CURRICULUM VITAE

Name	**SAJAL DAS**
Date of Birth	February 5, 1980
Nationality	Indian
Gender	Male
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Current Position and Address for Communication:

Associate Professor in Chemistry

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Academic Membership: Life Member in Chemical Research Society of India;

Life Member in Indian Chemical Society;

Life Member in Indian Science Congress Association

Education:

- M.Sc. in Chemistry *from* North Bengal University, India.
- Ph. D. in Chemistry *from* North Bengal University, Darjeeling, India in May 2009. Title of the Thesis: **"*Investigations on Synthetic Organic Transformations: Applications to C-C & C-N Bond Forming Processes*"** under the guidance of Professor B. Basu; Department of Chemistry, North Bengal University, Darjeeling, India.
- Worked as Post-Doctoral Fellow, Department of Organic Chemistry, Umeå University, Sweden, June 2008 to June 2009, (Project title: "***Regioselective synthesis of piperidines, piperazines and 4-pyridones"***) under the supervision of Prof. F. Almqvist, Department of Organic Chemistry, Umea University, Umea, Sweden**.**
- Worked as Post-Doctoral Fellow at Department of Chemistry & Biochemistry, Queens College, City University of New York during September **2014** to August **2015**.

Previous Positions:

- May 2004 to May 2008: Research Fellow (CSIR-NET-JRF/SRF) North Bengal University, Darjeeling, India.
- June 2008 to June 2009: Post-Doctoral Fellow, Department of Organic Chemistry, Umeå University, Sweden.

Fellowship/Award Received:

- Young Scientist Award: 11th National Conference on Solid State Chemistry and Allied Areas (NCSCA-2019), **2019.**
- Raman Post-Doctoral Fellowship: Awarded by UGC, New Delhi **2014-2015**.
- Young Scientist Award, DST FAST TRACK SCHEME in **2010**.
- Senior Research Fellowship: Awarded by CSIR New Delhi in **May 2006**
- Junior Research Fellowship: Awarded by CSIR New Delhi in **May 2004**

Research Experience:

- **May 2004 to April 2006:** Worked as a JRF (CSIR-NET-JRF).
- **May 2006 to May 2008:** Worked as SRF (CSIR-NET-SRF).
- **June 2008 to June 2009:** Worked as Post-Doctoral Fellow, Department of Organic Chemistry, Umeå University, Sweden.
- **June 2009 to September 2018:** Assistant Professor, Department of Chemistry, North Bengal University, Darjeeling, India.

- **September 2014 to September 2015:** Post-Doctoral fellow at Department of Chemistry & Biochemistry, Queens College, City University of New York.
- **September 2018 onwards:** Associate Professor, Department of Chemistry, University of North Bengal, Darjeeling, India.

Project Details:

- Synthesis of Pd-NHC Complexes and Their Applications in Organic Transformations, Duration 1-year [April-2020-March-2021] (**Status: Completed**) Sponsored by University of North Bengal.
- Designing and synthesis of functionalized N-heterocycles (4-quinolone and imidazopyridine) and evaluation of their biocidal properties, Duration 3-years [August 2017-August 2020] (**Status: Completed**) Sponsored by SERB, New Delhi, Sanctioned amount 43.0 Lakhs INR.
- Synthesis of benzimidazole based NHC-metal complexes & their application in organic transformations, Duration 3-years [March 2012 to February 2015] (**Status: Completed**) Sponsored by CSIR-New Delhi, Sanctioned amount 20.0 Lakhs INR.
- Synthesis of potentially active & highly functionalized 4-quinolones, Duration 3-years [October-2010 to October-2013] (**Status: Completed**), Sponsored *by DST-INDIA*, New Delhi, Sanctioned amount 19.8 Lakhs INR.
- Investigations on Synthetic Organic Transformations: Application to C–C and C–N Bond Forming Processes, Duration 47 months [July 2004 to May 2008] (**Status: Completed**) Sponsored by CSIR-New Delhi, Sanctioned amount 6.4 Lakhs INR.

