

Taj Mohammad, M.Phil.



PhD Candidate

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Academic qualifications

7/2018-till date	Ph.D. (Interdisciplinary Research) student working as Senior Research Fellow at CIRBSc., Jamia Millia Islamia, New Delhi, India.
7/2016-7/2018	M.Phil. (Interdisciplinary Basic Sciences), Junior Research Fellow, CIRBSc., Jamia Millia Islamia, New Delhi, India.
7/2014-6/2016	M.Sc. (Bioinformatics [Cancer Systems Biology, dissertation]), Dept. of Computer Science, Jamia Millia Islamia, New Delhi, India.
7/2011-6/2014	B.Sc. Hons. (Biotechnology), IFTM University, Moradabad, UP, India.

Short bio

Taj Mohammad is a PhD student working as Senior Research Fellow at the Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi, India. His research interests lie in genomic and proteomic analysis over complex diseases, disease modeling, structure-guided drug discovery and NGS analytics. Taj does research in Computational Systems Biology, Biotechnology and Bioinformatics. His current project is based on high-throughput analysis of genomic alterations and differential gene expression in different cancer types.

Featured research

- InstaDock: A Single-click Graphical User Interface for Molecular Docking-based Virtual High-throughput Screening. *Briefings in Bioinformatics* (2020). **Impact Factor: 9.10** – (First author)
- Mutated CEACAMs Disrupt Transforming Growth Factor Beta Signaling and Alter the Intestinal Microbiome to Promote Colorectal Carcinogenesis. *Gastroenterology* (2020). **Impact Factor: 21.88** – (Co-author)

Publications

Citations: 491

h-index : 13

i10-index: 18

S. No.	2020	I. F.
47.	Taj Mohammad , Yash Mathur and Md. Imtaiyaz Hassan. InstaDock: A Single-click Graphical User Interface for Molecular Docking-based Virtual High-throughput Screening. <i>Briefings in Bioinformatics</i> (2020) 00, 1-8.	9.10
46.	Shoujun Gu, Sobia Zaidi, Taj Mohammad , Md Imtaiyaz Hassan, Tathiane M. Malta, Houtan Noushmehr, Bryan Nguyen, et al. "Mutated CEACAMs Disrupt Transforming Growth Factor Beta Signaling and Alter the Intestinal Microbiome to Promote Colorectal Carcinogenesis" <i>Gastroenterology</i> (2020) 158:238-252.	21.88
45.	Taj Mohammad , Mohd. Amir, Kartikay Prasad, Sagar Batra, Vijay Kumar, Md Tabish Rehman, Mohamed F AlAjmi, Md Imtaiyaz Hassan. "Impact of amino acid substitution in the kinase domain of Bruton tyrosine	5.16

