publishing GmbH & Co. KG Germany.
49. **Haq E**, Zahoor I and Khan M (2016),. “Association between Multiple Sclerosis Risk and Human Immunodeficiency Virus Infection: Insights and Challenges” in “Trending Topics in Multiple Sclerosis” Editor Alina Gonzalez-Quevedo; ISBN 978-9-5351-4678-0. Print ISBN 978-953-51-2656-0, Publisher: InTech. DOI: 10.5772/63828
50. Zahoor I, **Haq E** & Ravouf Asimi (2017),. “Multiple Sclerosis and EIF2B5: A Paradox or a Missing Link” in “Multiple Sclerosis: Bench to Bedside” Editors Alexzander A. A. Asea, Fabiana Geraci & Punit Kaur. ISBN 978-3-3194-7861-6. Publisher: Springer. PP 57-64. <http://www.springer.com/in/book/9783319478609>

51. Dr. Insha Zahoor, Dr. Amrina Shafi, Dr. Mudassir A Mir, **Dr. E. Haq**. Multiple Sclerosis: A Silent Killer An Overview. ISBN: 978-1-7304-1537-1. Year: 2017. Publisher: Sara Book Publication, Ahmedabad, India.
52. Zahoor, I. & **Haq, E** (2017),. Vitamin D and Multiple Sclerosis: An Update, in “Multiple Sclerosis: Perspectives in Treatment and Pathogenesis” (Editors: Ian S. Zagon and Patricia J. McLaughlin), pp 71–84 (Codon Publications, Brisbane, Australia), ISBN: 978-0-9944-3813-3; doi:10.15586/codon.multiplesclerosis.
53. Taseen Gul, Henah Mehraj Balkhi & **Ehtishamul Haq**. Evaluation of Cellular Processes by in vitro Assays Kindle Edition. ISBN: 978-1-6810-8703-0. Year: 2018. Publisher: Bentham Science Publishers. DOI: [10.2174/97816810870301180101](https://doi.org/10.2174/97816810870301180101)
54. Dr. Taseen Gul, Dr. Henah Mehraj Balkhi & **Dr. Ehtishamul Haq**. Assessment Of Biological Processes. ISBN: 978-9-3854-9765-0. Year: 2018. Publisher: Dilpreet Publishing House, Delhi, 110018, India.
55. Zahoor I, Shafi A, **Haq E**. Pharmacological treatment of Parkinson’s disease. In: Parkinson's Disease: Pathogenesis and Clinical Aspects. ISBN: 978-0-9944-3816-4. Year: 2018. Pages, 129-144. Publisher: Codon Publications, Brisbane, Australia.
56. Zahoor I, Shafi A, **Haq E**. Pharmacological treatment of Parkinson’s disease. In: Parkinson's Disease: Pathogenesis and Clinical Aspects. ISBN: 978-0-9944-3816-4. Year: 2018. Pages, 129-144. Publisher: Codon Publications, Brisbane, Australia.
57. Shafi A, Zahoor I, **Haq E** & Fazili KM (2019),. Impact of Bioinformatics on Plant Science Research and Crop Improvement, In “Essentials of Bioinformatics, Volume III: In Silico Life Sciences: Agriculture”. Pp 29-46 Editors Hakeem KR et al. Springer International Publishing. Hardcover ISBN; 978-3-030-19317-1 (doi 10.1007/978-3-030-19318-8),.
58. Zahoor I, Shafi V, Fazili KM & **Haq E** (2019),. Bioinformatics and Medicinal Plant Research: Current Scenario, In “Essentials of Bioinformatics, Volume III: In Silico Life Sciences: Agriculture”. Pp 141-157 Editors Hakeem KR et al. Springer International Publishing. Hardcover ISBN; 978-3-030-19317-1 (doi 10.1007/978-3-030-19318-8),.
59. Zahoor I, Giri S, Mir K I, Mir A H, Shafi A, Taban Q & **E Haq** (2020),. Long Non-Coding RNAs in Multiple Sclerosis: An update, In “Long Non-Coding RNA: From Disease Biomarkers to Targeted Therapeutics”. Ed. Ahmad SM, Ganaie N A. Cambridge Scholars Publishing. {ISBN: 978-1-5275-5821-2} pp 45-63.
60. Taban Q, Mumtaz P T, Ismail S, **Haq E**, Dar M, Zahoor I, Ahmad S M. (2020),. Long NonCoding RNAs in Infection & Immunity, In “Long Non-Coding RNA: From Disease Biomarkers to Targeted Therapeutics”. Ed. Ahmad SM, Ganaie N A. Cambridge Scholars Publishing. {ISBN: 978-1-5275-5821-2} pp 64-90.