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| **Dr. Debabrata Maiti** Born: December 10th, 1980 in India  Married, Two children  Department of Chemistry Orchid ID: 0000-0001- 8353-1306  IIT Bombay, Powai Researcher ID: K-5112-2012  dmaiti@chem.iitb.ac.in Website: <https://www.dmaiti.com>  dmaiti@iitb.ac.in  Phone: +91-(0)22-2576-7155    Google Scholar: https://scholar.google.co.in/citations?user=FKwzr1wAAAAJ&hl=en |  |

# Professional Career

2015-Present Associate Professor, IIT Bombay, Department of Chemistry, India

2010-2015 Assistant Professor, IIT Bombay, Department of Chemistry, India

2008-2010 Postdoctoral Fellow, Massachusetts Institute of Technology, USA

(Supervisor: Prof. Stephen L. Buchwald)

# Academic Training

# 2003-2008 Ph.D., Department of Chemistry, Johns Hopkins University, USA

# 2001-2003 M.Sc., Silver Medalist, IIT Bombay, India

# 1998-2001 B.Sc. in Chemistry (Hons), University of Calcutta, India

# Awards

2021 Distinguished Adjunct Faculty, King Abdulaziz University

2020 Humboldt Research Fellowship for Experienced Researchers

2019 FRSC, Fellow of the Royal Society of Chemistry

2019 NASI Scopus Young Scientist Award- Innovation in Engineering and Physical Sciences

# 2020 Visiting Faculty, WRHI, Tokyo Institute of Technology, Japan

# 2020 Visiting Faculty, CAPES, Federal University of Minas Gerais, Brazil

2017 Visiting Faculty, University of Pavia, Italy

2017 OPPI - Young Scientist Award

2015 Alkyl Amines - Young Scientist Award

2014 INSA - Young Scientist Award

2014 ISCB - Young Scientist Award

2014 AVRA - Young Scientist Award

2014 CRSI Young Scientist Award

2013 Thieme Chemistry Journal Award

2013 IIT Bombay-IRCC Young Scientist Award

2013 IAS-Young Associate

2013 NASI- Young Scientist Platinum Jubilee Award

# Editorial Appointments

2017-Present Associate Editor, *The Journal of Organic Chemistry*

2019-Present Editorial Board Member- Chemistry – *A European Journal*

2018-Present Editorial Advisory Board, *Organometallics*

2018-Present International Advisory Board, *Chemistry-An Asian Journal*

2021-Present International Advisory Board*, Asian Journal of Organic Chemistry*

2018-Present Early Career Board Member, *Inorganica Chimica Acta*

2021-Present [Editorial Board Member of *J. Het. Chem.*](https://benthamscience.com/journals/current-organocatalysis/)

2019*-*PresentEditorial Board Member- *Frontier in Chemistry*

2018-Present Editorial Board Member, *Current Organocatalysis*

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| --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Citations** | 8532 | | **h-index** | 52 | | **i10 index** | 132 |   Total publication 173 |