	kinase and its association with X-linked agammaglobulinemia" <i>International Journal of Biological Macromolecules</i> (2020) 164, 2399-2408.	
44.	Taj Mohammad , Shiza Shiddiqui, Anas Shamsi, Mohamed F. Alajmi, Afzal Hussain, Asimul Islam, Faizan Ahmad and Md Imtaiyaz Hassan. "Virtual screening approach to identify high-affinity inhibitors of Serum and glucocorticoid-regulated kinase 1 among bioactive natural products: Combined molecular docking and simulation studies" <i>Molecules</i> (2020).	3.27
43.	Taj Mohammad , Kaynat Arif, Mohamed F. Alajmi, Asimul Islam, and Md. Imtaiyaz Hassan. "Identification of high-affinity inhibitors of pyruvate dehydrogenase kinase-3: Towards therapeutic management of cancer" <i>Journal of Biomolecular Structure and Dynamics</i> (2020) 25(4), 823.	3.31
42.	Anas Shamsi, Taj Mohammad , Saleha Anwar, Mohamed F. Alajmi, Afzal Hussain, Md Imtaiyaz Hassan, Faizan Ahmad, and Asimul Islam. "Probing the interaction of Rivastigmine Tartrate, an important Alzheimer's drug, with serum albumin: Attempting treatment of Alzheimer's disease" <i>International Journal of Biological Macromolecules</i> (2020) 148, 533-542.	5.16
41.	Anas Shamsi, Taj Mohammad , Saleha Anwar, Md Imtaiyaz Hassan, Faizan Ahmad and Asimul Islam. "Insight into the binding of PEG-400 with eye protein alphacrystallin: Multi spectroscopic and computational approach: Possible therapeutics targeting eye diseases" <i>Journal of Biomolecular Structure and Dynamics</i> (2020).	3.31
40.	Mohd Amir, Taj Mohammad , Ravins Dohre, Asimul Islam, Faizan Ahmad and Md Imtaiyaz Hassan. "Structure, function and therapeutic intervention of OB-fold proteins: A lesson from past to present" <i>Briefings in Functional Genomics</i> (2020).	3.13
49.	Anas Shamsi [#] , Taj Mohammad [#] , Saleha Anwar, Mohamed F. Alajmi, Afzal Hussain, Md. Tabish Rehman, Asimul Islam and Md Imtaiyaz Hassan. "Glecaprevir and Maraviroc are high-affinity inhibitors of SARS-CoV-2 main protease: Possible therapeutic implication in COVID-19" <i>Bioscience Reports</i> (2020) 40(6). ([#] equal contributor)	2.94
38.	Rashmi Dahiya, Taj Mohammad , Mohamed F. Alajmi, Afzal Hussain, Md. Tabish Rehman and Md Imtaiyaz Hassan. "Insights into the Conserved Regulatory Mechanisms of Human and Yeast Aging" <i>Biomolecules</i> (2020) 10(6), 882.	4.69
37.	Anas Shamsi, Saleha Anwar, Taj Mohammad , Mohamed F. Alajmi, Afzal Hussain, Md. Tabish Rehman, Gulam Mustafa Hasan, Asimul Islam and Md Imtaiyaz Hassan. "MARK4 Inhibited by AChE Inhibitors, Donepezil and Rivastigmine Tartrate: Insights into Alzheimer's Disease Therapy" <i>Biomolecules</i> 10.5 (2020): 789.	4.69
36.	Deeba Shamim Jairajpuri [#] , Taj Mohammad [#] , Kirtika Adhikari, Preeti Gupta, Gulam Mustafa Hasan, Mohamed F. Alajmi, Md. Tabish Rehman, Afzal Hussain and Md Imtaiyaz Hassan. "Identification of Sphingosine kinase-1 inhibitors from bioactive natural products targeting cancer therapy" <i>ACS Omega</i> (2020). ([#] equal contributor)	2.87

