



## Report of “Chemical Science Frontiers: The Virtual International Conference” (CSF:TVIC-2020)

Department of Chemistry, Uka Tarsadia University organized “Chemical Science Frontiers: The Virtual International Conference” (CSF:TVIC-2020) on 29-30<sup>th</sup> May 2020. This conference was organized online using licensed version of ZOOM with live broadcast on Facebook. Total of more than 2200 registrations were received from more than 15 countries around the world while four invited speakers and eight oral presenters from India, USA, Spain, Japan, Germany and Poland presented their latest research during this two-day online conference. Prof. Ashutosh Sharma, Secretary at Department of Science and Technology, India graced the conference with his presence during the beginning of the conference and shared his views with all participants.

**“Chemical Science Frontiers: The Virtual International Conference”**

**29<sup>th</sup> - 30<sup>th</sup> May, 2020**

**Organised by Department of Chemistry, Uka Tarsadia University  
Bardoli - India**





## "Chemical Science Frontiers: The Virtual International Conference"

29<sup>th</sup> -30<sup>th</sup> May, 2020

Organised by Department of Chemistry, Uka Tarsadia University  
Bardoli - India



Oral



Dr. Thanusha Thatikonda  
Polish Academy of Sciences,  
Warsaw



Dr. Anusha Basaiahgarl  
Indian Institute of Technology  
Madras



Dr. Rajasekar Reddy A.  
Technical University of  
Munich



Dr. Md Kausar Raza  
California Institute of  
Technology (Caltech), CA

### Invited Talks



Prof. Paul S. Weiss

University of California  
Los Angeles, USA



Prof. H. Madhyastha

University of Miyazaki  
Japan



Dr. José Antonio García-López

University of Murcia  
Spain



Dr. Arnab Dutta

IIT Bombay  
India

Free registration:  
"Registered participants will get their e-Certificate through registered email id on 02.06.2020"  
[Please click here to Register](#)

### Patron



Mr. Shailesh Patel  
President  
Uka Tarsadia University



Prof. D. R. Shah  
Provost  
Uka Tarsadia University

Oral



Dr. Kumar Swamy Reddy N  
Nagoya University



Dr. Ramaraju Bendi  
Aditya Institute of Technology  
and Management, A.P.



Dr. Rushendhiran Kesavon  
Children Research Institute -  
UT Southwestern Medical  
Center, Texas



Ms. Shikha Khandelwal  
Indian Institute of Technology  
Gandhinagar

Organising Secretary

Dr. Paresh N. Patel

I/c Director  
Department of Chemistry, UTU

Coordinators

Dr. Sachinkumar G. Modha  
Dr. Rajamouli Boddula

Department of Chemistry, UTU

As this was an online conference all the moderators, speakers were at their respective places and joined the meeting through online platform. The conference was divided into total four session where each session had an invited talk followed by two oral presentations. The live broadcast of the conference was started at 11 am IST on 29<sup>th</sup> of May-2020. At the start of the conference the anchor Dr. Sutapa Mondal Roy, Asst. Prof at Department of Chemistry welcomed all the guest and participants and requested Dr. Paresh N. Patel, Assistant Professor and I/c director of Department of Chemistry, Uka Tarsadia University to give a

short introduction of the department and university to all. Dr. Paresh N. Patel presented a brief profile of department and university to all.



The anchor then introduced Prof. Ashutosh Sharma, the secretary at DST and requested him to say few words. Prof. Sharma lauded the efforts of the organizing committee for organizing such a wonderful online conference. He then talked about the term 'Chemical Science Frontiers', it's meaning and how the science is without barriers but due to our limitations we divide it in to specialized fields. He also appreciated the efforts of scientists and doctors, from different background towards solving various problems related to diagnostics, cure, prevention, etc., for the COVID-19 pandemic. The people in academic field are utilizing the online platforms in ways never seen before and how it is changing the way we learn was also pointed out by Prof. Sharma. He gave best wishes for success of the conference and emphasized the need for more and more such events to allow young researchers to get benefits.

