Brief report of the two consecutive workshops:

Two innovative workshops, lasting three full days each, were organized for Graduate students of Govt supported Colleges representing four districts of Haryana viz., Gurgaon, Rewari, Palwal, Faridabad:

WS2. Biosciences for Industry : Biotech, Pharma, Medicine & Informatics (24-26 March 2012)

The aim was to mobilise young minds to look around, critically think, assess, n learn to make own decisions, and, to apprise with modern techniques in Biotech, Pharma, Medicine, Informatics sector.

Innovative pedagogy included pranayama, birdwatching n field activities, Live demos in wet / dry labs, GDs, brain storms, group projects of choice, culminating on the last day into ppt presentations by each participant of group projects, & Tea brk with music n dance! A special interactive career-orientation session was also scheduled at the end. Apart from the inaugural speeches, 3-4 lectures were delivered by eminent visiting scientists (Fellows of Academy) in front line areas bridging Science & Technology and one Lecture on Basic Statistics in each workshop.

Simultaneous Live demos in wet / dry labs accompanied by brief ppt explanations were arranged in 7 separate groups of 5-6 participants each viz., Lab I Bio-Pharmaceuticals Immunodiagnostics, Lab II Molecular Diagnostics, Lab III Analytical tools, Separation techniques, Lab IV Enzymes, Lab V Food Technology Food safety, Lab VI Microbes, Lab VII Bioinformatics & Drug designing

Participants were also familiarized with state-of-the-art Bioinstrumentation including a visit to the ASG Biochem pvt ltd R&D Centre

Both WSs were event-managed entirely by 7 teams comprising ASU Bioscs students from BTech 1st yr to PG (who were being graded !) & PhD fellows in a clock wise precision. We thoroughly enjoyed the experience. And are greatly indebted to Indian Science Academies for making it happen. Thank u.

What did we achieve?

- GDs, brain storms were meant to instill confidence in students which was quite visible.

- Mini research projects were aimed at stimulating the student to think and develop reasoning power. Students in groups of 4-5, were asked to choose questions for projects from field, wet lab or dry lab (computer) according to their interest. The generated data were fed by each group into computers and analysed, n inferences made. It was a most satisfying experience to see students, inhibited initially, to stand up on last day, each
List of participants

WS I: Student participants (70)

- DSD College, Gurgaon: 13
- Govt Girls College, Gurgaon: 44
- School of Biosciences, Gurgaon: 13

WS II: Student participants (44)

- KLP College, Rewari: 10
- GGDSD College, Palwal: 5
- Pt JLN Govt College, Faridabad: 15
- School of Biosciences, ASU: 14
Science Academies Lecture Workshop II
Biosciences for Industry: Biotech, Pharma, Medicine & Informatics
24-26 March 2012

Program

Day 1
Resource persons:
- Prof K Muralidhar FASc FNA, JC Bose Fellow, DU
- Prof BC Das FASc FNA FAMS, JC Bose Fellow Director ACBR, DU
- Prof Asha Chandola-Saklani FASc, Dean Biosciences ASU, Gurgaon

Course Coordinator

Registration
09:30 - 10:00 h
Session 1
10:00 - 10:45 h Inaugural

Convenors: ASU students Nupur Joshi MSc BT, Sakshi Bhayana BTech IBT
Lighting the lamp & mantrohchharan

Introductions
- Sushmita Sinha BTech IBT, Manisha Bharadwaj MTech BT

About School of Bioscs
- Leepika Patra PhD fellow

Need for the Workshop
- Asha Chandola-Saklani

Vice Chancellor’s address
- Prof KK Dwivedi, Vice-Chancellor
- Apeejay Sta University
Chief Guest's remarks
Prof K Muralidhar, DU

Vote of thanks
Lalrin Chhani Khenglawn MSc CR

National Anthem

Tea break - 10:45 – 11:15

Session 2
11:15- 12:00
Interactive brainstorm to set the pace. Program orientation & Group discussion for choice of research projects: Field activity/wet lab /dry lab Asha Chandola-Saklanii
Lecture : Applications of Biotechnology in Industry, Prof K Muralidhar, DU

Session 3
12.00- 13.30 h
Simultaneous Interactive Live demos in 7 separate groups of 5-6 participants each

Lab I Bio-Pharmaceuticals Immunodiagnostics – Hormones, Enzymes, Vitamins, Vaccines, Drugs, Immunoassay Technology : ELISA, RIA Nikku
PhD fellow, Bindu MCR