**Patent Details**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2011 | Decarbonylation of aldehydes | Patent no. 287461 |  | 3280/MUM/2011 |
| 2012 | Stereospecific synthesis of nitroolefins | Patent no 289568 |  | 3052/Mum/2012 |
| 2013 | A process for the synthesis of Trifluoromethyl Ketones by trifluoromethylation of olefins | Patent no 301846 |  | 1193/Mum/2013 |
| 2013 | Palladium Catalyzed Synthesis of Benzofurans and Coumarins from Phenols and Olefins | Patent no 299110 |  | 2012/Mum/2013 |
| 2014 | Synthesis of heterocyclic compounds by cooper catalyzed Carbon-heteroatom bond formation. | Patent no 333989 |  | 1468/Mum/2014 |
| 2015 | Template assembly. | Patent no 351380 |  | 2421/MUM/2015 |
| 2015 | Template-Assited method of selective functionalization of remotely located *para*-CH bond comprised on arene | Patent No. 348282 |  | 2422/MUM/2015 |
| 2016 | Template for Remote *meta*-CH Functionalization |  |  | Application no 201621029854 |
| 2017 | Electron rich 2-cyanophenole derivatives as effective directing template for diverse remote meta-selective CH bond functionalization: a) palladium catalyzed *meta*-selective silylation and germanylation b) rhodium catalyzed meta-selective olefination | Patent no 351159 |  | Application no 201721010400 |
| 2017 | Pyrimidine-Based Template for *meta*-CH Cyanation of Arenes | Patent No 351843 |  | Application no 201721027324 |
| 2017 | Directing group templates for para-selective C-H bond functionalization, their use and process for preparation thereof | Patent No 359851 |  | Application no 201821005972 |
| 2018 | Development of Bifunctional Templates for Distal CH Functionalization of Heterocycles |  |  | Application no 201821019668 |
| 2019 | A Process for Distal C-H Functionalization |  |  | Application no 201921053680 |

**Publications:**

**169)** Diversity in molecular decoration techniques *via* distal C(*sp2*)H functionalization

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Biswas, J. P.; Ansari, M.; Paik, A.; Sasmal, S.; Paul, S.; Rana, S.; Rajaraman, G.; **Maiti, D.** *Angew. Chem. Int. Ed.***2021,** DOI: 10.1002/anie.202102484 and 10.1002/ange.202102484.

**167)** Construction of Highly Functionalized Xanthones via Rh-Catalyzed Cascade C-H Activation/O-Annulation.

Nale, S.; **Maiti, D.;** Lee Y. R. *Org. Lett*. **2021,** *23*, 2465.

**166)** Recent Advances in External Directing Group Free CH Functionalization of Carboxylic Acids without Decarboxylation.

Das, J.; Mal, D. K.; Maji, S.; **Maiti, D**. *ACS Catal*. **2021**, *11*, 4205.

**165)** Synergistic effect of NiLDH@YZ hybrid and mechanochemical agitation on Glaser homocoupling reaction.

Mokhtar, M.; Alzhrani, G.; Aazam, S.; Saleh, T. S.; Al-faifi, S.; Panja, S.; **Maiti. D.** *Chem. Eur. J.,* **2021 *(ASAP*)**

## 164) Imine as a linchpin approach for *meta*-C–H functionalization.

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**158**) Organopalladium Intermediates in Coordination Directed C(*sp3*) -H Functionalizations

S. S. Anjana.; Dutta, A.; Lahiri. G. K.; **Maiti, D.** *Trends Chem.***2020** (*ASAP*)

**157)**Transition Metal Catalyzed Enantioselective C(*sp2*)–H Bond Functionalization

Achar, T; Maiti, S.; Jana, S.; **Maiti, D.** *ACS Catalysis***2020,***10,* 13748.

**156)**Evolution of Strept(avidin) based artificial metalloenzymes in organometallic catalysis

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Das, J.; Guin, S.; **Maiti, D**. *Chem. Sci.*, **2020**, *11*, 10887.

**152)**Transition Metals and Transition Metals/Lewis Acid Cooperative Catalysis for Directing Group Assisted *para*-C−H Functionalization.

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**145)** Overriding Ortho Selectivity by Template Assisted Meta-C–H Activation of Benzophenone

Casali, E.; Kalra, P.; Brochetta, M.; Borsari, T.; Gandini, A.; Patra, T.; Zanoni, G.; **Maiti, D.** *[Chem. Commun.](https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc03172k" \l "!divAbstract" \t "_blank)***[2020,](https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc03172k" \l "!divAbstract" \t "_blank)***[56](https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc03172k" \l "!divAbstract" \t "_blank)*[, 7281](https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc03172k" \l "!divAbstract" \t "_blank).

