



### **Indo-Swedish Workshop on**

**'Clean Coal Technologies for India – Future Prospects of Circulating Fluidized Bed Combustion (CFBC) for carbon capture and biomass co-firing'**

February 22<sup>nd</sup>, 2021

Organized by

**Indian Institute of Science, Bangalore, India**

and

**Chalmers University of Technology, Sweden**

Under the framework of

Scheme for Promotion of Academic Research and Collaboration (SPARC)

Government of India

#### About the workshop

India is the world's third largest coal producing country and the fourth largest coal importer. India continues to significantly rely on coal for electricity generation, with coal accounting for more than 60 percent of the country's electricity output. As coal will continue to power a large share of the Indian economy in the foreseeable future, there is an urgent need for introducing Clean Coal Technologies (CCT) and Carbon Capture and Sequestration (CCS). One promising technology is Circulating Fluidized Bed Combustion (CFBC) which offers very low emissions, and more importantly, is adaptable to Indian coal which has high ash content. Moreover, this technology allows coal to be co-fired with biomass. This technology when combined with another technology namely oxy-fuel combustion, provides exhaust rich in CO<sub>2</sub>, which facilitates easier and cost-effective carbon capture. This workshop will bring together researchers and industry leaders from India and around the world, and policy makers from India to discuss the potential of scaling up CFBC technology in India, particularly from the point of carbon capture using oxy-combustion and other technologies, and increased utilization of biomass in a co-firing mode. The technology challenges, opportunities and policy issues will be discussed and summarized. The objective will be to prepare a roadmap for future prospects for CFBC in India.

#### Speakers

Dr. V. K. Saraswat, NITI Aayog, Government of India

Prof. Bo Leckner, Chalmers University of Technology, Sweden

Prof. David Pallares, Chalmers University of Technology, Sweden

Prof. R. V. Ravikrishna, Indian Institute of Science, Bangalore, India  
 Prof. Pratikash Panda, Indian Institute of Science, Bangalore, India  
 Dr. Fredrik Lind, Improbred, Sweden  
 Mr. M. Lakshminarasimham, BHEL, India  
 Dr. T. Prasad, Thyssenkrupp India  
 Mr. Frank Leuschke, Doosan Lentjes GmbH, Germany  
 Mr. Timo Eriksson, Sumitomo SHI FW, Finland  
 Mr. Vinod Kumar, IPMA, India

### Schedule

Indian Standard Time	Sweden time	Topic	Speaker
14.30-15.00	10.00-10.30	Background of SPARC project & Introduction to Workshop	R. V. Ravikrishna IISc Bangalore
15.00-15.30	10.30- 11.00	Inaugural Lecture: Clean Coal Technologies for India	V. K. Saraswat NITI Aayog, Govt. of India
15.30-16.00	11.00-11.30	Future Prospects of CFBC for carbon capture	Bo Leckner Chalmers University, Sweden
16.00-16.30	11.30-12.00	Biomass Co-firing in CFBC: State-of-the-art	David Pallares Chalmers University, Sweden
16.30-17.00	12.00-12.30	Clean Coal Technologies for India: Sumitomo's views on the future of CFBC for carbon capture and biomass co-firing	Mr. Timo Eriksson, Sumitomo SHI FW, Finland
17.00-17.30	12.30-13.00	Active bed materials for fluidized bed combustion	Fredrik Lind, Improbred, Sweden
17.30-18.00	13.00-13.30	CFBC Boilers: a one-stop solution for clean combustion	T. Prasad, Thyssenkrupp India
18.00-18.30	13.30-14.00	CFB Combustion Technology for the 21 <sup>st</sup> century	Frank Leuschke, Doosan Lentjes, Germany
18.30-19.00	14.00-14.30	Scaling Up Higher Capacity CFB Systems – BHEL's Contribution	M. Lakshminarasimhan, BHEL, India
19.00-19.30	14.30-15.00	Panel Discussion/Concluding remarks	Chair: Mr. Vinod Kumar IPMA Co-chair: Pratikash Panda, IISc

### Registration

Interested faculty members, research scholars, students, and personnel from research laboratory and industries are requested to register for the event by clicking the following link:

[https://docs.google.com/forms/d/1cj3xR7yeW9Cawc21HjSiR\\_-n-71\\_C-arudDiP3Qpiq4/edit](https://docs.google.com/forms/d/1cj3xR7yeW9Cawc21HjSiR_-n-71_C-arudDiP3Qpiq4/edit)

There is no fee for registration.

Links for joining the event through Microsoft Teams is given below.

<https://teams.microsoft.com/l/meetup-join/19%3a356ea78f98a84ca8a75ea5d765c57d82%40thread.tacv2/1613279356491?context=%7b%22Tid%22%3a%226f15cd97-f6a7-41e3-b2c5-ad4193976476%22%2c%22Oid%22%3a%22cbe0e856-0c10-43fa-a961-8b9fda5da65d%22%7d>