

Curriculum Vitae

S. Saif Hasan, PhD

Assistant Professor, Department of Biochemistry and Molecular Biology
University of Maryland School of Medicine, Baltimore MD

Date November 5th, 2021

Contact Information

Business Address: Center for Biomolecular Therapeutics
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Foreign Languages: Hindi and Urdu

Education

2001-2004 B.Sc., Biochemistry (Honors), Aligarh Muslim University, Aligarh India
2004-2006 M.Sc. (Biotechnology), University of Pune, Pune India
2006-2007 Junior Research Fellow, National Center for Cell Science, Pune India
2007-2013 Ph.D., Biological Sciences, Purdue University, West Lafayette IN, USA
Thesis Advisor-William A. Cramer, Ph.D.
“Structure-Function Studies of the Cytochrome *b₆f* Complex of Oxygenic Photosynthesis”

2013-2019 Post-Doctoral Research Associate, Department of Biological Sciences, Purdue University, West Lafayette IN, USA
Research Advisor-Michael G. Rossmann, Ph.D. (now deceased)

Post Graduate Education and Training

2013-2019 Post-Doctoral Research Associate, Department of Biological Sciences, Purdue University, West Lafayette IN

Employment History

2013-2019 Post-Doctoral Research Associate, Department of Biological Sciences, Purdue University, West Lafayette IN, USA

2019-present Assistant Professor, Department of Biochemistry and Molecular Biology, University of Maryland School of Medicine, Baltimore MD

Research Interests

Structural biology of proteins involved in viral infections and cancer

Professional Society Membership

2009-2012	Biophysical Society
2018-present	Biophysical Society
2019-2020	American Association for Cancer Research
2019-2020	American Crystallographic Association
2020-2021	American Society for Pharmacology and Experimental Therapeutics
2020-2021	American Thoracic Society

Honors and Awards

- 2003 ‘JNCASR – Summer Research Fellowship’ awarded by the Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore, India), Rajiv Gandhi Foundation (New Delhi, India) and Department of Science and Technology (Government of India) (*nationally competitive award*)
- 2004 ‘JNCASR – Summer Research Fellowship’ awarded by the Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore, India), Rajiv Gandhi Foundation (New Delhi, India) and Department of Science and Technology (Government of India) (*nationally competitive award*)
- 2005 Nationally competed scholarship for higher studies awarded by the Bharat Petroleum Corporation Limited, India (*nationally competitive award*)
- 2005 University Medal for highest marks in the Faculty of Life Sciences awarded by the Aligarh Muslim University, Aligarh, India (*university level award*)
- 2005 University Medal for highest marks in Bachelor of Science (Honors) Biochemistry awarded by the Aligarh Muslim University, Aligarh, India (*university level award*)
- 2006 Placed in top 20 percentile of awardees of Junior Research Fellowship for Ph.D. by the Council of Scientific and Industrial Research, India (*national level competition*)
- 2011 Best talk by a graduate student (co-winner) at the 37th Midwest-Southeast Photosynthesis Meeting, Marshall IN, USA (*national level competition*)
- 2012 Student Research Achievement Award at the 56th Annual Biophysical Society Meeting, San Diego CA, USA (*internationally competitive award*)
- 2018 Best talk by a post-doctoral researcher at The Hitchhiker’s Guide to the Biomolecular Galaxy: A Purdue Mini-Symposium on Integrating Structure, Function, and Interactions of the Biomolecular Universe at Purdue University, West Lafayette IN, USA (*university level award with a few participants from other universities in the mid-west*)
- 2018 Best short talk by a post-doctoral researcher at the Third Annual Life Sciences Postdoc Symposium at Purdue University, West Lafayette IN, USA (*university level award*)
- 2019 Biophysical Society travel award to present research at the 63rd Annual Biophysical Society Meeting, Baltimore MD (*internationally competitive award*)

Grant Support

- 2019-20 Principal Investigator (multi-investigator), “*Molecular Architecture of KDELR-Gq, an Oncogenic Trans-Membrane Signaling Complex*”, University of Maryland MPower
- 2019-21 Co-Investigator (multi-investigator), “*Structure of Paxillin/Focal Adhesion Kinase Complex*”, University of Maryland MPower
- 2020-21 Principal Investigator (multi-investigator), “*Structural Investigations of KDEL Receptors*”, University of Maryland MPower
- 2020-21 Principal Investigator (multi-investigator), “*Molecular Investigations of SARS-CoV-2 Spike Protein*”, UMaryland MPower COVID19 Response Fund Award
- 2021-23 Principal Investigator, “*Molecular Lipidomics of a Therapeutic Target in Coronavirus Assembly*”, American Thoracic Society/GlaxoSmithKline
- 2021-22 Principal Investigator, “*Molecular Investigations of KDEL Receptor Retrograde Trafficking and its Viral Hijacking*”, University of Maryland MPower