List of Ph.D. students:

Current Students:

- ✓ Mr. Aritra K. Nandi
- ✓ Mr. Tapas Das
- ✓ Mr. Gautam Chhetri
- ✓ Mr. Sanjay Roy
- ✓ Mr. Arun Hajra
- ✓ Mr. Anirban Mandal
- ✓ Mr. Tapas Dey
- ✓ Mr. Jayanta Mondal

Past Students:

- **Dr. Sumanta Gupta** (Thesis title: Synthesis of palladium-*N*-heterocyclic carbine complexes and their application in organic transformations) [Awarded in **July 2016**]
- **Dr. Prasanjit Ghosh** (Thesis title: Synthesis of functionalized 4-quinolones and their reactions: Approaches towards bioactive molecules) [Awarded in **November 2017**]
- **Dr. Barnali Kar** (Thesis title: Organic transformations in Microemulsion Medium) [Awarded in **January 2018**].
- **Dr. Bhaskar Ganguly** (Thesis title: Transition metal catalyzed organic transformations and application towards the synthesis of heterocyclic compounds) [Awarded in **July 2018**].
- **Dr. Seema Dwivedi** (Thesis title: Green Approaches Towards Transition Metal Catalyzed and Metal Free C-C and C-Hetero atom Coupling Reactions) [Awarded in **November 2019]**
- **Dr. Biswajit Mandol** (Thesis title: Novel Pd-Catalyzed Carbon-Carbon and Carbon-Heteroatom Cross Coupling Reactions towards the Synthesis of Diverse Functional Molecules) [Awarded in **June 2021**]

Research Interest:

- Chemistry of 4-Quinolone
- Selective Functionalization of Heterocycles
- NHC based Metal Catalyst
- Metal Free C-H Functionalization
- C-H Bond Activation

Complete List of Publications:

1. The C-H functionalization of *N*-alkoxycaramoyl indoles by transition metal catalysis. P. Ghosh, S. Das, *Org. Biomol. Chem*., **2021,** *19*, 7949-7969.
2. Metal Free C-3 Chalcogenation (Sulfenylation and Selenylation) of 4H-Pyrido[1,2-a]pyrimidin-4-ones. P. Ghosh, G. Chhetri, S. Das. *RSC Advances*. **2021**, *11*, 10258-10263.
3. [Bis(trifluoroacetoxy)iodo]benzene mediated C-3 selenylation of Pyrido[1,2-a]pyrimidin-4-ones under ambient conditions. P. Ghosh, G. Chhetri, E. Perl, S Das. *Adv. Synth. Catal.,* **2021**, *363*, 2148- 2156.

