

Department Alumni Meet Program

Saturday, December 16th, 2017

Venue: Golden Jubilee Seminar Hall, Department of Civil Engineering, IISc, Bengaluru-560012

AGENDA

2.30 pm - 2.40 pm

Welcome and opening remarks
by Chair, Civil Engineering
Department

2.40 pm - 3.45 pm

Panel Discussion on “Industry
Expectations from Young Civil
Engineers”

Moderator: Dr. Narayan Sundaram,
Department of Civil Engineering, IISc

Panelists:

Mr. Akhilesh Mishra, GE, Bengaluru

Dr. Bindumadhava, Aurecon Group,
Brisbane, Australia

Dr. Aruna Kumari G, Worley Parsons
India Pvt. Ltd., Hyderabad

Mr. Appa Rao Y, NTPC,
Visakhapatnam

3.45 pm - 4.15 pm

Closing remarks & High-Tea

4.15 pm onwards

Visit to Laboratories

Report of panel discussion on “Industry Expectations from Young Civil Engineers”

Civil Engineering Department Alumni Meeting, December 16th, 2017

- **Background:** A panel discussion on “Industry Expectations from Young Civil Engineers” was organized by the Civil Engineering Department (CiE) as part of the Department’s alumni meet program. The objective of the meeting was to elicit CiE alumni’s views and opinions on their expectations of fresh graduates from CiE (MTech, PhD), discuss such issues as training in the context of a research-focused institution like IISc, with the goal of getting actionable items for potential curricular changes.
- **Panel:** The panel comprised of department alumni (graduation years indicated in parenthesis), with cumulative industry experience of 70 years.
 - Dr. Aruna Kumari, Worley Parsons India (PhD 2008)
 - Mr. Akhilesh Mishra, GE Bangalore (ME 2000)
 - Dr. Bindumadhava Aery, Aurecon Group, Brisbane (PhD 1990, MSc 1985)
 - Mr. Y. Appa Rao, NTPC Vishakapatnam (ME 2002)
 - Dr. Narayan Sundaram, CiE, moderated the discussion.
- **Proceedings:** The discussion was attended by several alumni, retired faculty members of CiE, current faculty members and students. The discussion venue, GJ Hall, was filled to capacity. Prof. Sudhakar Rao, Chair CiE, opened the proceedings. The panel then discussed for about one hour, following which the panelists took several questions from the audience, many from students. Closing remarks were presented by Prof. Ashish Verma, Coordinator and Director of Alumni Relations, CiE.

Summary of discussion:

- **N. Sundaram** (moderator introduction, academic point of view):
 - IISc is a research-intensive institution, but its training mandate is a broad one
 - Coursework emphasizes fundamental principles, rather than training to use a specific tool
 - With the foundation given, students are expected to learn other skills as needed
 - Courses heavier on analysis than design
 - In-depth understanding is emphasized across programs
 - CiE is aware of the need to improve student presentation, speaking and writing skills
 - CiE course program restructuring with major / minor has got a good response. It broadens student training, harmonizes the program with international non-thesis MS
 - The potential for closer industry participation in curricular matters exists, including industry-affiliated “professors of practice” as elsewhere in the world
 - This enriches student training without perturbing the core curriculum
 - Internships are encouraged but no formal system

Summary of discussion:

- **Dr. Arunakumari :**

- Industry expects clear fundamentals, effective communication, product-centric thinking, ownership of one's work, adaptability, ability to work in a team, and a positive attitude
- Understanding ideas to apply them, not just for examinations
- Good technical writing skills rather than “fancy” words and ability to understand and work with clients of different countries / cultures
- Rather than rely totally on technology, have the ability to do simple calculations / estimates by hand
- Product / deliverables focus and budget consciousness in industry
- Pride in one's work, thoroughness in work, ability to learn from mistakes

- **Mr. Mishra :**

- Advice to young engineers aspiring for positions, based on his experience in various engineering positions in GE
- Have a “technical story” to tell
- Be curious and eager to learn
- Critical thinking is extremely important
- Be prepared for mission changes
- A problem that arises in the course of completing some (engineering) task should not form a time-consuming distraction from the original goal