International and National Service

Journals

Ad-hoc reviewer for PLOS ONE, Biochemical Journal, Journal of Spectroscopy, Photosynthesis Research, BMC Microbiology, Journal of Bioenergetics and Biomembranes, Proteins: Structure, Function and Bioinformatics, Proceedings of the National Academy of Sciences of the United States of America, F1000Research, Pharmaceuticals, Virology, Scientific Reports, Process Biochemistry, Nature Structural and Molecular Biology, Molecules, Nature Communications, Science Advances, Communications Biology

Funding Agency

- 2019-present Ad-hoc grant reviewer, Biotechnology and Biological Sciences Research Council, United Kingdom

University Service

- 2019 Served as judge for poster competition, 10th Annual Cancer Biology Research Retreat, University of Maryland, Baltimore MD
- 2019-present Served as member representing UMB in educational committee in Institute for Bioscience and Biotechnology Research, Rockville MD
- 2020 & 2021 Served as search committee member for the recruitment of a tenure track assistant professor in the Institute for Bioscience and Biotechnology Research, Rockville MD, and the Department of Chemistry and Biochemistry, University of Maryland, College Park MD
- 2020 Served as member, Advisory Committee, Structural Biology Shared Service, University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center, Baltimore MD
- 2020 Served as member of review committee, GPILS/OPS Awards for graduate students and post-doctoral researchers in University of Maryland Baltimore MD

2020-present Alternate member, University of Maryland School of Medicine Council,
Baltimore MD

Teaching Service

Undergraduate Student Teaching and Training

- 2007-2008 Graduate teaching assistant, undergraduate laboratory course in Human Anatomy and Physiology, Purdue University, West Lafayette IN, USA
- 2010-2012 Mentor, 1 undergraduate, supervised research 5-7 times per week, Purdue University, West Lafayette IN, USA
- 2016-2018 Mentor, 1 undergraduate, supervised research 2-4 times per week in spring and fall, Purdue University, West Lafayette IN, USA
- 2019 Mentor, 1 undergraduate from University of Maryland College Park working in my lab as an undergraduate researcher (June-August)

Graduate Student Teaching

- 2008 Graduate teaching assistant, graduate course in Bioenergetics (fall semester), Purdue University, West Lafayette IN
- 2019 Instructor (one lecture), Proteins Core Course: GPLS 601 Mechanisms in Biomedical Sciences (fall semester), Section 3: Proteins and Ligand-Proteins, “X Ray Crystallography, EM & Other Approaches”, University of Maryland Baltimore MD
- 2020 Instructor (one lecture), Proteins Core Course: GPLS 601 Mechanisms in Biomedical Sciences (fall semester), Section 3: Proteins and Ligand-Proteins, “X Ray Crystallography, EM & Other Approaches”, University of Maryland Baltimore MD
- 2020 Preceptor, Student Presentations, Proteins Core Course: GPLS 601 Mechanisms in Biomedical Sciences (fall semester), University of Maryland Baltimore MD
- 2020 Instructor (one lecture), Foundation Course for Medical Students: “Glucose Transport” (fall semester), University of Maryland Baltimore MD
- 2021 Instructor (one lecture), “Protein Folding and Disease” (spring semester), University of Maryland College Park MD

Publications

Peer-reviewed journal articles

1. Hasan, SS, Ashraf, GM, and Banu, N, “Galectins-potential targets for cancer therapy”, *Cancer Letters* (2007), Vol. 253, pp. 25-33 (*review article*)
2. Hasan, SS, Singh, S, Parikh, RY, Dharne, MS, Patole, MS, Prasad, BLV, and Shouche, YS, “Bacterial Synthesis of copper/copper oxide nanoparticles”, *Journal of Nanoscience and Nanotechnology* (2008), Vol. 8, pp. 3191-3196
3. Baniulis, D, Yamashita, E, Zhang, H, Hasan, SS, and Cramer, WA, “Structure-function of the cytochrome *b₆f* complex”, *Photochemistry and Photobiology* (2008), Vol. 84, pp. 1349-

1358 (review article; *I contributed to the structure of the cytochrome b_6f complex discussed in this review article*)