35.	Anas Shamsi, Taj Mohammad , Saleha Anwar, Faizan Ahmad, Md Imtaiyaz Hassan and Asimul Islam. "Biophysical insight into implications of PEG-400 on alpha-crystallin structure: Multi spectroscopic and microscopic approach" <i>ACS Omega</i> (2020).	2.87
34.	Taj Mohammad , Anas Shamsi, Saleha Anwar, Mohd Umair, Afzal Hussain, Md. Tabish Rehman, Mohamed F. AlAjmi., Asimul Islam, and Md Imtaiyaz Hassan "Identification of high-affinity inhibitors of SARS-CoV-2 main protease: Towards the development of effective COVID-19 therapy" <i>Virus Research</i> (2020) 288, 198102.	2.74
33.	Sonam Roy, Taj Mohammad , Preeti Gupta, Rashmi Dahiya, Shahnaz Parveen, Suaib Luqman, Gulam Mustafa Hasan, and Md Imtaiyaz Hassan. "Discovery of Harmaline as a Potent Inhibitor of Sphingosine Kinase-1: A Chemopreventive Role in Lung Cancer" <i>ACS Omega</i> (2020).	2.87
32.	Ahmad Abu Turab Naqvi, Kisa Fatima, Taj Mohammad , Urooj Fatima, Indrakant K. Singh, Archana Singh, Shaikh Mohammad Atif, G. Hariprasad and Md Imtaiyaz Hassan. "Insights into SARS-CoV-2 genome, structure, evolution, pathogenesis and therapies: A comparative genomics approach" <i>BBA-Molecular Basis of Disease</i> (2020) 165878.	5.54
31.	Saleha Anwar, Taj Mohammad , Anas Shamsi, Aarfa Queen and Md Imtaiyaz Hassan. "Discovery of Hordenine as a Potential Inhibitor of Pyruvate Dehydrogenase Kinase 3: Implication in Lung Cancer Therapy" <i>Biomedicines</i> , 8(5), 119, 2020.	4.72
30.	Sonam Roy, Amarjyoti Das Mahapatra, Taj Mohammad , Preeti Gupta, Mohamed F. Alajmi, Afzal Hussain, Md. Tabish Rehman, Bhaskar Datta and Md Imtaiyaz Hassan. "Design and development of novel urea, sulfonylurea and sulfonamide derivatives as potential inhibitors of Sphingosine kinase 1" <i>Pharmaceuticals</i> , (2020) 13(6), 118.	4.29
29.	Amad Uddin, Vigyasa Singh, Iram Irfan, Taj Mohammad , Rahul Singh Hada, Md Imtaiyaz Hassan, Mohammad Abid and Shailza Singh. "Identification and structure–activity relationship (SAR) studies of carvacrol derivatives as potential anti-malarial against Plasmodium falciparum falcipain-2 protease" <i>Bioorganic Chemistry</i> (2020)103, 104142.	4.80
28.	Anas Shamsi, Saleha Anwar, Mohd Shahbaaz, Taj Mohammad , Moyad Shahwan, Md Imtaiyaz Hassan, Faizan Ahmad and Asimul Islam. "Evaluation of binding of Rosmarinic acid with human transferrin and its impact on protein structure: Targeting polyphenolic acid-induced protection of neurodegenerative disorders" <i>OxiMed & CelluLongev</i> (2020).	4.58
27.	Rashmi Dahiya, Taj Mohammad and Md Imtaiyaz Hassan. "Role of Genome-Wide Association Studies in Host Genetics: Toward Understanding of Microbiome Association" <i>Metagenomic Systems Biology</i> , 3-20. <i>Springer Nature</i> , 2020.	N/A
26.	Ahmad Abu Turab Naqvi, Taj Mohammad and Md Imtaiyaz Hassan. "Discovery of Novel Drug Targets in Microbial Pathogens Among Hypothetical Proteins: Methods and Significance" <i>Pathogenicity and Drug Resistance of Human Pathogens</i> . <i>Springer Nature</i> , 2020.	N/A
25.	Taj Mohammad , Rashmi Dahiya and Md Imtaiyaz Hassan. " Implication of Synthetic Biology in Biotherapeutic Engineering" <i>Systems and Synthetic</i>	N/A