4. NaI/KI/NH_4I and TBHP as powerful oxidation systems: use in the formation of various chemical bonds, Ghosh, B. Ganguly, S. Das, *Org. Biomol. Chem*., **2021**, *19*, 2146-2167.
5. 8-Aminoimidazo[1,2-a]pyridine (AIP) directed Pd(II) catalysis: site-selective ortho-C(sp2)–H arylation in aqueous medium, B. Mondal, P. Ghosh, M. Kundu, T. Das, S. Das, *Org. Biomol. Chem.,* **202**1, *19*, 1604-1609.
6. Palladium catalyzed 8-aminoimidazo[1,2-a]pyridine (AIP) directed selective β-C(sp2)–H arylation, B. Mondal, P. Ghosh, M. Kundu, S. Das, *Org. Biomol. Chem*., **2021**, *19*, 360-364.
7. N-H and C-H Functionalization of Sulfoximines: Recent Advances and Prospects. P. Ghosh, B. Ganguly, S. Das. *Asian. J. Org. Chem*., **2020**, *9*, 2035-2082.
8. C–H functionalization of quinazolinones by transition metal catalysis, P. Ghosh, B. Ganguly, S. Das, *Org. Biomol. Chem*., **2020**, *18*, 4497-4518.
9. Creation of 4-Quinolone Thioether and Selenoether derivatives via Pd-NHC catalyzed Cross-Coupling Reaction. P. Ghosh, S. Das. *SynOpen*. **2020**, *4*, 33-37.
10. Recent advances and perspectives on the synthesis and C-H bond functionalization of Quinoxalin2(1H)-one. P. Ghosh, S. Das, *Synth. Commun*. **2020**, *50*, 2266-2312.
11. Creation of thio and selenocyanate derivatives of 4-quinolone via regioselective C–H bond functionalization under ambient conditions, P. Ghosh, G. Chhetri, A. K. Nandi, S. Sarkar, T. Saha, S. Das, *New J. Chem*., **2019**, *43*, 10959-10964.
12. Synthesis and Functionalization of 4-Quinolones: A Progressing Story, P. Ghosh, S. Das, *Eur. J. Org. Chem*. **2019**, 4466-4516.
13. Generation of ArS and ArSe substituted 4-quinolone derivatives using sodium Iodide as an Inducer**,** P. Ghosh, A. K. Nandi, G. Chettri, **S. Das,** *J***.** *Org. Chem.* **2018**, *83*, 12411-12419.
14. Ligand Free Approach for the Copper(II)-Mediated C-NH_2 Arylation of 4-Quinolone Derivatives Under Ambient Condition, P. Ghosh and **S. Das**, *ChemistrySelect*, **2018**, *3*, 8624-8627.
15. Benzimidazole-based high temperature ionic liquid-in-oil microemulsion for regioselective nitration reaction, B. Kar, P. Ghosh, K. kundu, S. Bardhan, B. K. Paul, **S. Das**, *J. Mol. Liq.* **2018**, *268*, 122-130.
16. Carbonylative Sonogashira annulation sequence: One-pot synthesis of 4-quinolone and 4*H*-chromen-4-one derivatives, P. Ghosh, A. K. Nandi, **S. Das,** *Tetrahedron Letters*, **2018**, *59*, 2025-2029.

17. Green procedure for highly efficient, rapid synthesis of imidazo[1,2-a]pyridine and its late stage functionalization, P. Ghosh, B. Ganguly, B. Kar, S. Dwivedi, S. Das, *Synth. Commun.* **2018**, 1076-1084.
18. Pd-NHC catalyzed Carbonylative Suzuki coupling reaction and its application towards the synthesis of biologically active 3-aroylquinolin-4-(1*H*)-one and acridone scaffolds, P. Ghosh, B. Ganguly, **S. Das**, *Appl. Organomet. Chem.* **2017**, DOI: 10.1002/aoc.4173**.**
19. A synthesis of biaryl ketones *via* C-S bond cleavage of thiol ester by a Cu/Ag salt; P. Ghosh, B. Ganguly, E. Perl, **S. Das**, *Tetrahedron Lett.* **2017**, *58*, 2751-2756.
20. A Fast and Additive Free C–C Homo/Cross-Coupling Reaction in Reverse Micelle: An Understanding of Role of Surfactant, Water Content and Base on the Product Yield and Reaction Site, B. Kar, S. Bardhan, P. Ghosh, B. Ganguly, K. Kundu, S. Sarkar, B. K. Paul, **S. Das**, *ChemistrySelect,* **2017**, 1079-1088.
21. Microemulsion Mediated Organic Synthesis and the Possible Reaction Site, P. Ghosh, B. Kar, S. Bardhan, K. Kundu, S. K. Saha, B. K. Paul, **S. Das**, *J. Surface Sci. Technol.,***2016**, *32*, 8-16.
22. Synergistic interactions of surfactant blends in aqueous medium are reciprocated in non-polar medium with improved efficacy as a nanoreactor, S. Bardhan, K. Kundu, B. Kar, G. Chakraborty, D. Ghosh, D. Sarkar, **S. Das**, S. Senapati, S. K. Saha, B. K. Paul, *RSC Advances*, **2016**, *6*, 55104-55116.
23. Auto-Tandem Palladium Catalysis: From Isoxazole to 2-Azafluorenone, **S. Das**, D. Hong, Z. Chen, W. H. Hersh, G. Subramaniam, Y. Chen, *Org. Lett.* **2015**, *17*, 5578-5581.
24. Regiocontrolled nitration of 4-quinolones at ambient conditions, S. Sarkar, P. Ghosh, A. Misra, **S. Das**, *Synth. Commun.*, **2015**, *45*, 2386-2393.
25. Formation, Thermodynamic Properties, Microstructures and Antimicrobial Activity of Mixed Cationic/Non-ionic Surfactant Microemulsions with Isopropyl Myristate as Oil, S.Bardhan, K. Kundu, **S. Das**, M.Poddar, S. K. Saha, B. K. Paul, *J. Coll. Inter. Sci.* **2014***, 430*, 129-139.
26. N-Heterocyclic Carbenes (NHCs) in Asymmetric Organocatalysis, S. Dwivedi, S. Gupta, **S. Das**, Current Organocatalysis, **2014**, *1*, 13-39.
27. A green etiquette for Pd catalyzed ligand free homocoupling reaction of arylboronic acids at ambient conditions; S. Dwivedi, S. Bardhan, P. Ghosh, **S. Das**, RSC Advances, **2014**, *4*, 41045-41050.