4. Baniulis, D, Yamashita, E, Whitelegge, JP, Zatsman, AI, Hendrich, MP, Hasan, SS, and Cramer, WA, “Structure-function, stability, and chemical modification of the cyanobacterial cytochrome b_6f complex from *Nostoc* sp. PCC 7120”, *Journal of Biological Chemistry* (2009), Vol. 284, pp. 9861-9869 (*I contributed to the identification and interpretation of chemical modification of the cytochrome b_6f complex*)
5. Ryan, CM, Souda, P, Bassilian, S, Ujwal, R, Zhang, J, Abramson, J, Ping, P, Durazo, A, Bowie, JU, Hasan, SS, Baniulis, D, Cramer, WA, Faull, KF, and Whitelegge, JP, “Post-translational modifications of integral membrane proteins resolved by top-down Fourier transform mass spectrometry with collisionally activated dissociation”, *Molecular and Cellular Proteomics* (2010), Vol. 9, pp. 791-803 (*I contributed to the purification and characterization of the cytochrome b_6f complex utilized in this investigation*)
6. Hasan, SS, Yamashita, E, Ryan, CM, Whitelegge, JP and Cramer, WA, “Conservation of lipid functions in cytochrome bc complexes”, *Journal of Molecular Biology* (2011), Vol. 414, pp. 145-162 (*comparative structural study shows conservation of lipid sites and functions in a major membrane protein family in respiration and photosynthesis*)
7. Cramer, WA, Hasan, SS, and Yamashita, E, “The Q cycle of cytochrome bc complexes: A structure perspective”, *Biochimica et Biophysica Acta-Bioenergetics* (2011), Vol. 1807, pp. 788-802 (*review article*)
8. Cramer, WA, Zakharov, SD, Hasan, SS, Zhang, H, Baniulis, D, Zhalnina, MV, Soriano, GM, Sharma, O, Rochet, JC, Ryan, C, Whitelegge, JP, Kurisu, G, and Yamashita, E, “Membrane proteins in four acts: Function precedes structure determination”, *Methods* (R. Stevens, ed.) (2011), Vol. 5, pp. 415-420 (*review article; I contributed to the purification method for cytochrome b_6f complex discussed in this review article*)
9. Hasan, SS, and Cramer, WA, “Lipid functions in cytochrome bc complexes: An odd evolutionary transition in a membrane protein structure”, *Philosophical Transactions of the Royal Society B* (P. Horton, guest ed.) (2012), Vol. 367, pp. 3406-3411 (*review article*)
10. Hasan, SS, and Cramer, WA, “On the rate limitation of photosynthetic electron transfer in the cytochrome b_6f complex”, *Physical Chemistry Chemical Physics* (2012), Vol. 14, pp. 13853-13850 (*review article*)
11. Hasan, SS, Yamashita, E, Baniulis, D and Cramer, WA, “Quinone-dependent proton transfer pathways in the photosynthetic cytochrome b_6f complex”, *Proceedings of the National Academy of Sciences of the United States of America* (2013), Vol. 110, pp. 4297-4302 (*first crystallographic description of major trans-membrane energy storage pathway in oxygenic photosynthesis*)
12. Hasan, SS, Stofleth, JT, Yamashita, E and Cramer, WA, “Lipid induced conformational changes within the cytochrome b_6f complex of oxygenic photosynthesis”, *Biochemistry* (2013), Vol. 52, pp. 2649-2654 (*crystallographic study shows lipid head-group electrostatics determine membrane protein dynamics*)
13. Baniulis, D*, Hasan, SS*, Stofleth, JT and Cramer, WA, “Mechanism of enhanced superoxide production in the cytochrome b_6f complex of oxygenic photosynthesis”, *Biochemistry* (2013), Vol. 52, pp. 8975-8983 (**shared first authorship; discovery that*

electron transfer through a family of trans-membrane metallo-protein complexes generates 10-times more free-radicals in photosynthesis than respiration)

14. Hasan, SS, Yamashita, E, and Cramer, WA, “Transmembrane signaling and assembly of the cytochrome *b₆f*-lipidic charge transfer complex”, *Biochimica et Biophysica Acta-Bioenergetics* (2013), Vol. 1827, pp. 1295-1308 (*review article*)
15. Hasan, SS*, Rizvi, A*, and Naseem, I, “Calcitriol-induced DNA damage: Towards a molecular mechanism of selective cell death”, *IUBMB Life* (2013), Vol. 65, pp. 787-792 (**shared first authorship, hypothesis article*)
16. Rizvi, A, Hasan, SS, and Naseem, I, “Selective cytotoxic action and DNA damage by calcitriol-Cu (II) interaction: Putative mechanism of cancer prevention”, *PLOS ONE* (2013), Vol. 8, e76191
17. Hasan, SS, Proctor, EA, Yamashita, E, Dokholyan NV, and Cramer, WA, “Traffic within the cytochrome *b₆f* lipoprotein complex: Gating of the quinone portal”, *Biophysical Journal* (2014), Vol. 107, pp. 1620-1628 (*crystallographic and molecular dynamics investigation shows intra-protein diffusion of quinone is linked to trans-membrane signaling in oxygenic photosynthesis*)
18. Hasan, SS*, and Cramer, WA, “Internal lipid architecture of the hetero-oligomeric cytochrome *b₆f* complex”, *Structure* (2014), Vol. 22, pp. 1008-1015 (**corresponding author; crystallographic study provides most comprehensive description of lipids in a membrane protein structure ever deposited in the PDB*)
19. Hasan, SS*, Zakharov, SD*, Chauvet, A, Stadnytskyi, V, Savikhin, S, and Cramer, WA, “A map of dielectric heterogeneity in a membrane protein: The hetero-oligomeric cytochrome *b₆f* complex”, *Journal of Physical Chemistry B* (2014), Vol. 118, pp. 6614-6625 (**shared first authorship; discovery of direct influence of intra-protein lipids on electron transfer through a trans-membrane metallo-protein complex*)
20. Singh, NK*, Hasan, SS*, Kumar, J*, Raj, I, Pathan, AA, Shakil, S, Gourinath, S, and Madamwar, D, “Molecular basis of phycocyanin- β -secretase interaction: A putative therapy for Alzheimer’s disease”, *CNS & Neurological Disorders-Drug Targets* (2014), Vol. 13, pp. 691-198 (**shared first authorship*)
21. Agarwal R, Zakharov S, Hasan SS, Ryan CM, Whitelegge JP, Cramer WA, Structure-function of cyanobacterial outer-membrane protein, Slr1270: Homolog of *Escherichia coli* drug export/colicin import protein, TolC. *FEBS Letters* (2014), Vol. 588, pp. 3793-801 (*I performed structure prediction and sequence analyses*)
22. Agarwal, R*, Hasan, SS*, Jones, L, Stofleth, JT, Ryan, CM, Whitelegge, JP, Kehoe, D, and Cramer, WA, “Role of domain-swapping in the hetero-oligomeric cytochrome *b₆f* lipoprotein complex”, *Biochemistry* (2015), Vol. 54, pp. 3151-3163 (**shared first authorship; biochemical and structural study reveals role of a trans-membrane domain in stabilizing the oligomer of a 16-subunit membrane protein complex*)
23. Singh, SK*, Hasan, SS*, Zakharov, SD, Naurin, S, Cohn, W, Ma, J, Whitelegge, JP, and Cramer, WA, “Trans-membrane signaling in photosynthetic state transitions: Redox- and structure-dependent interaction in vitro between Stt7 kinase and the cytochrome *b₆f* complex”, *Journal of Biological Chemistry* (2016), Vol. 291, pp. 21740-21750 (**shared first authorship; biochemical insights into the function of redox-activated Stt7 kinase, which controls photosynthetic state transitions*)

