

INTERNATIONAL CONFERENCE ON ENTREPRENEURSHIP, INNOVATION AND LEADERSHIP 2018

Report on session – SS 4.2 “**Promoting Innovations in New Gen Entrepreneurs in Nanotechnology Sector**”

Venue : F3 – MDP room

Date : December 20, 2018

The panel discussion started at 11:55 AM. There were 10 Faculty and 48 Students present in the session.

Invited Speakers for the session were:

1. Dr. D.N. Singh, CTO, Indosolar Pvt Ltd
2. Mr. Puneet Mehrotra, CEO, Reinste nano Ventures Pvt Ltd

Key focus points of the panel discussion were:

1. Nanotechnology in industries
2. How to become Entrepreneur
3. Academia industry partnership in the field of nanotechnology
4. Challenges in setting up industry/startup



Opening Remarks and Introduction of Programme was given by Director & HOI of Amity Institute of Nano Technology Prof. **D.K. Avasthi**. He welcomed industry experts Dr. D.N. Singh, Chief Technology Officer, Indo solar Pvt. Ltd and Mr. Puneet Mehrotra, Chief Executive Officer, Reinste Nanoventures Pvt. Ltd. Dr. Rajiv Sharma was also present as an expert of Nanotechnology. He thanked Founder President, **Dr. Ashok K. Chauhan**, Chancellor, **Dr. Atul Chauhan**, and Vice Chancellor, **AUUP Dr. (Mrs.) Balvinder Shukla** for giving such opportunity for students to interact with industry experts and learn about opportunities in becoming Entrepreneurs in Nanotechnology Sector.

- He highlighted that Entrepreneurship, Innovation & Leadership are highly co related to each other and Innovation is different from invention.
- He also said that innovation becomes important because it is useful to the society and innovation leads to the Entrepreneurship.
- Innovation of product for societal needs, basically it should be cost effective so that people can use it and economic feasibility for producing with profit.
- He told that around 10 former students of AINT have their own startups.

He highlighted that after innovations leadership is needed for sustaining and expanding start ups. He briefed about Innovative research at AINT:

- **Porus oleophilic nanocomposite**: very nice results which can go to scale up is on Porus oleophilic nanocomposite : Absorbs oil and float on water because being porus: Research being followed by Dr. Ranu Nayak
- **Magnetic oleophilic nanocomposite**: Absorbs contaminated oil from water and then this is removed by putting magnetic field: Research being followed by Dr. Monica Joshi.

He suggested that experiments at lab scale in small test tubes/beakers need to be scaled up to requirement of millions of liter in a day.

He also advised that suddenly it cannot be done at higher level so there are some strategies called TRL levels:

Lab scale:1-3, Mid level scale up:4-6, Industry level scale up:7-9

So we need to go from TRL 3 to 6.

Nanomaterials for energy: Lot of UG & PG students are involved in doing research in supercapacitor, back/top electrode for solar cell, Hydrogen generation by photoelectrochemical splitting of water.

Nanobiosensors: Detection of neurotransmitters in blood responsible for brain related diseases:

- Early detection of Diabetes
- Neurotransmitter
- Milk adulteration kit
- Cancer detection approaches

There is an ongoing **BIRAC** project is going on.

Then Prof. **D.K. Avasthi** invited **Dr. D.N. Singh** for **panel discussion and interaction with students:**

Dr. D.N. Singh, Chief Technology Officer, Indo solar Pvt. Ltd deliberated on the role of nanotechnology in industries. He shared his research work and talked that these three words are strongly related to each other.

- He said that nanotechnology is a vast field and nearest to nanotechnology is MEMS and MEMS are the gateway to the nanotechnology.
- He also told that most of the physical understanding was done by AFM. He suggested that when we are in research field we have to build a product that will bring commercial benefits to the people.
- He advised to adopt top down approach if we want to be an entrepreneur one needs to look at the things which are available as a component, material on nanomaterial and build a product which can be utilized by Indians or all over the world.

Mr. Puneet Mehrotra, Chief Executive Officer, Reinste Nanoventures Pvt. Ltd spoke about what the industrial needs in nanotechnology sector. Major points of his deliberations were:

- Discussed on why nanotechnology products are not commercially available.
- Main reason he emphasized was the complexity involved related to commercialization products right from product development, cost investment, policies, regulation etc.
- He also emphasized that this era is of Nano enabled products where existing materials are mixed with nanomaterials and properties are enhanced.
- He stated that industries are open to research ideas/products provided the product is good, commercially viable & cost effective.

Dr. Rajiv Sharma briefed about the govt. funding's available for entrepreneurs. He also elaborated on the support provided by Amity Incubation Center for startups. He emphasized on the correlation between entrepreneur and innovations.

In the end Dr. D. K. Avasthi asked how many of the students in the audience want to be entrepreneurs. Following students raised their hands and wanted to have further interaction with the experts in becoming entrepreneurs.



Students who want to be an entrepreneur are as follows:

1. Shalini N. - Phd Student
2. Vedika Tomar -BTMT6
3. Neha Mazumder -BT4
4. Smile Kataria -BTMT8
5. Varun -BTMT6
6. Gautami -BTMT6
7. Navkanta C. V. - BTMT6

The programme was wrapped up by felicitating the industry experts with memento and Tulsi saplings by **Prof. D.K. Avasthi** as a token of respect. At last vote of thanks was given by Dr. Ranjit Kumar.