	<i>Immunology. Springer Nature, 2020.</i>	
24.	Rashmi Dahiya, Taj Mohammad and Md Imtaiyaz Hassan. "Genome Engineering Tools in Immunotherapy" <i>Systems and Synthetic Immunology</i> , 377-391. <i>Springer Nature, 2020.</i>	N/A
S. No.	2019	I. F.
23.	Taj Mohammad , Faez Iqbal Khan, Kevin A. Lobb, Asimul Islam, Faizan Ahmad, and Md Imtaiyaz Hassan. "Identification and evaluation of bioactive natural products as potential inhibitors of human microtubule affinity-regulating kinase 4 (MARK4)" <i>Journal of Biomolecular Structure and Dynamics</i> (2019) 19:1-17.	3.31
22.	Taj Mohammad , Sagar Batra, Rashmi Dahiya, Mohammad Hassan Baig, Irfan Ahmad Rather, Jae-June Dong and Md Imtaiyaz Hassan. "Identification of High-Affinity Inhibitors of Cyclin-Dependent Kinase 2 Towards Anticancer Therapy" <i>Molecules</i> (2019).	3.27
21.	Saman Fatima [#] , Taj Mohammad [#] , Deeba Shamim Jairajpuri, Md Tabish Rehman, Mohammed Samim, Farhan Jalees Ahmad, Mohammed F. Alajmi, and Md Imtaiyaz Hassan. "Identification and evaluation of glutathione conjugate gamma-l-glutamyl-l-cysteine for improved drug delivery to the brain" <i>Journal of Biomolecular Structure and Dynamics</i> (2019): 1-11. (#equal contributor)	3.31
20.	Rashmi Dahiya, Taj Mohammad , Preeti Gupta, Anzarul Haque, Mohamed F. Alajmi, Afzal Hussain, and Md Imtaiyaz Hassan. "Molecular interaction studies on ellagic acid for its anticancer potential targeting pyruvate dehydrogenase kinase 3." <i>RSC Advances</i> 9, 40 (2019): 23302-23315.	3.12
19.	Preeti Gupta, Taj Mohammad , Parvez Khan, Mohamed F. Alajmi, Afzal Hussain, Md Tabish Rehman, and Md Imtaiyaz Hassan. "Evaluation of ellagic acid as an inhibitor of sphingosine kinase 1: A targeted approach towards anticancer therapy." <i>Biomedicine & Pharmacotherapy</i> 118 (2019): 109245.	4.54
18.	Preeti Gupta, Taj Mohammad , Rashmi Dahiya, Mohammed F. Alajmi, and Md Imtaiyaz Hassan. Evaluation of binding and inhibition mechanism of dietary phytochemicals with sphingosine kinase 1: Towards targeted anticancer therapy. <i>Scientific Reports</i> 9, 18727 (2019).	4.12
17.	Rashmi Dahiya, Taj Mohammad , Sonam Roy, Saleha Anwar, Preeti Gupta, Anzarul Haque, Parvez Khan, Syed Naqui Kazim, Asimul Islam, Faizan Ahmad, and Md. Imtaiyaz Hassan. "Investigation of inhibitory potential of quercetin to the pyruvate dehydrogenase kinase 3: Towards implications in anticancer therapy" <i>International journal of biological macromolecules</i> (2019).	5.16
16.	Mohd Amir, Taj Mohammad , Kartikay Prasad, Vijay Kumar, Ravins Dohare, Asimul Islam, Faizan Ahmad, and Md Imtaiyaz Hassan. "Virtual high-throughput screening of natural compounds in-search of potential inhibitors for protection of telomeres 1 (POT1)" <i>Journal of Biomolecular Structure and Dynamics</i> (2019) 1-10.	3.31
15.	Mohd Amir, Taj Mohammad , Vijay Kumar, Mohamed Alajmi, Md Tabish Rehman, and Md. Imtaiyaz Hassan. "Structural Analysis and Conformational Dynamics of STN1 Gene Mutations Involved in Coat plus Syndrome." <i>Frontiers in Molecular Biosciences</i> 6 (2019): 41.	4.19