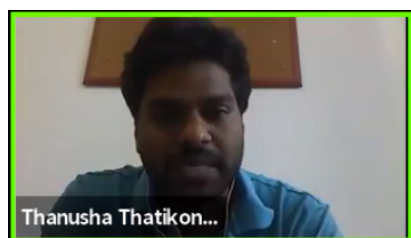
### **1<sup>st</sup> Session**

The video of this session, along with the starting remarks, is available on the following link. <https://www.facebook.com/dchemistry.utu/videos/782817065810993>

The anchor requested the 1<sup>st</sup> session moderator Dr. Sachinkumar G. Modha, Assistant Professor, Department of Chemistry, Uka Tarsadia University to start the 1<sup>st</sup> session. The moderator introduced the invited speaker Prof. Paul S. Weiss from University of California, Los Angeles, USA and invited him to present his talk titled "Nanotechnology approaches to Biology and Medicine". Paul presented some of his groundbreaking work in the field of nanotechnology enabled cellular therapies including gene modification, technological advancements in the measurement of nanoscale materials, nanolithography, nanobiosensor arrays, etc. He presented the applications of all the above fields of nanotechnology in medicinal and material chemistry, like nanomaterial mediated targeted drug delivery, personalized drug development, tumor cell diagnostic tools, etc. After completion of the talk the moderator opened the session for question answers. Couple of questions were asked by penal members and some selected questions from participant; who



posted their questions on Facebook comment box; were asked by moderator.



After completion of the invited talk the moderator introduced the first oral presenter Dr. Thanusha Thatikonda, from Polish academy of Science, Warsaw, Poland who presented his oral presentation on “Organocatalytic  $\alpha$ -CH<sub>2</sub> oxygenation to facile access of *N*-aryl tetrahydroisoquinolinones and isocumarines”. The second oral presenter was Dr. Anusha Basaiahgari, Indian Institute of Technology, Madras, Chennai, India. Title of her talk was “Applications of ionic liquids and zwitterions based aqueous biphasic systems for the extraction of bioactive compounds”. After the question answers the moderator thanked all the speakers of the 1<sup>st</sup> session and announced completion of the 1<sup>st</sup> session.



## 2<sup>nd</sup> Session

The video of this session is available online on the following link.

<https://www.facebook.com/dchemistry.utu/videos/2968114499931554>

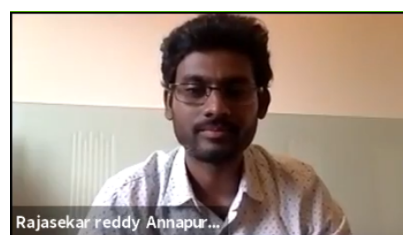
The anchor requested the 2<sup>nd</sup> session moderator Dr. Paresh N. Patel to start the session. The moderator introduced the invited speaker Dr. Arnab Datta, Department of chemistry, Indian Institute of Technology, Bombay, India and requested him to present his talk. Arnab presented his talk titled “Following Nature’s template for constructing synthetic catalysts”. He highlighted

the photosynthesis pathway where the carbon dioxide is converted into carbohydrate and how such other biological processes convert simple molecules to biologically important building



blocks. Mimicking the biological processes one can think about development of metal complexes which would have high efficiency and selectivity. He then presented his work on cobalt complexes which produces hydrogen gas from water splitting.

After the question answer session of the invited talk the moderator introduced the first oral presenter of this session Dr. Rajasekar Reddy Annapureddy, from Technical University of Munich, Germany. Raj presented his talk entitled “Biomimetic catalysis driven by hydrogen bonds”. The second



oral presentation was given by Dr. Kausar Raza from California Institute of Technology, Caltech, USA. The title of his talk was “Organelle targeting photo-activated Multitargeted platinum(II) complexes in photodynamic therapy”. Both oral presentation were followed by question answer session. The

moderator thanked all the speakers of this session and concluded the 2<sup>nd</sup> session.



### 3<sup>rd</sup> Session

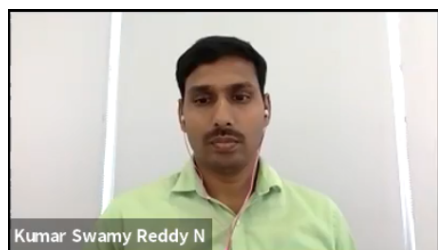
The video of this session is available online on the following link.

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The anchor requested the 3<sup>rd</sup> session moderator Dr. Satyanarayan Battula to start the session. The moderator introduced the invited speaker Prof. Harish Madhyastha from University of Miyazaki, Japan. Prof. Madhyastha presented his talk titled “Molecular interface mechanism between colloidal nanoceutical Au<sup>0</sup>



