*Current:* **Assistant Professor, Molecular Synthesis & Drug Discovery Unit, CBMR Lucknow**
*Education:* ***Ph.D*** **@ Univ. Connecticut, USA;** ***Post-doc*****: @ Univ. Pittsburgh, USA & Univ. Oxford, UK**
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## *Research Statement:*

*Modern synthetic chemistry* by virtue of its power to create molecular structures with functions has emerged as the enabling science, impacting different ventures of biomedical research. It includes but not limited to the development of novel and efficient strategies for New Chemical Entities (NCEs) or design of the *smart* synthetic probes to gain deeper understanding of the diseases and disorders at molecular level. Our research program is directed towards the aforementioned objectives through development of new synthetic methodologies and catalytic processes that are coupled to the principles of medicinal chemistry.

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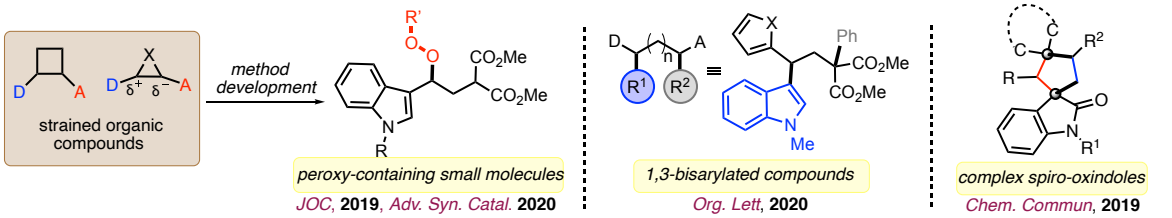
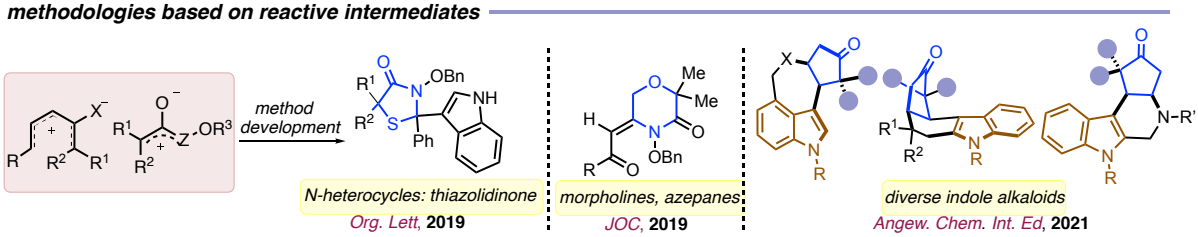
## *Summary of the current efforts*

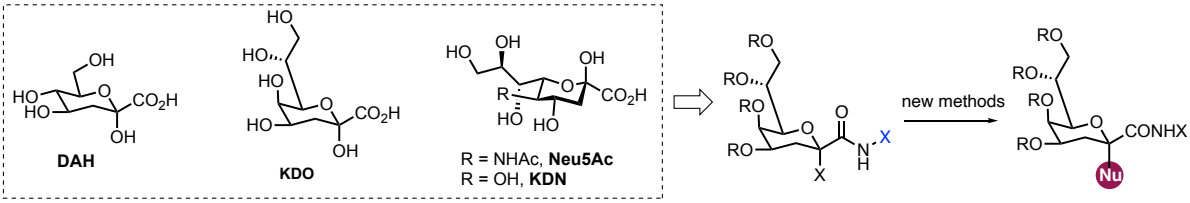
***methodologies based on strained organic compounds***




***methodologies based on reactive intermediates***




***synthesis of sialosides to study human anti-sialoside antibodies***

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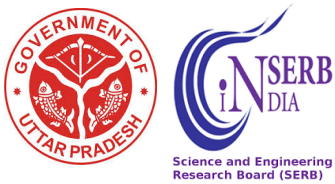
## *Current group and research funding:*

