

## TENTATIVE OUTLINE

### SPECIAL THEMATIC ISSUE FOR CURRENT ORGANIC CHEMISTRY

**Title: Modern Strategies for Synthesis of Functionalized Bio-molecules**

**Guest Editor: Dr. Subhash Banerjee**

**Aim & Scope:** Syntheses of functionalized biologically active molecules have attracted considerable interest in organic synthesis due to their wide pharmaceutical applications. The synthesis of complex molecules with different active pharmacophores has been achieved by adapting the tailored synthetic approaches. The traditional methods for the synthesis of biologically active molecules have several limitations such as multi-step approach, low isolated yields, longer reaction times, tedious purification procedure, use of toxic catalysts and reagents and harsh reaction conditions. Recently, different modern synthetic strategies have been developed for the construction for bio-active molecules to overcome the limitation of classical methods. Among these one-pot multicomponent reactions, C-H activation reactions, nanocatalysis, reaction under ball milling/microwave conditions/sonication/micro-reactor/visible light etc have been grabbed tremendous attention in terms of clean organic synthesis. This thematic issue intends to highlight the modern progress on the development of various sustainable synthetic strategies for the synthesis of bio-active molecules.

#### **Keywords:**

Biomolecules; Heterocyclic Compounds; Fused and annulated heterocyclics; Modern synthetic strategies; C-H functionalization/cyclization; Green synthetic tools; Microwave, Ultra sounds, MCR, Nanocatalysis; Nano-reactors; Micro-reactors

Subtopic along with Contribution authors

- C-H activation-Annulation
- Micro-reactor and Nano-reactor
- Nanotechnology and Green Chemistry
- One-pot Multicomponent Synthesis
- Microwave Assisted Synthesis of Bio-molecules
- Organic Synthesis under Ultra sound
- Nanocatalysis-A Green Approach
- Heterogeneous and Homogeneous Catalysis
- Photo-catalytic approach
- Synthesis in Green Solvents like Ionic liquid, water, supercritical CO<sub>2</sub> etc.

**Title-1: Nanoparticle-Catalyzed One-pot-multicomponent Reaction: A Sustainable Route to Biofunctionalized molecules**

Professor Ahmed A. Abdala

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**Keywords:** MCRs; Nanomaterials; Biomolecules; Heterogeneous Catalysis

**Title-2: A Review on the Nanoparticle-Catalyzed Synthesis of Coumarin-Fused BioActive Heterocyclic Molecules**

Name: Dr. Subhash Banerjee

Affiliation: Department of Chemistry, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh,  
India

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**Keywords:** Metal oxide nanoparticles; pyran-fused coumarin; pyrazolyl-fused coumarin; chromeno-chromenes

**Title-3: Annulative pi-extension of N-Heterocycles through C-H Activation**

Name: Dr. Ranjan Jana, Principal Scientist and Ramanujan Fellow

Affiliation: Organic and Medicinal Chemistry Division, CSIR-Indian Institute of Chemical Biology

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**Keywords:** Indole; pyrrole; carbazole, C-H activation; Pd-catalyzed; annulation; piextension

**Title-4: Microwave a Green Tool for the Synthesis of N-Heterocyclic Compounds**

Name: Professor Sami H. Mahmood

Affiliation: Physics Professor, The University of Jordan & Physics and Astronomy Department, Michigan State University, East Lansing, MI 48824.

Email: s.mahmood@ju.edu.jo

**Keywords:** Microwave; Selective Heating; N-Heterocyclic Compounds; Green Synthesis

### **Title-5: Synthetic Strategies for the Construction of Imidazopyridine Derivatives**

Dr. Alkananda Hazra

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**Keywords:** Imidazopyridines, Classical methods, Modern Methods, Metal-catalyzed protocols, Metal-free protocols.

### **Title-6: A Review on Synthesis of Nitrogen-containing Heterocyclic Compounds under Super Critical CO<sub>2</sub>.**

Name: Professor Griygoriy Sereda

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**Keywords:** Green Medium, Super Critical CO<sub>2</sub>, Green Synthesis, N-based Heterocyclic Compounds.

### **Title-6: A Brief Review on Synthetic Strategies on 1,2,4,5-Tetrazine Synthesis**

Name: Prof. Joseph M. Fox and Dr. Yinzhi Fang

Affiliation: University of Delaware, 212 Lammot duPont Laboratory, Newark, DE 19716

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**Keywords:** Heterocyclic compounds, 1,2,4,5-Tetrazine, Strain promoted synthesis

### **Title-6: Recent Developments on Synthesis of Bioactive Molecules via Greener Horizons**

Name: Dr. Santhosh Penta, Komal Chandrakar

Affiliation: Department of Chemistry, National Institute of Technology Raipur, G.E Road, C.G-492010, India

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**Keywords:** Heterocyclic compounds, Green reactions, Multicomponent reactions, One-pot Synthesis

### **Title-7: Micro-reactor (Flow-reactor): A Modern Approach in Organic Synthesis**

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**Keywords:** Micro reactor (flow reactor), Organic synthesis, Catalysis, Asymmetric synthesis, Pharmaceuticals.

#### **Schedule**

<b>Manuscript Submission Deadline:</b>	March 30, 2020
<b>Peer Review Due:</b>	April 30, 2020
<b>Revision Due:</b>	20, 2020
<b>Announcement of acceptance by the Guest Editor:</b>	May 30, 2020
<b>Final Manuscript due:</b>	June 15, 2020

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