



# UNION CHRISTIAN COLLEGE ALUVA



**Post Graduate & Research  
Department of Chemistry**

**Prof. T. R. Anantharaman  
Memorial Lecture on**

**"Organocatalysis Using  
N-Heterocyclic Carbenes  
(NHCs)"**



**Dr. A. T. Biju**

**(Associate Professor,  
Department of Organic  
Chemistry  
Indian Institute of Science,  
Bangalore)**

**Google Meet Link**

<https://meet.google.com/egx-eveu-uhr>

**For more details:**

 **+91-8806164740  
+91-9744192551**

**February 4, 2021  
Thursday  
10 am to 11.30 am  
(IST)**

**\* E-certificates will be provided**

A circular portrait of an elderly man with glasses, wearing a light-colored shirt and a dark jacket. The background of the portrait is a light, neutral color. The portrait is set against a white background with teal and light blue decorative shapes at the top and bottom.

## **Prof. T. R. Anantharaman**

Prof. T. R. Anantharaman was the founder Professor of the Department of Chemistry, Union Christian College, Aluva. He retired in 1962 after 36 years of meritorious service. With his profound scholarship, flair for teaching, devotion to duty and loving concern for the students, he inspired generations of students, several of whom are outstanding achievers in the expanding field of Chemistry. Prof. T. R. Anantharaman passed away in November 2001 at the age of 99. The children of Prof. T. R. Anantharaman instituted an endowment in the name of their beloved parents “Prof. T. R. Anantharaman and Mrs. Seshambal Anantharaman Memorial Endowment for excellence in the field of Chemistry”.

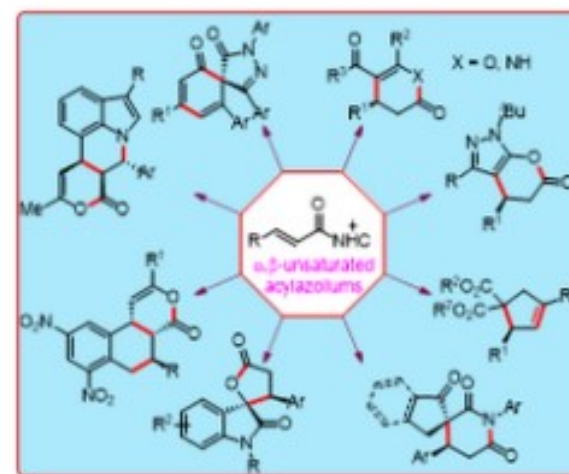


## About the speaker

Dr. A. T. Biju received his M. Sc. from Sacred Heart College Thevara (affiliated to MG University, Kerala, India) and Ph.D. under the guidance of Dr. Vijay Nair at the CSIR-NIIST (Formerly RRL), Trivandrum, India. Subsequently, he has been a post-doctoral fellow with Prof. Tien-Yau Luh at the National Taiwan University, Taipei and an Alexander von Humboldt fellow with Prof. Frank Glorius at the Westfälische Wilhelms-Universität Münster, Germany. In June 2011, he began his independent research career at the CSIR-National Chemical Laboratory, Pune. From June 2017 onwards, he has been an Associate Professor at the Department of Organic Chemistry, Indian Institute of Science, Bangalore. His research focuses on the development of transition-metal-free carbon-carbon and carbon-heteroatom bond-forming reactions using aryne chemistry and N-heterocyclic carbene (NHC) organocatalysis, and their application in organic synthesis.

## Topic : Organocatalysis Using N-Heterocyclic Carbenes

Catalysis is a fundamentally sustainable process, which can be used to produce a wide range of chemicals and their intermediates. Among the various catalytic methods, N-heterocyclic carbene (NHC)-catalyzed umpolung of aldehydes is widely used for the unconventional access to target molecules. In this context, we have recently demonstrated, for the first time, the NHC-catalyzed umpolung of imines for the synthesis of 2,3-disubstituted indoles, functionalized quinolines and dihydroquinoxalines. Further, we have investigated NHC-catalysis for the generation of  $\alpha,\beta$ -unsaturated acylazoliums followed by their interception with various nucleophiles, the formal [3+3] annulation reactions. We have demonstrated the use of such enantioselective NHC-catalyzed annulation reactions for the synthesis of several heterocyclic systems as shown in the figure. The details of these works will be presented.



# Programme Schedule

- 10.00 am: Welcome Address**  
Ms. Minu Joys (HOD, Department of Chemistry)
- 10.05 am: Presidential Address**  
Dr. Rachel Reena Philip (Principal)
- 10.10 am: Manager's Address**  
Rev. Dr. Thomas John (Manager)
- 10.15 am: Introduction of the Speaker**  
Dr. Neethumol Varghese (Assistant Professor)
- 10.20 am: Prof. T. R. Anantharaman Memorial  
Lecture**  
Dr. A. T. Biju  
(Associate Professor, IISc, Bangalore)
- 11.20 am: Vote of thanks**  
Dr. Sunil Sekhar A. C. (Assistant Professor)

## Organizing Committee

**Dr. Rachel Reena Philip (Principal)**  
**Rev. Dr. Thomas John (Manager)**  
**Ms. Minu Joys (HOD)**  
**Dr. Jenish Paul**  
**Ms. Smitha Roy**

**Dr. Simi Pushpan K.**  
**Dr. Ajalesh B. Nair**  
**Dr. Nelson Joseph P.**  
**Dr. Neethumol Varghese**  
**Dr. Divya Susan Philips**  
**Dr. Sunil Sekhar A. C.**