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***Publication:***

***(From CBMR Lucknow)***

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20. An Approach to α- and β-Amino Peroxides via Lewis Acid Catalyzed Ring Opening-Peroxidation of Donor-Acceptor Aziridines and N-Activated Aziridines. Singh, K.; Kumar, P.; Jagadeesh, C.; Patel, M.; Das, D.; Saha, J. *Adv. Synth. Catal.* **2020**. 363, 4130 (DOI: 10.1002/adsc.202000815).
19. Recent Developments on the Synthesis of Various Sulfur-Containing Heterocycles via [3+2]- and [4+2]-Cycloaddition Reactions with Thiocarbonyls. Jaiswal, V.; Mondal, B.; Saha, J. *Asian. J. Org. Chem.* **2020**.9, 1466 (DOI: org/10.1002/ajoc.202000238)
18. Multicomponent, Tandem 1,3-and 1,4-Bisarylation of Donor-Acceptor Cyclopropanes and Cyclobutanes with Electron-Rich Arenes and Hypervalent Arylbismuth Reagets. Mondal, B.; Das, D.; Saha, J. *Org. Lett.* **2020**. *22,* 5115. (DOI: org/10.1021/acs.oerlett.0c01702).
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14. Lewis Acid Catalyzed Nucleophilic Ring-Opening and 1,3-Bisfunctionalization of Donor-Acceptor Cyclopropanes with Hydroperoxides: Access to Highly Functionalized Peroxy/(α-Heteroatom Substituted) Peroxy Compounds. Singh, K.; Bera, T.; Jaiswal, V.; Biswas, S.; Mondal, B.; Das, D.; Saha, J. *J. Org. Chem*. **2019**, *84*, 710 (DOI: org/10.1021/acs.joc.8b02561)
13. Hypoxia-Activated, Small-Molecule-Induced Gene Expression. Collins, S.L.; Saha, J.; Bouchez, L.C.; Hammond, E.M.; Conway, S.J. *ACS Chem.Biol*. **2018**, *13*, 3354 (DOI:10.1021/acschembio.8b00858).
12. Uses of $K_2S_2O_8$ in Metal Catalyzed and Metal Free Oxidative Transformations. Mandal, S.; Bera, T.; Dubey, G.; Saha, J*; Laha, J.* *ACS Catal.* **2018**, *8*, 5085.(DOI: 10.1021/acscatal.8b00743).

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9. An uncharged oxetanylsulfoxide as a covalent modifier for improving aqueous solubility. Skoda, E, Sachar, J.; Saha. J.; Wipf, P. *ACS. Med. Chem. Lett*. **2014**, *5*, 900.
8. Bridged Tetrahydroisoquinolines as Selective NADPH Oxidase 2 (Nox2) Inhibitors. Pagano, E.C.; Saha, J.; Pagano, P.J.; Skoda, E.M.; Wipf. P.W. *Med.Chem.Comm*. **2013**, *4*, 1085.

7. Copper Catalyst-Controlled Site Selective Allenylation of Ketones and Aldehydes with Propargyl Boronates. Fandrick, K.R.; Ogikubo, J.; Fandrick, D.R.; Patel, N.D.; Saha, J.; Lee, H.; Ma, S.; Grinberg, N.; Busacca, C.A.; Senanayake, C.H. *Org. Lett*. **2013**, *15*, 1214.
6. Glycosylations With a Septanosyl Fluoride Donor Lacking a C2 Protecting Group. Saha, J.; Peczuh. M. W. *Tetrahedron Lett*. **2012**, *53*, 5667.
5. Discovery of a Phosphine-Mediated Cycloisomerization of AlkynelHemiketals: Access to Spiroketals and Dihydropyrazoles Via Tandem Reactions. Saha, J.; Lorenc, C.; Surana,B.; Peczuh, M.W. *J. Org. Chem*. **2012**, *77*, 3846.
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1. Access to Ring-Expanded Analogues of 2-Amino Sugars. Saha, J.; Peczuh, M. W. *Org. Lett.* **2009**, *11*, 4482.