14.	Anas Shamsi, Taj Mohammad , Mohd Shahnawaz Khan, Moyad Shahwan, Md Rehman, Md Imtaiyaz Hassan, Faizan Ahmad, and Asimul Islam. "Unraveling Binding Mechanism of Alzheimer's Drug Rivastigmine Tartrate with Human Transferrin: Molecular Docking and Multi-Spectroscopic Approach towards Neurodegenerative Diseases." <i>Biomolecules</i> 9, (2019): 495.	4.69
13.	Parvez Khan, Aarfa Queen, Taj Mohammad , Smita, Nashrah Sharif Khan, Zubair Bin Hafeez, Md Imtaiyaz Hassan, and Sher Ali. "Identification of α -Mangostin as a Potential Inhibitor of Microtubule Affinity Regulating Kinase 4." <i>Journal of natural products</i> 82, 8 (2019): 2252-2261.	4.26
12.	Shahid Ali, Faez Iqbal Khan, Taj Mohammad , Dongming Lan, Md Hassan, and Yonghua Wang. "Identification and Evaluation of Inhibitors of Lipase from <i>Malassezia restricta</i> using Virtual High-Throughput Screening and Molecular Dynamics Studies." <i>International Journal of Molecular Sciences</i> 20, 4 (2019): 884.	4.56
11.	Mohd Amir, Vijay Kumar, Taj Mohammad , Ravins Dohare, Md Tabish Rehman, Mohamed F. Alajmi, Faizan Ahmad, and Md Imtaiyaz Hassan. "Structural and functional impact of non-synonymous SNPs in the CST complex subunit TEN1: Structural genomics approach." <i>Bioscience reports</i> (2019): BSR20190312.	2.94
10.	Mohd Amir, Shahzaib Ahamad, Taj Mohammad , Deeba Shamim Jairajpuri, Gulam Mustafa Hasan, Ravins Dohare, Md Tabish Rehman, Mohamed F. Alajmi, Faizan Ahmad, and Md Imtaiyaz Hassan. "Investigation of conformational dynamics of Tyr89Cys mutation in protection of telomeres 1 gene associated with familial melanoma." <i>Journal of Biomolecular Structure and Dynamics</i> (2019).	3.31
9.	Rashmi Dahiya, Ahmad Abu Turab Naqvi, Taj Mohammad , Mohamed F. Alajmi, Md. Tabish Rehman, Afzal Hussain, and Md. Imtaiyaz Hassan. "Investigating the structural features of chromodomain proteins in the human genome and predictive impacts of their mutations in cancers" <i>International journal of biological macromolecules</i> (2019), 131:1101-116.	5.16
8.	Mohd Amir, Shahzaib Ahamad, Vijay Kumar, Taj Mohammad , Ravins Dohare, Mohamed F. Alajmi et al. "Impact of Gln94Glu mutation on the structure and function of Protection of telomere 1, a cause of cutaneous familial melanoma." <i>Journal of Biomolecular Structure and Dynamics</i> (2019): 1-15.	3.31
7.	Bhumika Kumar [#] , Taj Mohammad [#] , Amaduddin, Asimul Islam, Faizan Ahmad, Shailja Singh, Kailash C. Pandey, Md. Imtaiyaz Hassan and Mohammad Abid. "Targeting metacaspase-3 from <i>Plasmodium falciparum</i> towards antimalarial therapy: A combined approach of in-silico and in-vitro investigation" <i>Journal of Biomolecular Structure and Dynamics</i> (2019). ([#] equal contributor)	3.31
S. No.	2018	I. F.
6.	Taj Mohammad and Md Imtaiyaz Hassan. "Genome Microbiology for Synthetic Applications." <i>Synthetic Biology</i> , 75-86. <i>Springer Nature</i> , 2018.	N/A