Lab II Molecular Diagnostics- Genes, DNA Isolation, PCR, Sequencing, RDT, GMOs Manisha Bhardwaj MBT, Sakshi BTech IBT, Dr Subhash D

Lab III Analytical tools Separation techniques: Spectrophotometry, Chromatography, Electrophoresis, Dr Vineet S, Yaseen PhD fellow, Chandrima
BTech IBT, Keshri Nandan BTech IBT

Lab IV Enzymes VS, Neeraj MCR

Lab V Food Technology Food safety: Probiotics, Food contaminants, GMOs Leepika PhD fellow, Shikha MBT Sushmita IBT

Lab VI Microbes: Bio pollution, Diseases, Culture techniques Lalrin MCR, Nupur MBT, Dr Jatin M)

Lab VII Bioinformatics & Biostatistics: Computer applications, Graphics, Data tabulation, analysis, Introductory Biostatistics & Bioinformatics Tools, net retrievals, intro to online study resources (Students will be given CDs /on line links / access to ppts with course material) Dr Atul Kathait DST-SRF, SCD, AKS

Bioinstrumentation: Thermal cycler, Gel doc, ELISA reader, Millipore, Centrifuge, Laminar Hood Nikku, Yaseen, JM, VS

VIII Board Room : Interactive Sessions with ACS
Lunch break : 13.30-14.00

14:00 – 14:30
Lecture : Molecular tools & techniques for prevention & diagnosis in human disease, Prof BC Das, Director ACBR, DU

14:30 – 16:00
Interactive Live demos - Lab I - VIII
Tea brk Music Dance
16.00- 16:30 h

Day 2
Resource persons: Prof SK Jain, Dean Health & Allied Scs,HOD Biotech Jamia Hamdard
Mr Alok Kumar Singh Operations Manager, Air India

Session 4
07:30 – 09:30 h
Field Activity at a designated site Atul Kathait DST-SRF, Saurabh BTech IBT, Kesharinandan Btech, IBT, Nikku,
ACS, SCD,PSB Field Asst
  • Pranayam
  • Bird watching,
  • Biodiversity measurement
  • Group activity & data generation for those opting field projects

Packed  breakfast on site
Session 5
10.00- 12.00 h
Live demos in Labs continued from last day + wet & dry lab projects

Session 6
12.00 – 13.15 h
Project data generation under supervision and group discussions
Lunch break :13.15 – 13.30 h
Session 7
Project data compilation, tabulation and Analysis on Computers under supervision
13.30 - 14.30 h

Session 8
Project data Analysis, Inferences under supervision
Ppt preparation and download on takeaway CD
Group discussions Project presentations
14.30 – 15.30 h

Tea brk : Music Dance
15:30 – 16:00

Day 3
Resource persons: Prof MP Mahajan, FNASc Director ASG Biochem pvt ltd R&D Labs, Gurgaon
Mr Alok Kumar Singh Operations Manager, Air India

Session 9
07:30 – 08:40 h
Field Activity at a designated site AK, Nikku, ACS, SCD, Saurabh BTech IBT, Kesharinandan BTech, IBT, PSB
  • Pranayam
  • Bird watching,
  • Group activity & data generation for those opting field projects

Packed breakfast on site

Session 10
10:00 – 11:00 h
Dry lab : Biinformatics + dry lab project finalization AK, Yaseen, SCD

Session 11
11:00 – 12:15 h
Group discussions and projects ppt presentations

Session 12
12:15 h – 13:30
Interactive Session on Career orientation ACS, Nupur, Harsh
Career Options in Bio-based industry (Pharma, Medicine, Biotech, Law). How to make a career choice? How to locate jobs? Which kind of job would suit me most? What would be the skills required? How to develop the required skills? How to make an un-biased conscious decision about skill providers? How to be successful in the job once I land it?

Lunch Break - 13:30

14:00 – 14:30 h

Visit to ASG Synthetic Biopharmaceutical Lab Gurleen Kaur, Res Chemist
Prof MP Mahajan, Director ASG Biochem pvt ltd R&D Labs, Gurgaon

Session 13 Closing
Summing up
Award of certificates with course material
Individual student feedback for improvisations in subsequent workshops

15:00 -16:00 h: Tea brk – Music n Dance