24. Yap, ML, Klose, T, Urakami, A, Hasan, SS, Akahata, W, and Rossmann, MG, “Structural studies of Chikungunya virus maturation”, Proceedings of the National Academy of Sciences of the United States of America (2017), Vol. 114, 13703-13707 (*I interpreted cryoEM data to provide structural insights in the study of vaccine candidate immature Chikungunya virus-like particles*)
25. S. Bhaduri, Stadnytskyi, V, Zakharov, SD, Hasan, SS, Ł. Bujnowicz, M. J. Sarewicz, Savikhin, S, A. Osyczka and Cramer, WA, "Pathways of trans-Membrane electron transfer in cytochrome *bc* complexes: Dielectric heterogeneity and interheme coulombic interactions", Journal of Physical Chemistry B (2017), Vol. 121, pp. 975-983 (*I participated in interpretation of spectroscopic data in the context of the crystallographic structure of the cytochrome *bc*₁ complex*)
26. Hasan, SS, Miller, A, Sapparapu, G, Fernandez, E, Klose, T, Long, F, Fokine, A, Porta, JC, Jiang, W, Diamond, MS, Crowe Jr., JE, Kuhn, RJ, and Rossmann, MG, “A human antibody against the Zika virus crosslinks the E protein to prevent infection”, Nature Communications (2017), Vol. 8, pp. 14722 (*cryoEM study reveals inhibition of Zika virus conformational changes by a therapeutic human antibody*)
27. Hasan, SS, Sevanna, M, Kuhn, RJ and Rossmann, MG, “Structural biology of Zika virus and other flaviviruses”, Nature Structural and Molecular Biology (2018), Vol. 25, pp. 13-20 (*invited review article*)
28. Hasan, SS, Sun, C, Kim, AS, Chen, CL, Klose, T, Buda, G, Diamond, MS, Klimstra, WB, and Rossmann, MG, “CryoEM structures of Eastern Equine Encephalitis Virus reveal mechanisms of virus disassembly and antibody neutralization”, Cell Reports (2018), Vol. 25, pp. 3136-3147 (*cryoEM investigation of an alphavirus at 4.4Å resolution provides the first insights into the molecular architecture of genome binding site on capsid protein; five cryoEM structures of alphavirus-Fab complexes demonstrate diversity in anti-viral immune response with implications for vaccine design*)
29. Parvate, AD, Vago, F, Hasan, SS, Lee, J, Williams, EP, Lanman, J, and Jonsson, CB, “A new inactivation method to facilitate cryo-EM of enveloped, RNA viruses requiring high containment: A case study using Venezuelan Equine Encephalitis Virus (VEEV)”, Journal of Virological Methods (2020), Vol. 277, pp. 113792 (*I contributed to fitting of envelope and capsid protein coordinates in cryoEM map*)
30. Chen, CL, Hasan, SS, Klose, T, Sun, Y, Buda, G, Sun, C, Klimstra, WB, and Rossmann, MG, “Cryo-EM structure of Eastern Equine Encephalitis Virus in complex with heparan sulfate analogues”, Proceedings of the National Academy of Sciences of the United States of America (2020), Vol. 117, pp. 8890-8899 (*I contributed to structure determination by cryoEM*)
31. Bhaduri S, Singh, SK, Cohn, W, Hasan, SS, Whitelegge, JP, and Cramer, WA, “A novel chloroplast super-complex consisting of the ATP synthase and photosystem I reaction center”, PLoS ONE (2020), Vol. 15, pp. e0237569
32. Dey, D, Poudyal, S, Rehman, A, and Hasan, SS*, “Structural and biochemical insights into flavivirus proteins”, Virus Research (2021), Vol. 296, pp. 198343 (*review article; *corresponding author*)
33. Hasan, SS*, Dey, Singh, S, Martin, M, “The structural biology of Eastern equine encephalitis virus, an emerging viral threat”, Pathogens (2021), Vol. 10, pp. 973 (*review article; *corresponding author*)