28. A straight forward synthesis of 4-aryl substituted 2-quinolones *via* Heck reaction; S. Gupta, B. Ganguly, **S. Das**, RSC Advances, **2014**, *4*, 41148-41151.
29. Physicochemical studies of water-in-oil nonionic microemulsion in presence of benzimidazole-based ionic liquid and probing of microenvironment using model C–C cross coupling (Heck) reaction, B. Kar, S. Bardhan, K. Kundu, S. K. Saha, B. K. Paul **S. Das**, RSC Advances, **2014**, *4*, 21000-21009.
30. Synthesis of 6-Aryl substituted 4-quinolones via Suzuki Cross Coupling, S. Gupta, P. Ghosh, S. Dwivedi, **S. Das**, RSC Advances, **2014**, *4*, 6254-6260.
31. Benzimidazole based palladium-*N*-heterocyclic carbene: a useful catalyst for C-C cross coupling reaction at ambient condition, S. Gupta, B. Basu, **S. Das**, *Tetrahedron*, **2013**, *69*, 122-128.
32. Electrical Conductances of 1-Butyl-3-propylimidazolium Bromide and 1-Butyl-3-propylbenzimidazolium Bromide in Water, Methanol, and Acetonitrile at (308, 313, and 318) K at 0.1 MPa, S. Gupta, A. Chatterjee, **S. Das**, B. Basu, B. Das, *J. Chem. Eng. Data,* **2013***, 58*, 1-6.
33. Synthesis of substituted 4-pyridones and 4-aminopyridinium salts via a one-pot pyridine synthesis, H. Andersson, **S. Das**, M. Gustafsson, R. Olsson, F. Almqvist, *Tetrahedron Letters*, **2010**, *51*, 4218-4220.
34. Efficient, Mild, and Completely Regioselective Synthesis of Substituted Pyridines, H. Andersson, T. S. L. Banchelin, **S. Das**, R. Olsson, F. Almqvist. *Chem. Commun.* **2010**, *42*, 3384-3386.
35. Complete Regioselective Addition of Grignard Reagents to Pyrazine N-oxides, Towards an Efficient Enantioselective Synthesis of Substituted Piperazines, H, Andersson, T. S. L. Banchelin, **S. Das**, M. Gustafsson, R. Olsson, F. Almqvist, *Org. Letters,* **2010**, *12*, 284-286.
36. Role of Catechol-violet for Cu(I)-Catalyzed Coupling of Aromatics Halides and Thiols, B. Basu, B. Mandal, **S. Das,** S. Kundu. *Tetrahedron Letters*, **2009**, *50*, 5523-5528.
37. Chemoselective reduction of aldehydes by ruthenium trichloride and resin-bound formates, B. Basu, B. Mandal, **S. Das,** P. Das. *Beilstein journal of organic chemistry* **2009**, (doi:10.3762/bjoc.4.53).
38. Palladium Supported on Polyionic Resin as Efficient, Ligand-free & Recyclable Catalyst for Heck, Suzuki-Miyaura and Sonogashira Reactions, B. Basu, **S. Das**, P. Das, B. Mandal, F. Alamqvist, D. Banerjee. *Synthesis* **2009**, 1137-1146.

