

APURBA RANJAN SAHOO

Ph.D. Student (3rd year),
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EDUCATION

- 2014–till date** **Ph.D. in Chemistry,**
UMR 6226, ISCR: OMC, University of Rennes 1, Rennes, France.
Thesis title: Design of New Ruthenium and Iridium Complexes for Hydrogen Transfer Reactions and Cyclic Amine Functionalization.
Advisers: Dr. Christian Bruneau and Dr. Mathieu Achard
- 2009–2014** **Int. M. Sc. in Chemistry,**
National Institute of Science Education and Research (NISER),
Bhubaneswar, India.
CGPA – 8.9/10,
Thesis title: Rhodium Catalyzed Synthesis of Bicyclic Ketals and Diketals from Diazocarbonyl Compounds.
Adviser: Dr. Chidambaram Gunanathan

RESEARCH INTERESTS

- Designing of novel ligands, complexes and their applications in catalysis.
- Activation of relatively inert C–H, C–C, and C–O bonds.
- Syntheses of biologically relevant molecules using catalysis.
- Development of synthetic methodologies towards green and sustainable chemistry.

PUBLICATIONS

JOURNALS

5. **Sahoo, A.R.;** Jiang, F.; Bruneau, C.; Sharma, G.V.M.; Suresh, S.; Roisnel, T.; Dorcet, V.; Achard, M.* *Phosphine-Pyridonate Ligands Containing Octahedral Ruthenium Complexes : Access to Esters and Formic Acid*, *Catal. Sci. Technol.* **2017**, *7*, 3492.
Selected as a part of the themed collection: **2017 Catalysis, Science and Technology Hot Articles.**
4. **Sahoo, A. R.;** Lalitha, G.; Muruges, V.; Bruneau, C.; Sharma, G. V. M.; Suresh, S.; Achard, M.* *Ruthenium Phosphine-Pyridone Catalyzed Cross-Coupling of Alcohols to Form α -alkylated Ketones*, *J. Org. Chem.* **2017**, *82*, 10727.

3. Muruges, V.; Bruneau, C.; Achard, M.; **Sahoo, A. R.**; Sharma, G. V. M.; Suresh, S.* *Ruthenium Catalyzed β -sp³ C–H Functionalization on the ‘Privileged’ Piperazine Nucleus*, *Chem. Commun.* **2017**, *53*, 10448.
2. **Sahoo, A.R.**; Jiang, F.; Bruneau, C.; Sharma, G.V.M.; Suresh, S.; Achard, M.* *Acetals from Primary Alcohols with the use of Tridentate Proton Responsive Phosphinepyridonate Iridium Catalysts*, *RSC Adv.* **2016**, *6*, 100554.
1. Rajaraman, A.¹; **Sahoo, A.R.**¹; Hild, F.; Fischmeister, C.*; Achard, M.*; Bruneau, C. *Ruthenium (II) and Iridium (III) Complexes featuring NHC-Sulfonate Chelate*, *Dalton Trans.* **2015**, *44*, 17467.

CONFERENCE PRESENTATIONS [O – Oral, P – Poster]