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Sasmal, S.; Sinha, S. K.; Lahiri, G. K.; **Maiti, D.** [*Chem. Commun.***2020,***56*, 7100](https://pubs.rsc.org/en/content/articlelanding/2020/cc/d0cc02851g#!divAbstract)**.**

**143)** Diverse meta-C–H Functionalization of Amides

 Gholap, A.; Bag, S.; Pradhan, S.; Kapdi, A. R.; **Maiti, D.**[*ACS Catalysis***2020,***10*, 5347](https://pubs.acs.org/doi/10.1021/acscatal.0c01306).

**142)** Ultrasound-facilitated direct meta-C-H functionalization of arene: A time economical strategy under ambient temperature with improved yield and selectivity

Jayarajan, R.; Chandrashekar, H. B.; Dalvi, A. K.; **Maiti, D.** *Chem. Eur. J,* **2020***, 26,* 11426.

**141)** An update on distal C(*sp3*)−H functionalization involving 1,5-HAT emerging from nitrogen radicals

Goswami, N.; **Maiti. D.** *Israel. J. Chem,* **2020,** *60*, 303.

**140)** Para-Selective Cyanation of Arenes by H-Bonded Template.

Pimparkar, S.; Bhattacharya, T.; Maji, A.; Saha, A.; Jayarajan, R.; Dutta, U.; Lu, G.; Lupton, D. W.; **Maiti, D.** *Chem. Eur. J.* **2020**, *26,* 11558.

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Baccalini, A.; Vergura, S.; Dolui, P.; Zanoni, G.; **Maiti. D.**; *Org. Biomol. Chem.* **2019,** *17,* 10119.

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**134)** Access to Multi-Functionalized Benzofurans through Aryl-Nickelation of Alkynes: Efficient Synthesis of Anti-Arrhythmic Drug Amiodarone

Iqbal, N.; Iqbal, N.; **Maiti, D.**; Cho, E. J. *Angew. Chem. Int. Ed.,* **2019**,*131*, 15955.

**133)** Ligand-Enabled Pd(II)-Catalyzed Iterative γ-C(sp3)-H Arylation of Free Aliphatic Acid

Dolui, P.; Das, J.; Chandrashekar, H. B.; Anjana, S. S.; **Maiti, D.** *Angew. Chem. Int. Ed.,* **2019**,*58*, 13773.

**132)** Co‐ordination assisted distal C−H alkylation of fused heterocycles

Kankanala, R.; Biswas, J. P.; Jana, S.; Achar, T. K.; Porey, S.; **Maiti, D.** *Angew. Chem. Int. Ed.,* **2019**,*58*, 13946.

**131)** Direct *meta*-C-H Perfluoroalkenylation of Arenes Enabled by a Cleavable Pyrimidine-Based Template

Brochetta, M.; Borsari, T.; Bag, S.; Jana, S.; Maiti, S.; Porta, A.; Werz, D.; Zanoni, G.; **Maiti, D.** *Chem. Eur. J.,* **2019,** *44*, 10323.

**130)** Rhodium Catalyzed Template-Assisted Distal para-C−H Olefination

Dutta, U.; Maiti, S.; Pimparkar, S.; Maiti, S.; Gahan, L. R.; Krenske, E. H.; Lupton, D. W.; **Maiti, D.** *Chem. Sci.,* **2019**, *10*, 7426.

**129)** Regioselective Synthesis of Fused Furans via Decarboxylative Annulation of *α,β*-Alkenyl Carboxylic Acid with Cyclic Ketone: Synthesis of Bi-heteroaryl Derivatives

Agasti, S.; Pal, T.; Achar, T. K.; Maiti, S.; Pal, D.; Mandal, S.; Daud, K.; Lahiri, G. K.; **Maiti, D.** *Angew. Chem. Int. Ed.,* **2019**, *58*, 11039.