Book Chapters

1. Cramer, WA, Yamashita, E, Baniulis, D, and Hasan, SS, “The cytochrome *b₆f* complex of oxygenic photosynthesis”, Handbook of Metalloproteins (2010), DOI: 10.1002/0470028637.met287 (*I contributed to the purification method for cytochrome *b₆f* complex discussed in this chapter*)
2. Baniulis, D, Zhang, H, Zakharova, T, Hasan, SS, and Cramer, WA, “Purification and crystallization of the cyanobacterial cytochrome *b₆f* complex”, Methods in Molecular Biology (2011), Vol. 684, pp. 65-77 (*I contributed to the purification method for cytochrome *b₆f* complex discussed in this chapter*)
3. Hasan, SS, Baniulis, D, Stofleth, JT, Yamashita, E, Zhahnina, MV, Zakharov, SD, and Cramer, WA, “Methods for studying interactions of detergents and lipids with α -helical and β -barrel integral membrane proteins”, Current Protocols in Protein Science (2013), Vol. 74, pp. 29.7.1-29.7.30
4. Cramer, WA, Yamashita, E, Baniulis, D, Whitelegge, JP, and Hasan, SS, “Structure-function of the cytochrome *b₆f* complex of oxygenic photosynthesis”, Encyclopedia of Biological Chemistry-2nd Edition (W. J. Lennarz and M. D. Lane ed.) (2013), Vol. 4, pp. 161-171 (*I contributed to the structure of the cytochrome *b₆f* complex discussed in this chapter*)
5. Cramer, WA, Yamashita, E, and Hasan, SS, “The cytochrome *b₆f* complex of oxygenic photosynthesis”, Encyclopedia of Biophysics (G. C. K. Roberts ed.) (2013), Vol. 1, pp. 417-422 (*I contributed to the structure of the cytochrome *b₆f* complex discussed in this chapter*)
6. Baniulis, D, Hasan, SS, Miliute, I, and Cramer, WA, “Mechanisms of superoxide generation and signaling in cytochrome *bc* complexes”, Cytochrome Complexes: Evolution, Structures, Energy Transduction, and Signaling (W. A. Cramer and T. Kallas ed.) (2016), pp. 397-417
7. Cramer, WA, and Hasan, SS, “Structure-function of the cytochrome *b₆f* lipoprotein complex”, Cytochrome Complexes: Evolution, Structures, Energy Transduction, and Signaling (W. A. Cramer and T. Kallas ed.) (2016), pp. 177-207
8. Hasan, SS*, Dey, D, and Rehman, A, “An introduction to principles of virus structure”, Molecular Medical Microbiology, Volume 5 (2021) (*accepted; *corresponding author*)
9. Cramer, WA, Hasan, SS, Bhaduri, S, Ness, S, Puthyaveetil, S, Ibrahim, IM, Whitelegge, JP, Zakharov, S, “Structure-function of the cytochrome *b₆f* lipoprotein complex”, Encyclopedia of Biological Chemistry (2021) (*accepted*)

Major Invited Talks

1. Hasan, SS, “The dark side of the force: Trans-membrane charge and information transfer by the cytochrome *b₆f* complex of oxygenic photosynthesis”, Inter-Disciplinary Biotechnology Unit, Aligarh Muslim University, Aligarh India, 2013
2. Hasan, SS, “Cytochrome *b₆f* complex of oxygenic photosynthesis: *Itinera in absente aquae, in presente lipidis*”, International Centre for Genetic Engineering and Biotechnology, New Delhi, India, 2013
3. Hasan, SS, “Zika virus structure bound to neutralizing antibodies”, Indiana Microscopy Society Annual Meeting, IUPUI Campus, Indianapolis IN, 2016