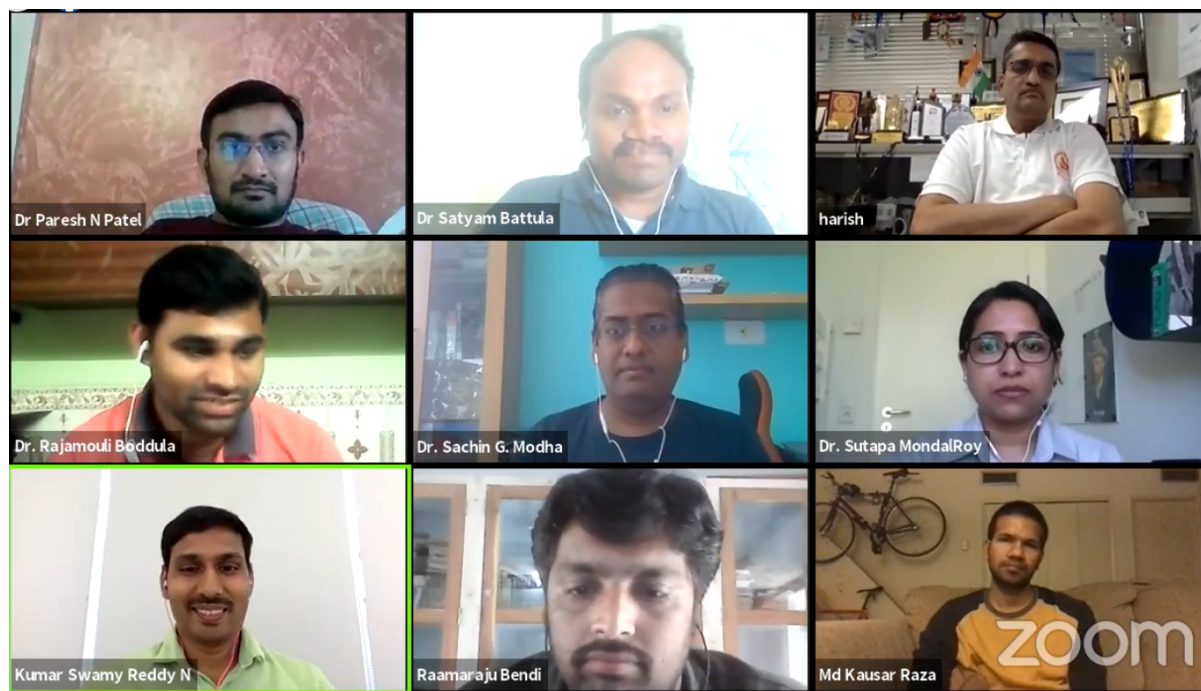
conjugate and skin fibroblast”. He first introduced the term metal-nanoceuticals and explained how these are constructed. The skin wound and the natural healing processes were then described followed by the application of colloidal nanoceuticals in the wound healing. He explained the types of wound, its healing process, application of the nanoceuticals, measurement of the healing process via various methodologies and toxicological studies.



After the question answer session of the invited talk the moderator introduced the first oral presenter of this session Dr. Nandarapu Kumarswamyreddy, from Institute of Transformative Bio-Molecules, Nagoya University, Japan. He presented his talk entitled “Stereoselective synthesis of biologically active spirooxindole scaffolds”. The second oral

presentation was given by Dr. Rama Raju Bendi, from Aditya Institute of Technology and Management, Andhra Pradesh, India. The title of his talk was “Lightweight, flexible and freestanding green energy storage devices”. Both oral presentations were followed by question answer session. The moderator thanked all the speakers of this session and concluded the 3<sup>rd</sup> session.





#### **4<sup>th</sup> Session**

The video of this session is available online on the following link.

<https://www.facebook.com/dchemistry.utu/videos/615266062668362>

The anchor requested the 4<sup>th</sup> session moderator Dr. Rajamouli Boddula to start the session. The moderator introduced the invited speaker Dr. Jose Antonio Garcia Lopez from the University of Murcia, Spain. Dr. Jose presented his talk titled “Pd-catalyzed cascade reactions: a useful tool to build up molecular complexity”. He emphasized the importance of organic synthetic process that use simple starting materials to form complex compounds via cascade processes under mild reaction conditions. He presented various novel approaches developed in his group



focusing on palladium catalyzed inter- and intra-molecular cascade reactions. The focus of the talk was on mainly use of intermediate structure of palladium catalyzed transformations in such a way that would allow further reactions to form well designed complex carbo- and hetero-cyclic compounds.