Summary of discussion:

- **Dr. Bindu Madhava :**

- Things are often not that they should be for practicing engineers. Example: An inter-city telephone cable shown to lie on one bank of a river in government plans actually lay on the other side. Reliance on this plan, rather than an on-site inspection caused cable damage during pile driving and considerable problems
- Engineering, especially civil engineering, has legal liability issues since people's health and safety relies on good engineering

- **Mr. Y. Appa Rao :**

- Important for students to know enough of all areas of civil engineering, as opposed to just structures or geotech. In large projects, others expect civil engineers to handle all these roles!
- Site engineers should learn to deal with labor especially in the public sector
- Construction management and planning is very important for projects / site jobs
- Engineers are confronted with very practical problems at the beginning of their careers, and must be prepared to learn things rapidly, even if they have not been exposed to them in their curriculum
- Advanced analysis taught in courses at the Institute may not seem useful immediately, but can be very handy later on

Further discussions, and Q&A session:

- Students should be acquainted with construction management, especially work and site-safety issues
- Mandatory industry internships e.g. of 90 days might help students
- More design courses
- Lab course component is weak. Courses like experimental stress analysis would be extremely helpful, so that students understand and have hands-on experience of materials and structural member testing
- Industry generally satisfied with CiE graduates' performance

ATTENDEES

Sl. No.	NAME	ORGANIZATION	DEGREE	YEAR
1	Padmesh Charan Pandey	GITAM University, Bangalore	ME	1972
2	Bindumadhava Arey	Aurecon Group, Brisbane, Australia	MSc(Engg), PhD	1985, 1991
3	Ramraj Singh	Credit Suisse India, Pvt. Ltd	ME	2000
4	Durga Prasad S V	Syntel Pvt Ltd.	ME	1999
5	Yadala Appa Rao	NTPC Ltd, Chennai	ME	2001
6	Gopal Krishna Sharma	Fiserv India Ltd	Ph. D	1996
7	Akhilesh Mishra	GE, Bengaluru	ME	1998-2000
8	Arunakumari Garaga	Worley Parsons India Pvt Ltd, Hyderabad	Ph.D	2009
9	Pradyumna M	Freelance Consultant	ME Ph.D	1981-2001
10	Subrahmanyam Vedula	Former Professor, IISc	ME	1961
11	M.M. Allam	Former Professor, IISc	ME Ph.D	1978
12	P. V. Rao	Formerly with TCE, Bangalore	Ph.D	1976
13	Venkateswara Rao Nanduri	Virtusa, Hyderabad	ME	1999
14	P. V. Sivapullaiah	GITAM University, Bangalore	PhD	1977
15	Badarinath Ambati	ALTAIR, Bangalore	Ph.D	1997
16	P. Raghuveer Rao	IISc	PhD	2015
17	Rappal K Ramanathan	VCOLLAB	ME	1970
18	Anupam Singh Ahlawat	ISRO	Ph.D	2002
19	Asha M Nair	CMR Institute of Technology	Ph. D	2013
20	Rangaraj C	Dept. of Civil Engineering, SSIT, Tumkur	Ph.D	1987

Sl. No.	NAME	ORGANIZATION	DEGREE	YEAR
21	Sarma K V N	Former Professor, IISc	Ph.D	1967
22	Ravishankar Gowda S B	Ravishankar & Associates	M E	1977
23	G. N. Virupaksha	Tata Consulting Engineers Limited, Bangalore	M.Sc Engg	1991
24	Sreevalsa Kolathayar	Amrita Vishwa Vidyapeetham, Coimbatore	Ph.D	2013
25	G M Ammanagi	TATA Consulting Engineers (Retd)	ME Civil	1976
26	Subhash C. Yaragal	NITK Surathkal	Ph.D	1998
27	Pranesh M R	Former Professor, IITM	PhD	1971
28	A Sridharan	Former Professor, IISc	ME	1960
29	K S Nanjunda Rao	IISc	PhD	1995
30	D K Baidya	Professor, IIT Kharagpur	PhD	1993

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