4. Hasan, SS, “A human antibody against the Zika virus crosslinks the E protein to prevent infection”, Department of Biological Sciences, Purdue University, West Lafayette IN, 2017
5. Hasan, SS, “A potent cross-linking human antibody neutralizes Zika virus infection”, Carl S. Vetling Seminar Series, Department of Biochemistry, Carver College of Medicine, University of Iowa, Iowa City IA, 2017
6. Hasan, SS, “An introduction to cryo-electron microscopy”, XVIII Annual Research Matters Conference, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore MD, 2019
7. Hasan, SS, “An introduction to cryo-electron microscopy”, Cigarette Restitution Fund Program, 2019 Cancer Research Grant Program, University of Maryland Marlene and Stewart Greenebaum Comprehensive Cancer Center, Baltimore MD, 2019
8. Hasan, SS, “Winter fell and then started a game of frames: The cryoEM story”, Molecular and Structural Biology Program Annual Retreat, University of Maryland Marlene and Stewart Comprehensive Greenebaum Comprehensive Cancer Center, Baltimore MD, 2019
9. Hasan, SS, “Structural insights into emerging viral pathogens”, Department of Biochemistry and Molecular Biology, University of Maryland School of Medicine, Baltimore MD, 2019
10. Hasan, SS, “CryoEM investigations of Zika virus and EEEV: Insights into viral entry”, National Institute of Standards and Technology, Gaithersburgh MD, 2019
11. Hasan, SS, “CryoEM investigations of Zika virus and EEEV: Insights into viral entry”, Center for Cancer Research, National Cancer Institute, Bethesda MD, 2019
12. Hasan, SS, “Investigations of ZIKV and EEEV entry and host machinery for inter-organelle trafficking”, Department of Microbiology and Immunology, Georgetown University, Washington DC, 2020
13. Hasan, SS, “Insights into protein secretion”, Basic Chairs’ Meeting, University of Maryland School of Medicine, Baltimore MD, 2020
14. Hasan SS, “Trafficking, inhibition, and host factors in flavivirus and alphavirus infections”, Shri AN Patel PG Institute of Science & Research, Sardar Patel University, Anand, India, 2020 (webinar)
15. Hasan SS, “Structural and Biophysical Basis of Endo-Membrane Signaling by a Non-Canonical GPCR”, Structural Biology Interest Group, University of Iowa, Iowa City IA, 2020 (webinar)
16. Hasan SS, “Inter-Organelle Virus Trafficking: A Tale of Antibodies and Non-Canonical GPCRs”, Microbiology Seminar Series, Albany College of Pharmacy and Health Sciences, Albany NY, 2021 (webinar)
17. Hasan, SS, “Biophysical and Structural Basis of Molecular Mimicry and Host Hijacking by SARS CoV 2 Spike”, Biochemistry Seminar Series, Department of Biochemistry and Chemistry, University of Maryland College Park MD, 2021
18. Hasan, SS, “An Extended Coatomer Hijacking Motif in the SARS-CoV-2 Spike Protein”, Dr. Michael Rossmann Symposium, Purdue University, West Lafayette IN, 2021 (webinar)

Proffered Communications

Local

1. Hasan, SS*, Diamond, MS, Crowe Jr., JE, Kuhn, RJ, and Rossmann, MG, “A human antibody against Zika virus crosslinks the E protein to prevent infection”, Third Annual Life Sciences Post-Doc Symposium, Purdue University, West Lafayette IN, 2018 (**Winner of award for best short talk*)
2. Hasan, SS*, Diamond, MS, Klimstra, WB, and Rossmann, MG, “Structural investigations of an infectious alphavirus”, The Hitchhiker’s Guide to the Biomolecular Galaxy: A Purdue Mini-symposium on Integrating Structure, Function, and Interactions of the Biomolecular Universe at Purdue University, West Lafayette IN, 2018 (**Winner of award for best talk by a post-doctoral researcher*)
3. Rehman, A, and Hasan SS, “KDEL receptors form a functional complex with Gαq in secretion and in metastatic onco-signaling”, Biochemistry and Molecular Biology Graduate Program in Life Sciences Retreat, University of Maryland School of Medicine, Baltimore MD, 2020
4. Rehman, A, and Hasan SS, “KDEL receptors form a functional complex with Gαq in secretion and in metastatic onco-signaling”, Institute for Bioscience and Biotechnology Research, Rockville MD, 2020