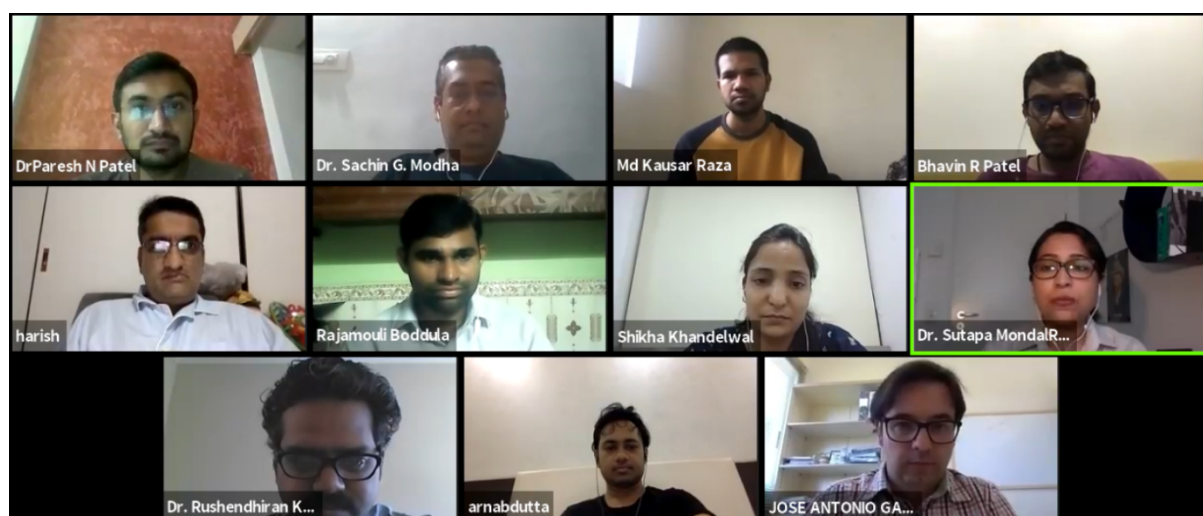


After the question answer session of the invited talk the moderator introduced the first oral presenter of this session Ms. Shikha Khandelwal, from Indian Institute of Technology, Gandhinagar, India. She presented her talk

entitled “Exploring the effect of outer coordination sphere features on dormant Co-salen complexes towards hydrogen evolution reaction (HER)”. The second oral presentation was given by Dr. Rushendhiran Kesavan, from UT Southwestern Medical Center, Texas, USA. The title of his talk was “The role of cytochrome P450 in lipid metabolism and cancer”. Both oral presentations were followed by question answer session. The moderator thanked all the speakers of this session and concluded the 4<sup>th</sup> session.



At the conclusion of the conference the anchor requested panel members to give their feedback. All panel members lauded the efforts of the organizing committee and the need for such an online event during COVID-19 pandemic time. They also appreciated that the conference was online on a platform that could reach many students and early stage researchers free of cost. Anchor also read out some of the feedback submitted by participants. Dr. Paresh Patel gave the concluding remark at the end and thanked all who contributed in the organization of the conference, all speakers and participants. He pointed out that the online total viewership for all sessions was at around 14000, suggesting that it was a grand success.





## Schedule

SN	Date	Time (IST)	Session	Details
01	29.05.2020	11:00am to 11:45am	I (Invited)	<b>Prof. Paul S. Weiss</b> University of California; Los Angeles, USA
		11:46am to 12:05pm	Ia (Oral)	Dr. Thanusha Thatikonda; Polish Academy of Sciences, Warsaw, Poland
		12:06pm to 12:30pm	Ib (Oral)	Dr. Anusha Basaiahgari; IIT Madras, India
		08:00pm to 08:45pm	II (Invited)	<b>Dr. Arnab Dutta</b> IIT Bombay; India
		08:46pm to 09:05pm	Ila (Oral)	Dr. Rajasekar Reddy Annapureddy; Technical University of Munich, Germany
		09:06pm to 09:30pm	Ilb (Oral)	Dr. Md Kausar Raza; California Institute of Technology (Caltech), CA, USA
02	30.05.2020	11:00am to 11:45am	III (Invited)	<b>Prof. H. Madhyastha</b> University of Miyazaki; Japan
		11:46am to 12:05pm	IIIa (Oral)	Dr. Kumar Swamy Reddy N; Nagoya University, Japan
		12:06pm to 12:30pm	IIIb (Oral)	Dr. Ramaraju Bendi; Aditya Institute of Technology and Management, A.P., India
		08:00pm to 08:45pm	IV (Invited)	<b>Dr. José Antonio García-López</b> University of Murcia; Spain
		08:46pm to 09:05pm	IVa (Oral)	Dr. Rushendhiran Kesavan; Children Research Institute - UT Southwestern Medical Center, Texas, USA
		09:06pm to 09:30pm	IVb (Oral)	Ms. Shikha Khandelwal; IIT Gandhinagar, India