- (O1) **Sahoo, A.R.**; Bruneau, C.; Achard, M. *Proton-Responsive Tridentate Phosphinepyridonates: New Insights in Catalysis* in Journée des Doctorants de l’Institut des Sciences Chimiques de Rennes, Université de Rennes 1, Rennes, France. Oct., 2016.
- (O2) **Sahoo, A.R.**; Bruneau, C.; Achard, M. *From Chelate to Tripodal Proton-Responsive Ligands, Any Benefits in Catalysis?* in 24th GECOM-CONCOORD, Obernai, Strasbourg, France. May, 2016.
- (P1) **Sahoo, A.R.**; Bruneau, C.; Sharma, G.V.M.; Suresh, S.; Achard, M. *From Alcohols Towards Acetals, Esters and Ketones: A Green Route* in 3rd International Green Catalysis Symposium, Université de Rennes 1, Rennes, France. Mar., 2017.
- (P2) Muruges, V.; Bruneau, C.; Achard, M.; **Sahoo, A.R.**; Sharma, G.V.M.; Suresh, S. *β -sp³ C–H Functionalization on the ‘Privileged’ Piperazine Nucleus: Synthesis of Piperazine Fused Indoles* in 3rd International Green Catalysis Symposium, Université de Rennes 1, Rennes, France. Mar., 2017.
- (P3) **Sahoo, A.R.**; Fischmeister, C.; Achard, M.; Bruneau, C. *Solvent and Base Free N-Alkylation Reactions Using Ruthenium(II) and Iridium(III) NHC-sulfonate Complexes* in Ecole Doctorale Sciences de la Matière: Journée des Doctorants 2016, Université de Rennes 1, Rennes, France. Jan., 2016.
- (P4) **Sahoo, A.R.**; Gunanathan, C. *Rhodium Catalyzed Synthesis of Cyclic Ketals and Diketals from Diazocarbonyl Compounds* in Indo-French Symposium on "Functional Metal-Organics: Applications in Materials and Catalysis", NISER, Bhubaneswar, India. Feb., 2014.

AWARDS/FELLOWSHIPS

- *Ph.D. Fellowship* from CEFIPRA/IFCPAR (Sep. 2014 - Oct. 2017).
- *Best Thesis Award* for Master’s thesis (2014).
- *INSPIRE scholarship* (Aug. 2009 - June 2014) by Department of Science & Technology (DST), Govt. of India.

¹A.R. and A.R.S. contributed equally to this work.

- Selected among top three students of the batch to do internship at University of Cologne, Germany during master's studies (2012). (Adviser – Prof. Dr. H.-G. Schmalz)
- Selected for *Summer Research Fellowship Programme* (SRFP-2012) by Indian Academy of Sciences (not availed).
- Selected for *Vijyoshi 2009* (National Science Camp) organized jointly by JNCASR and IISc, Bangalore.

SUMMER INTERNSHIPS

2012	Adviser: Prof. Dr. H.-G. Schmalz, <i>Professor</i> , University of Cologne, Cologne, Germany. Topic: <i>Towards the Total Synthesis of Mumbaistatin</i> .
2011	Adviser: Dr. C.S. Gopinath, <i>Sr. Principal Scientist</i> , CSIR- National Chemical Laboratory (NCL), Pune, India. Topic: <i>Nitric Oxide Reduction Under Net Oxidising Condition on Pd(III) Surface: A Molecular Beam Study</i> .
2010	Adviser: Dr. C.S. Purohit, <i>Reader F</i> , NISER, Bhubaneswar, India. Topic: <i>Synthesis of Catenanes</i> .

RELEVANT COURSE WORKS - MASTERS LEVEL

- Catalysis Reaction Mechanisms and Applications
- Main Group and Organometallic Chemistry
- Organic Chemistry I, II and III
- Advanced Organic Chemistry
- Advanced Bio-Inorganic Chemistry
- Physical Organic Chemistry
- Nuclear Magnetic Resonance
- Coordination Chemistry

PROFESSIONAL SKILLS

- Instruments handled: NMR, GC, GC-MS, IR, Autoclave, Polarimeter, UV-VIS Spectrometer, and Glovebox.
- Knowledge on Organic Chemistry, Organometallic Chemistry, and Reaction Mechanism.
- Experienced with syntheses of Organic Compounds, Ligands, and Organometallic Complexes (both air stable and air sensitive compounds).

PERSONAL DETAILS

Date of Birth:	22 nd March 1992
Sex:	Male
Nationality:	Indian

References:

Dr. Christian Bruneau

CNRS Researcher

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Dr. Mathieu Achard

Associate Professor

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Dr. G. V. M. Sharma

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(Council of Scientific and Industrial Research)

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