National

5. Yamashita, E, Baniulis, D, Zatsman, AI, Hendrich, MP, Hasan, SS, and Cramer, WA, “Unique structure aspects of the cytochrome *b₆f* complex: Structure of the complex from *Nostoc* sp. PCC 7120”, 34th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2009 (*I contributed to the structural analysis of the cytochrome *b₆f* complex*)
6. Hasan, SS, Zakharov, SD, Yamashita, E, Böhme, H, and Cramer, WA, “Excitonic interaction between hemes *b_n* and *b_p* in the cytochrome *b₆f* complex”, 35th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2009
7. Hasan, SS, Yamashita, E, and Cramer, WA, “Lipid binding sites in cytochrome *bc* complexes”, 36th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2010
8. Hasan, SS, Yamashita, E, Ryan, CM, Whitelegge, JP, and Cramer, WA, “Conservation of lipid function in cytochrome *bc* complexes”, 4th Annual Membrane Symposium, Purdue University, West Lafayette IN, 2011
9. Hasan, SS, Zakharov, SD, and Cramer, WA, “Proton coupled electron transfer in the cytochrome *b₆f* complex: Electrostatic interactions”, 37th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2011
10. Hasan, SS*, Yamashita, E, Ryan, CM, Whitelegge, JP, and Cramer, WA, “Conserved lipid functions in cytochrome *bc* complexes”, 37th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2011, (**Co-winner of award for best talk by a graduate student*)
11. Baniulis, D, Stofleth, JT, Yamashita, E, Hasan, SS, and Cramer, WA, “Superoxide production in the cytochrome *b₆f* complex: Role of chlorophyll-*a* in rate limitations of the canonical Q-cycle”, 38th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2012 (*I contributed to the structural analysis of cytochrome *b₆f* complex*)
12. Zakharov*, SD, Hasan, SS*, Chauvet, A, Savikhin, S, and Cramer, WA, “Electrostatically constrained pathway of intra-monomer electron transfer in the cytochrome *b₆f* complex”, 38th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2012 (**shared first authorship*)

13. Hasan, SS, Yamashita, E, Stofleth, JT, and Cramer, WA, “Conformational changes induced by lipid charge within the cytochrome *b₆f* complex”, 38th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2012
14. Hasan, SS, Yamashita, E, Baniulis, D, and Cramer, WA, “Proton transfer pathways in the cytochrome *b₆f* complex: Role of water (*in absentia aquae*)”, 38th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2012
15. Hasan, SS, Yamashita, E, Baniulis, D, and Cramer, WA, “Transfer of electrons, protons, and information in the cytochrome *b₆f*-lipidic complex of oxygenic photosynthesis”, The 4th Membrane Protein Technologies Meeting, NIH Roadmap to Membrane Protein Structures and Complexes, San Francisco CA, 2012
16. Agarwal, R, Zakharov, SD, Hasan, SS, Whitelegge, JP, and Cramer, WA, “Characterization of a cyanobacterial outer membrane protein: An *E. coli* TolC homologue from *Synechocystis* PCC 6803”, 39th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2013 (*I contributed to homology modeling and structure prediction of the TolC homologue*)
17. Agarwal, R*, Hasan, SS*, Jones, LM, Kehoe, D, Whitelegge, JP, and Cramer, WA, “Structure-function studies of the cytochrome *b₆f* complex: Domain swapping in the hetero-oligomeric membrane protein complex”, 40th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2014 (**shared first authorship*)
18. Hasan, SS, Singh, SK, Baniulis, D, Yamashita, E, Proctor, EA, Dokholyan, NV, and Cramer, WA, “Structure-function studies of trans-membrane signaling in the cytochrome *b₆f* complex”, 40th Midwest-Southeast Photosynthesis Meeting, Marshall IN, 2014
19. Singh, SK, Hasan, SS, and Cramer, WA, “Function of the cytochrome *b₆f* complex in trans-membrane signaling”, NIH Membrane Proteins Meeting, Lemont IL, 2015
20. Hasan, SS, and Cramer, WA, “Internal lipid architecture of the hetero-oligomeric cytochrome *b₆f* complex”, The 5th Membrane Protein Structures Meeting, NIH Roadmap to Membrane Protein Structures and Complexes, Lemont IL, 2015

International

21. Hasan, SS, Zakharov, SD, Yamashita, E, Böhme, H, and Cramer, WA, “Excitonic interaction between hemes *b_n* and *b_p* in the cytochrome *b₆f* complex”, 54th Annual Biophysical Society Meeting, San Francisco CA, 2010
22. Hasan, SS, Yamashita, E, Baniulis, D, and Cramer, WA, “Problems in the transfer of large molecules within membrane proteins: Lipophilic quinone and the labyrinthine structure of cytochrome *bc* complexes” Symposium on Membrane Biology of Cancer, Purdue University, West Lafayette IN, 2010
23. Hasan, SS, Zakharov, SD, and Cramer, WA, “Preferred pathway of electron transfer in the dimeric cytochrome *b₆f* complex: Selective reduction of one monomer”, 55th Annual Biophysical Society Meeting, Baltimore MD, 2011
24. Hasan, SS, Yamashita, E, and Cramer, WA, “Lipid binding sites in membrane proteins: Cytochrome *bc* complexes”, 55th Annual Biophysical Society Meeting, Baltimore MD, USA, 2011
25. Hasan, SS, Yamashita, E, Ryan, CM, Whitelegge, JP, and Cramer, WA, “Lipids in the cytochrome *b₆f* complex of oxygenic photosynthesis”, 6th Frontiers in Bioenergy, United

States-Brazil Symposium on Sustainable Bioenergy, Purdue University, West Lafayette IN, 2011