39. Role of copper in catalyzing aryl and heteroaryl-Nitrogen (or -oxygen) bond formation under ligand-free and solvent-free conditions, B. Basu, **S. Das**, B. Mandal, *Indian J. Chem B.* **2008**, 1701-1706.
40. Recent Advances in KF/alumina Promoted Organic Reactions, B. Basu, P. Das, **S. Das**, *Curr. Org. Chem.* **2008**, 141-158.
41. Poly–ionic Heterogeneous Phenylating Agent for Base–free Suzuki–Miyaura Coupling Reaction, B. Basu, **S. Das**, S. Kundu, B. Mandal, *Synlett*. **2008**, 255-259.
42. Palladium–catalyzed selective amination of haloaromatics on KF–alumina surface, B. Basu, P. Das, A. K. Nanda, **S. Das**, S. Sarkar, *Synlett*, **2005**, 1275-1278.
43. Co–immobilized formate anion and palladium on a polymer surface: a novel heterogeneous combination for transfer hydrogenation, B. Basu, **S. Das**, P. Das A. K. Nanda, *Tetrahedron Lett.* **2005**, *46*, 8591–8593.
44. Transfer hydrogenation using recyclable polymer–supported formate (PSF): Efficient and Chemoselective reduction of nitroarenes, B. Basu, P. Das, **S. Das**, *Mol. Diversity*, **2005**, *9*, 259–262.
45. Amberlite-supported Formate/Pd Catalyst for C–C coupling Reactions, B. Basu, **S. Das**, P. Das, B. Mandal, D. Banerjee, F. Almqvist, ***Synfact***, 2009, 6, 690.

Oral Presentation/Invited Talk:

- An invited talk on "Regio-selective Functionalization of Activated Pyridine & Pyrazine via Addition & Cross-coupling Reaction" *Gour College, Malda,* **2011,** November 14th.
- An invited talk on "Synthesis of functionalized heterocycles using Grignard Reagents" *Queens College, City University New York*, December **2014.**
- An invited talk on "Benzimidazole based Pd-NHC: A useful catalyst for C-C cross coupling reactions" *Gour College, Malda,* November, **2016.**
- Oral Presentation on "Synthesis of Biaryl ketones *via* C-S bond cleavage of Thiol-ester using Cu & Ag salt" A. C. College, Jalpaiguri (West Bengal Regional Science Congress) **2016.**
- Oral Presentation on "Auto-tandem catalysis: An unique approach for the direct conversion of isoxazole to 2-azafluorenone" A. B. N. Seal College, March **2016**
- Oral Presentation on "Synthesis of 2-Azafluorenone from isoxazole *via* Pd-catalyzed tandem reaction" *Burdwan University*, Burdwan, **2016**, February 5.
- Oral Presentation on "Synthesis of Biaryl ketones *via* C-S bond cleavage of Thiol-ester using Cu & Ag salt" Science City, Kolkata (West Bengal Science Congress) **2017.**

- Oral Presentation on “Selective Functionalization of 4-Quinolones” SMIT, Sikkim, **2018.**
- Oral Presentation on “Creation of C-S & C-Se linkage of 4-quinolone under metal free condition” Raipur, November **2019**.
- Invited Lecture on “Selective Functionalization of 4-Quinolones” 11th National Conference on Solid State Chemistry and Allied Areas (NCSCA-2019), Nagpur, December, **2019**.
- Invited Lecture on “Chemistry of 4-Quinolones and Selective Functionalization” University of North Bengal, March **2020**.
- Invited Lecture on “Basics of Climate Change & Evidences” Govt. P. G. College for Women, Gandhi Nagar, September 22, **2021**.