5.	Taj Mohammad , and Md Imtaiyaz Hassan. "Modern Approaches in Synthetic Biology: Genome Editing, Quorum Sensing, and Microbiome Engineering." <i>Synthetic Biology</i> , 189-205. Springer Nature, 2018.	N/A
4.	AA Turab Naqvi [#] , Taj Mohammad [#] , Gulam Mustafa Hasan, and Md Imtaiyaz Hassan. "Advancements in docking and molecular dynamics simulations towards ligand-receptor interactions and structure-function relationships." <i>Current topics in medicinal chemistry</i> (2018). (#equal contributor)	3.44
3.	Mohd Amir, Vijay Kumar, Taj Mohammad , Ravins Dohare, Afzal Hussain, Md Tabish Rehman, Perwez Alam et al. "Investigation of deleterious effects of nsSNPs in the POT1 gene: a structural genomics-based approach to understand the mechanism of cancer development." <i>Journal of Cellular Biochemistry</i> (2018).	4.24
2.	Farha Naz, Faez Iqbal Khan, Taj Mohammad , Parvez Khan, Saaliqa Manzoor, Gulam Mustafa Hasan, Kevin A. Lobb et al. "Investigation of molecular mechanism of recognition between citral and MARK4: A newer therapeutic approach to attenuate cancer cell progression." <i>International journal of biological macromolecules</i> 107 (2018): 2580-2589.	5.16
1.	Shagufta Khan, Faez Iqbal Khan, Taj Mohammad , Parvez Khan, Gulam Mustafa Hasan, Kevin A. Lobb, Asimul Islam, Faizan Ahmad, and Md Imtaiyaz Hassan. "Exploring molecular insights into the interaction mechanism of cholesterol derivatives with the Mce4A: A combined spectroscopic and molecular dynamic simulation studies." <i>International journal of biological macromolecules</i> 111 (2018): 548-560.	5.16
S. No.	Book Chapters	
6.	Taj Mohammad , Rashmi Dahiya and Md Imtaiyaz Hassan. " Implication of Synthetic Biology in Biotherapeutic Engineering" <i>Systems and Synthetic Immunology</i> . Springer Nature, 2020.	
5.	Rashmi Dahiya, Taj Mohammad and Md Imtaiyaz Hassan. "Role of Genome-Wide Association Studies in Host Genetics: Toward Understanding of Microbiome Association" <i>Metagenomic Systems Biology</i> , 3-20. Springer Nature, 2020.	
4.	Rashmi Dahiya, Taj Mohammad and Md Imtaiyaz Hassan. "Genome Engineering Tools in Immunotherapy" <i>Systems and Synthetic Immunology</i> , 377-391. Springer Nature, 2020.	
3.	Abu Turab Naqvi, Taj Mohammad and Md Imtaiyaz Hassan. "Discovery of Novel Drug Targets in Microbial Pathogens Among Hypothetical Proteins: Methods and Significance" <i>Pathogenicity and Drug Resistance of Human Pathogens</i> , 377-391. Springer Nature, 2020.	
2.	Taj Mohammad and Md Imtaiyaz Hassan. "Modern Approaches in Synthetic Biology: Genome Editing, Quorum Sensing, and Microbiome Engineering." <i>Synthetic Biology</i> , pp. 189-205. Springer Nature, 2018.	
1.	Taj Mohammad and Md Imtaiyaz Hassan. "Genome Microbiology for Synthetic Applications." <i>Synthetic Biology</i> , 75-86. Springer Nature, 2018.	

Abstracts published (in numbers)	
As first author: >15	As co-author: >20

Awards/Fellowships

- UGC-Maulana Azad National Fellowship by University Grant Commission, India as-
 - Senior Research Fellowship (SRF) from July 2018 to till date for pursuing PhD and
 - Junior Research Fellowship (JRF) from July 2016 to June 2018 for pursuing M.Phil.
- Received '*MFH Beg Education Fund*' from Jamia Millia Islamia, New Delhi, India.
- Received '*Merit-cum-means*' scholarship from Government of Uttar Pradesh, India.
- Received '*Sherwani Award*' two times by the Chairman of Bharat Sewa Trust, India.

Academic achievements and extra-curricular activities

- Attended and presented work in more than 10 international and 30 national conferences, workshops and scientific meetings across India.
- Organizer of '*National Conference on Protein Structure and Dynamics in Health and Agriculture*' November 3-4, 2017, New Delhi, organized by the Protein Society, India.
- Life Member of Scientific and Technical Research Association, USA (Membership No.: ERCICSTR2003070).
- Life Member of Bioinformatics and Drug Discovery Society, India (Membership No.: BIDD517-183).
- Member of Biotech Club, Centre for Innovation and Entrepreneurship, Jamia Millia Islamia, New Delhi, India.
- General Secretary (2015-16) and Joint Secretary (2014-15), Subject Association at Department of Computer Science, Jamia Millia Islamia, New Delhi, India.
- Class Representative (2016-18 M.Phil.) and (2014-16 M.Sc.), Jamia Millia Islamia, New Delhi, India.
- Member of Subject Association, CIRBSc. (2016-18 M.Phil.) and DCS (2014-16 M.Sc.), Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, India.
- Placement Coordinator, Department of Computer Science, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, India.

Personal Detail

Mother:	Fatma Begum
Father:	Late Mohammad Saeyroon
Date of Birth:	10 th July 1994
Marital Status:	Single
Nationality/Sex:	Indian/Male
Language Skills:	English (C1, Advanced), Hindi (First language), Urdu (Intermediate), French (Elementary), and Spanish (Elementary, Learning).
Address- (Present):	107, AIH Boys Hostel, Jamia Nagar, New Delhi-110025, INDIA.
Hometown:	Sambhal, Moradabad, Uttar Pradesh

CV as of October 2020