**128)** Palladium-Catalyzed Directed *meta*-Selective C–H Allylation of Arenes: Unactivated Internal Olefins as Allyl Surrogates

Achar, T. K.; Zhang, S.; Mondal, R.; Shanavas, M. S.; Maiti, S.; Maity, S.; Pal, N.; Paton, R. S.; **Maiti, D.** *Angew. Chem. Int. Ed.,* **2019**, *58*, 10353

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Chandrasekhar, H. B.; Maji, A.; Halder, G.; Banerjee, S.; Bhattacharyya, S.; **Maiti, D.** *Chem. Commun*., **2019**, *55*, 6201

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**93)** Palladium Catalyzed Benzofuran and Indole Synthesis by Multiple C–H Functionalizations

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**92)** Catalytic Arene *meta*-CH Functionalization Exploiting a Quinoline Based Template

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Modak, A.; Patra, T.; Chowdhury, R.; Raul, S.; **Maiti, D**. *Organometallics,* **2017**, *36*, 2418

**90)** Palladium Catalyzed Deformylation Reactions with Detailed Experimental and in Silico Mechanistic Studies

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**89)** Introducing Unactivated Acyclic Internal Aliphatic Olefins in Cobalt Catalyzed Allylic Selective Dehydrogenative Heck Reaction

Maity, S.; Dolui, P; Kancherla, R.; **Maiti, D**. *Chem. Sci*. **2017**, *8*, 518

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**86)** Chelation Assisted Palladium Catalyzed Arylation of Aliphatic Carboxylic acid Derivatives

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**85)** Template Assisted *meta*-C–H Alkylation and Alkenylation of Arenes

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**84)** Nickel Catalyzed Deamidative Step-Down Reduction of Amides to Aromatic Hydrocarbons

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**83)** Detailed Mechanistic Studies on Palladium Catalyzed Selective CH Olefination with Aliphatic Alkenes: A Significant Influence of Proton Shuttling

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**80)** Decarboxylation as the Key Step in C-C Bond Forming Reactions

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**79)** Palladium Catalyzed Selective Distal CH Olefination of Biaryl System Reactions

Maity, S.; Hoque, E.; Dhawa, U.; **Maiti, D**. *Chem. Commun.,* **2016**, *52*, 14003

**78)** Remote *meta* CH Bond Functionalization of 2-phenethylsulphonic Acid and 3-phenylpropanoic Acid Derivatives

Modak, A.; Mondal, A.; Watile, R.; Mukherjee, S.; **Maiti, D**. *Chem. Commun*., **2016**, *52*, 13916

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Deb, A.; **Maiti, D**., *Eur. J. Org. Chem.*, **2017**, 1239

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**74)** Traceless Directing Group Mediated Branched Selective Alkenylation of Unbiased Arenes

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**71)** Cobalt Catalyzed *sp*2-CH Activation and Intermolecular Heterocyclization with Allenes at Room Temperature

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**65)** Palladium Catalysed *meta*-CH Functionalization Reactions Dey, A.; Agasti, S.; **Maiti, D**. *Org. Biomol. Chem.*, **2016**, *14*, 5440.

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Maji, A.; Bhaskararao, B.; Singha, S.; Sunoj, R. B.; **Maiti, D**. *Chem. Sci.,* **2016**, *7*, 3147

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**Research monographs or book chapters published with full details**

1. Sharma U.; Modak, A.; Maity, S.; Maji; **Maiti, D**.; Direct arylation *via* CH activation in New

Trends in Cross-Coupling: Theory and Applications, Colacot T.; Eds.; RSC Catalysis series; Royal

Society of Chemistry: London, **2014** DOI: 10.1039/9781782620259.

