

## National Conference

On

### Technology and Management options Towards use of Fly Ash in Civil Engineering, Agriculture and Environment

April 13<sup>th</sup> -14<sup>th</sup>, 2018

JOINTLY ORGNIZED BY



Faculty of Science –Department of  
Agriculture

JAGAN NATH UNIVERSITY,  
BAHADURGADH

&

JAGAN NATH UNIVERSITY, JAIPUR  
(INDIA)

AT

BAHADURGADH CAMPUS

## INVITATION

Dear Colleagues

Fly ash is one of the many substances which cause many types of pollution like air, Water and Soil pollution. It has been known to set off environmental hazards and create health problems for many. In the past decade though, Fly Ash has been recognized as a major source of raw material for many industries, sparking off a revolution in building, construction and agriculture applications. It has been proven as a worthy example of waste put to good use. Use of Fly Ash has increased agriculture in land where it was not possible before, hence contributing to sustainable livelihood of people who had no access to agri – land earlier. Use of Fly Ash in ancillary industries has provided livelihood for many workers across various sectors. Use of Fly Ash for construction of pavements, especially in rural areas, will contribute immensely to Swatch Bharat Abhiyan for Clean India.

In NCR region of Haryana, thermal power plants at Badarpur, Jadhali and Panipat produce huge quantity of fly ash which at one time was considered to be a waste material. However, with the advent of new technology and better management practices it is now seen as a potential resource in Civil Engineering and Agriculture. It has environmental consequences too. Therefore, it is imperative to develop appropriate management practices of fly ash.

Fly ash is fine glass powder recovered from the gases of burning coal during the production of electricity in coal-fired electricity generating power plants. It consists primarily of silica, alumina and iron. Fly ash particles are almost totally spherical in shape, allowing them to flow

and blend freely in mixtures and these properties make fly ash a desirable admixture for concrete. The fly ash particles act like lubricating balls and a perfect mix is obtained which results in highly workable concrete. Fly ash used in concrete decreases CO<sub>2</sub> emission and helps to create a better environment. Fly ash use decreases the use of cement. As one ton of cement produced releases one ton of CO<sub>2</sub> in the atmosphere, replacing the cement with fly ash helps in maintaining the environment. In construction material mix, it reduces alkali silica reactivity, reduces heat of hydration and reduces efflorescence. Fly ash is being used in Fly Ash Bricks, Embankment and Fills, Road Pavement, Portland Pozzolona Cement, Cement Concrete and Mortar, Light face Aggregates and Back filling of Open Cast Mine. Good quality fly ash generally improves workability, cohesiveness, finish, ultimate strength, and durability. But use of poor-quality fly ash can have a negative effect on concrete as fly ash of poor quality can actually increase permeability. In agriculture, fly ash holds the potential, as a soil modifier, to improve the physical health of the soil, enhance the water-retaining capacity and fertility of the soil, improve the Plant's water and nutrient uptake, help in development of roots and soil binding, store carbohydrates and oils for use when needed, protect the soil from the soil-borne diseases and detoxify contaminated soil. It improves soil texture properties and soil aeration, reduces soil bulk density and crust and compact formation, improves permeability status of soil and makes favourable or optimum pH for crops etc. However, continuous use of fly ash in agriculture is not without problems. When applied to soil, heavy metals though in very low concentrations (ppm) may get absorbed by plants grown on it and may ultimately enter into



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the food chain and percolate into the soil and pollute ground water. The Management of Jagannath University Bahadurgarh cordially invites you and your colleagues to participate in this national conference and enrich the discussions. The conference delegates will gain practical insights to better utilize fly ash with understanding to facilitate partnership that would generate cutting edge R&D. You are welcome at beautiful campus of Jagannath University Bahadurgarh.

#### Information about the Conference:

The technical programme of the National Conference will consist of plenary lectures, lead papers, contributory papers, discussions with scientists, technologists development functionaries, representatives from industry, policy planners and NGO's and Farmers. Poster presentation by scholars and students are welcome.