26. Hasan, SS*, Yamashita, E, Ryan, CM, Whitelegge, JP, and Cramer, WA, “Conservation of lipid binding sites in cytochrome *bc* complexes”, 56th Annual Biophysical Society Meeting, San Diego CA, 2012, (**Winner of Student Research Achievement Award*)
27. Hasan, SS, Zakharov, SD, and Cramer, WA, “Negative cooperativity in the reduction of excitonically interacting *b*-hemes of the cytochrome *b₆f* complex”, 56th Annual Biophysical Society Meeting, San Diego CA, 2012
28. Baniulis, D, Stofleth, JT, Hasan, SS, Proctor, EA, Dokholyan, NV, and Cramer, WA, “Increased superoxide production in the cytochrome *b₆f* complex: A function for the enigmatic chlorophyll-*a*”, 57th Annual Biophysical Society Meeting, Philadelphia PA, 2013 (*I performed crystallographic analysis of cytochrome *b₆f* complex*)
29. Zakharov, SD*, Hasan, SS*, Chauvet, A, Savikhin, S, and Cramer, WA, “Electrostatically constrained pathway of intra-monomer electron transfer in the cytochrome *b₆f* complex”, 57th Annual Biophysical Society Meeting, Philadelphia PA, 2013 (**shared first authorship*)
30. Hasan, SS, Yamashita, E, Baniulis, D, and Cramer, WA, “An anhydrous proton transfer pathway in the cytochrome *b₆f* complex”, 57th Annual Biophysical Society Meeting, Philadelphia PA, 2013
31. Zakharov, SD, Hasan, SS, Chauvet, A, Savikhin, S, and Cramer, WA, “Dielectric heterogeneity in the cytochrome *b₆f* complex”, 16th International Congress on Photosynthesis Research, St. Louis MO, 2013
32. Hasan, SS, Baniulis, D, Yamashita, E, Stofleth, JT, Proctor, EA, Dokholyan, NV, and Cramer, WA, “Proton-transfer pathways across the cytochrome *b₆f* complex of oxygenic photosynthesis”, 16th International Congress on Photosynthesis Research, St. Louis MO, 2013
33. Agarwal, R, Zakharov, SD, Hasan, SS, Whitelegge, JP, and Cramer, WA, “Characterization of a cyanobacterial outer membrane protein: An *E. coli* TolC homologue from *Synechocystis* PCC 6803”, 58th Annual Biophysical Society Meeting, San Francisco CA, 2014 (*I contributed to homology modeling and structure prediction of the TolC homologue*)
34. Zakharov, SD, Hasan, SS, Chauvet, A, Savikhin, S, and Cramer, WA, “Dielectric heterogeneity in the cytochrome *b₆f* complex”, 58th Annual Biophysical Society Meeting, San Francisco CA, USA, 2014
35. Hasan, SS, Miller, A, Sapparapu, G, Fernandez, E, Klose, T, Long, F, Fokine, A, Porta, JC, Jiang, W, Diamond, MS, Crowe Jr., JE, Kuhn, RJ, and Rossmann, MG, “A human antibody against the Zika virus crosslinks the E protein to prevent infection”, XXV Biennial Conference on Phage/Virus Assembly, Ellicott City MD, 2017
36. Hasan, SS, Sun, C, Kim, AS, Chen, CL, Klose, T, Buda, G, Diamond, MS, Klimstra, WB, and Rossmann, MG, “Structural investigations of an encephalopathic alphavirus”, 6th Pan-American Dengue Research Network Meeting, Galveston TX, 2018
37. Hasan, SS, Sun, C, Kim, AS, Chen, CL, Klose, T, Buda, G, Diamond, MS, Klimstra, WB, and Rossmann, MG, “Structural Insights into the entry and antibody neutralization of Eastern Equine Encephalitis Virus”, Purdue Cryo-EM Symposium, West Lafayette IN, 2018

38. Cramer, WA, Ness, J, Hasan, SS, Ehringer, K, Naurin, S, Stadnytski, V, Ibrahim, IM, and Puthiaveetil, S, “Structure-based change in the rate-limiting step of photosynthetic electron transport”, 63rd Annual Biophysical Society Meeting, Baltimore MD, 2019
39. Hasan, SS*, Sun, C, Kim, AS, Chen, CL, Klose, T, Buda, G, Diamond, MS, Klimstra, WB, and Rossmann, MG, “Structural insights into entry and antibody neutralization of Eastern Equine Encephalitis Virus”, 63rd Annual Biophysical Society Meeting, Baltimore MD, 2019 (**Winner, travel award*)
40. Arnold, E, Hasan, SS, Johnson, JE, Wu, H, and Zhao, R, “Michael G. Rossmann (1930-2019): Pioneer in crystallography of macromolecules and viruses”, 69th American Crystallographic Association Annual Meeting, Covington KY, 2019 (invited talk in Michael Rossmann’s memorial session)
41. Rehman, A, Altieri, A, Yu, W, Ivanov, SM, Pierce, BG, MacKerell, AD, and Hasan SS, “Biophysical basis of KDEL receptor-lipid interactions in secretory signaling”, 65th Annual Biophysical Society Meeting (Virtual), 2021 (abstract in Biophysical Journal, Vol. 120, Issue 3, pp. 210a-211a)