1. Rana, S., Modak, A., Maity, S., Patra, T. and **Maiti, D**.; Progress in Inorganic Chemistry in

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1. Thrimurtulu, N.; Dey, A.; **Maiti, D**.; Volla, C. M. R.; Recent developments in palladium catalysed natural products synthesis via CH activation in Strategies for Palladium-Catalyzed Non-Directed and Directed CH Bond Functionalization, Kapdi, A.; **Maiti, D**.; Eds.: Latest trend in palladium chemistry; Elsevier: **2017** ISBN: 9780128052549.
2. Dey, A.; Kapdi, A. R.; **Maiti, D**.; Introductory Chapter on CH Bond Functionalization in Strategies for Palladium-Catalyzed Non-Directed and Directed C-H Bond Functionalization, Kapdi, A.; **Maiti, D**.; Eds.: Latest trend in palladium chemistry; Elsevier: **2017** Elsevier ISBN: 9780128052549.
3. Dey, A.; Dhawa, U.; **Maiti, D**.; Recent advances in distal aliphatic *sp3* CH functionalization in Strategies for Palladium-Catalyzed Non-Directed and Directed CH Bond Functionalization, Kapdi, A.; **Maiti, D**.; Eds.: Latest trend in palladium chemistry; Elsevier: **2017** Elsevier ISBN: 9780128052549.
4. Inorganica Chimica Acta- Guest Editor, Special Issue **2019**
5. Coordination Chemistry Reviews- Guest Editor, Special Issue **2019**
6. Wiley-VCH- “Remote CH functionalization”- Book editor **2019**
7. Transition Metal Catalyzed Distal *para*-Selective C-H Functionalization in “Remote C-H Bond Functionalizations: Methods and Strategies in Organic Synthesis”

Edited by **Prof. D. Maiti** and Dr. S. Guin.

Dutta, U.; **Maiti. D.** *Wiley-VCH***, 2020**

1. Introduction in "Remote C-H Bond Functionalizations: Methods and Strategies in Organic Synthesis"

Edited by **Prof. D. Maiti** and Dr. S. Guin,

Dutta, U.; Guin, S.; **Maiti. D.** *Wiley-VCH*, 2020

**Invited Lectures (2013 - 2019)**

**2013**

March 22 University of Pondicherry, India

June 29 Ion chromatography seminar, IITB, India

July 25 NASI, Allahabad, India

August 28 DRDO, Pune, India

November 8 IASc, Punjab University, Chandigarh, India

**2014**

March 25 University of Pondicherry, India

March 28 AVR Lecture, IICT Hyderabad, India

April 2 University of Hyderabad, India

April 22 INSA, New Delhi, India

June 19 ISRO, Thiruvananthapuram, India

July 4 Kaleidoscope, Goa, India

August 6 BASF, Mumbai

December 5 IIT Guwahati, India

**2015**

January 17 Shivaji University, Maharashtra, India.

February 5 CRSI NSC, NCL Pune, India.

February 13 Stockholm University, Sweden

April 18 CSIR-CLRI, Chennai, India

June 25 BASF, Mumbai, India

October 10 CSIR-IHBT Palampur, Himachal Pradesh, India

October 17 NDCS, BITS Pilani, India

**2016**

March 17 IIIT Hyderabad, India

April 15 IIT Indore, India

June 28 CSIR- CSMCRI, Gujarat, India

July 16 Kaleidoscope, Goa, India

July 22 GRC, Stonehill College, MA, USA

October 7 IICT Hyderabad, India

November 22 Syngenta, Goa, India

December 15 ICOS, IIT Bombay, India

**2017**

January 10 SABIC, Kolkata, India

February 18 IIT Kharagpur, India

February 27 IIT Madras, India

March 27 NIT Rourkela, India

May 12 Stockholm University, Sweden

May 19 University of Zurich, Switzerland

May 29 Justus Liebig University Giessen, Germany

May 30 Ruhr-University Bochum, Germany

May 31 Technical University of Braunschweig, Germany

June 1 University of Münster

June 14 EPFL, Switzerland

June 20 University of Rennes

October 13 OPPI, Mumbai, India

November 29 TIFR, Mumbai, India

December 12 MTIC, NCL Pune

December 23 IIT Roorkee, India

**2018**

January 9 ICCHD Kolkata, India

January 15 Max Planck Institute for Chemical Energy Conversion

February 3 Marwadi Education Foundation, Rajkot, India

February 6 IIT Madras, India

February 27 Syngene, Bangalore, India

March 27 Org. Chemistry Division, French Chemical Society (Plenary lecture)