#### Objectives:

- To provide a platform to the researchers, policy planners and functionaries to share views about engineering, science and technologies targeting Fly ash towards Civil Engineering, Agriculture and Environment
- To discuss about the coherence and inter linkages among fly ash as concrete material mix, impact on agricultural soils and environment in relation to health and society.
- To create a network of professional across various disciplines of S&T for integrated advancement for use of fly ash in various states of India

#### Conference themes:

- Construction materials in relation to design of the building and load.
- New Fly ash mixed materials for construction of roads, buildings.
- Enhancing Freeze-thaw durability using fly ash in concrete.
- Technology to reduce water and darkness in the concrete.
- Effect of fly ash use in agriculture on soil texture and soil aeration, bulk density, soil crust and compaction, soil pH and permeability
- Impact of fly ash for enhancing soil water retaining capacity and fertility plant water relationships and root development
- Fly ash use mediated accumulation of heavy metals in ground water and food chain and Boron availability to plants in spiked soils.
- Effect of fly ash on ambient environment, air pollution and its management
- Law provisions towards management of particulate matter like fly ash in air.
- Research issues in Fly Ash use- Engineering, Agriculture and Environment
- Role of Fly Ash in Building Sustainable Future in India
- Securing Livelihoods Depended on Waste
- Fly Ash Use Towards Sustainable Development and Livelihood
- Disposal and Management of Fly Ash for growth of Ancillary industries.

#### Registration Fee:

Student Rs. 250(for each author)

Faculty Rs. 500 (for each author)

Outside Candidates Rs.900 (for each author)

On the spot registration facility is also available.

#### Author Guidelines:

**Contributors** (presenting oral or poster papers) are requested to submit full length papers no longer than 5000 words, TNR 12, 1.5 line spacing). The paper must clearly state objective of the work and its significance. The paper should be emailed to. [rinku.civil@jagannathuniversityncr.ac.in](mailto:rinku.civil@jagannathuniversityncr.ac.in) [rinkudhankhar25@gmail.com](mailto:rinkudhankhar25@gmail.com)

The papers will be published in proceedings with ISBN by a leading publisher. The conference proceedings will include poster presentations also. Last date for **Abstract Submission date is April 05, 2018.**( Word Limit 250 , TNR 12, 1.5 Line spacing).

#### • Poster Presentation:

Posters must be of 1x1.2 meter maximum size and should include title, name and address of the author (s), short introduction, method and material, results and conclusions

- **Best Poster Paper Awards.** Awards will be given to three best posters.

➤ [About Jagannath University Bahadurgarh:](#)



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❖ Jagan Nath University, NCR, Haryana has been promoted by Jagan Nath Gupta Memorial Education Society, established under Haryana State Legislature Act No. 8 of 2013, and approved under Section 22 of the UGC Act, 1956. It started its operations with effect from academic session 2013-14 on its own 25 acres campus, located at State Highway 22 (Bahadurgarh-Jhajjar Road). The University has launched UG and PG programs in the Faculties of Engineering and Technology, Computer Science & Technology, Architecture, Management, Commerce, Law, Physiotherapy, Physical Sciences, Social Sciences and Education. **From academic session 2017-2018, the University has also started B.Sc. (Agri., Hons) four year degree programme in Agriculture and Food Sciences.** The University aims to impart high quality education and promote employability among youth. To achieve this aim, the University has developed a reasonably good physical and academic infrastructure, recruited qualified and experienced faculty, state-of-the-art classrooms, laboratories and other facilities. To ensure adequate practical exposure to learners, among other things, the programs are being implemented with an adequate component of industry exposure.

➤ [About the Organizing Departments](#)

The departments of Civil Engineering Agriculture and Management are well equipped with infrastructure as well as expertise to impart quality education to the students. The R&D component is judiciously integrated in the education system to impart practical training to the students as well as commercial orientation.

**Weather:** 13<sup>th</sup> April is an auspicious day of Baisakhi and is celebrated throughout India by different names. This day marks on set of harvesting bumper wheat crops specially in northern India including Haryana, Punjab, Rajasthan, Delhi and Himanchal Pradesh . The morning and evening hours are pleasantly cool and enjoyable.

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Vice Chancellor, JNU, Bahadurgarh

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