May 21 University of Pisa, Italy

May 23 University of Siena, Italy

May 25 University of Perugia, Italy

May 29 University of Pavia, Italy

June 4 University of Bern, Switzerland

June 5 University of Fribourg, Switzerland

June 6 University of Basel, Switzerland

June 25 Technical University of Berlin, Germany

June 26 University of Stuttgart, Germany

August 18 JOC ACS Meeting, Boston, USA

August 29 Tokyo Institute of Technology, Japan

August 30 ISCHA-4, Keio University, Japan

September 3 Kyoto University, Japan

November 17 NSETC-2018, IIT-BHU, India

December 5 I-DEC, IISER Bhopal, India

December 19 RDC, NIT Durgapur, India

December 22 NBCC, NISER Bhubaneswar, India

**2019**

February 4 ACS on campus, IIT Bombay

February 5 IICT Hyderabad, India

February 23 St. Xavier’s College, Kolkata, India

February 27 Golden Jubilee Celebrations, IIT Bombay, India

March 7-9 VIT, Vellore

March 22 ISER Mohali, India

April 16 IIT Kanpur, India

May 29 Wroclaw University, Poland

May 30 Univ. Łódź, Poland

May 31 Institute of Organic Chemistry, Warsaw-Poland

June 14 ICIQ, Spain

June 21-28 Markovnikov Congress, Moscow

July 9      Technische Universität Braunschweig, Germany

July 15 University of Padova, Italy

July 24  OMCOS 20, 2019 at Heidelberg, Germany (July 21-25, 2019)

August 25 ACS Meeting, San Diego, USA (August 25-28, 2019)

September 3 7th international Society of Heterocyclic Chemistry Congress (ISHC-27), Kyoto

October 16 IGCW, IIT Bombay

October 24 Federal University of Minas Gerais, Brazil (CAPES, Talk 1)

October 28 Federal University of Minas Gerais, Brazil (CAPES, Talk 2)

November 15 Yeungnam University, South Korea

November 28 University of Tokyo, Japan

November 1-6 Tokyo Institute of Technology, Japan

December 8 Keio University

December 20 TIT-Suzukakedia campus, Japan

December 24 Kyushu University

**2020**

July 7 RDOAC, KIIT, Bhubaneswar, India

July 29 ISCHA, Germany,

November 4 CRSI Pune, National Week Celebration

December 9 IISER Kolkata-RSC symposium

December 9 CEFIPRA/IFCPAR Symposium on Organometallic Chemistry and Catalysis

**2021**

January 18 Jadavpur University, RCCHEM2021

January 29 BBRC, BMS

February 17 NIT Karnataka, AMWMC-2021

March 1 IIT Delhi, In conversation with a Distinguished Scientist, National Science Day

March 2 RSCLive, RSCPoster Twitter Conference

March 3 NIT Durgapur, RDC- 2021

March 5 Materials Chemistry and Catalysis, Tejpur University

March 5 Prof. R.C. Paul symposium, Panjab University

April 14 Texas Tech University

August 13-20 Canada-IUPAC CCCE 2021 Conference

**Guest Editor:**

**The 2nd International Conference on Organometallics and Catalysis (ICOC-2020)**

https://onlinelibrary.wiley.com/doi/toc/10.1002/(ISSN)1861-471X.ICOC-2020

**Special issue celebrating 60th birthday of Prof. G.K Lahiri (*C****oordination****C****hemistry****R****eviews*)

https://www.sciencedirect.com/journal/coordination-chemistry-reviews/special-issue/10KFSJ388XX

**Redox-active ligand incorporated coordination complexes and their catalytic implications (*I****norganica* ***C****himica* ***A****cta*)

https://www.sciencedirect.com/journal/inorganica-chimica-acta/special-issue/10TZWC0D61B

**Themed Issue on Functionalization of unactivated C–H bonds** (*ChemComm* 2021)