One Day Industrial Linkage Seminar
Faculty of Engineering

Industry-Faculty Liaison Committee (IFLC)

December 2014
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2  Background
The Faculty of Engineering at BUE is emphasizing its role towards the community through extending its expertise, facilities and capabilities to interact with the industry and engage in a dialogue that would provide collaboration schemes and partnerships to help foster innovative solutions to persisting industrial problems. One of these dialogue platforms is a series of one-day seminars that aim at engaging industry professionals with academics in an attempt to map industrial challenges and/or problem solving needs to the Faculty of Engineering capabilities and expertise.

3  Seminar Structure
3.1  Introduction
The Faculty of Engineering has expertise in three main theme areas, namely,

- Housing, Construction & Urban Development (ARCH/CIVL)
- Electro-Mechanical Applications (ELEC/MECH)
- Petro-Chemicals, Energy & Gas Technology (CHEM/PTRL)

As the first of a series of one-day seminars, three parallel sessions were planned each following one of the previously identified theme areas. Within each of these sessions two main types of contributions were identified. The first to present the current BUE capabilities, expertise and facilities while the second, was dedicated to the introduction of industrial needs and expectations.

Hence, the first of such seminar platforms was one of introduction from both sides. This identified sets of shared topics in each of the three themes and thus should be manifested in further in-depth more directed seminars and ultimately a group of collaborative research/consultation projects.

Potential Industrial Partners, in all three theme areas, were identified and invited to present their contributions. Morning sessions were followed by afternoon small discussion groups initiated by morning presentations. The seminar ended by the identification of a set of recommendations regarding specific topics of interest, in each theme area, that would drive the following seminar sessions.

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3.2 Housing, Construction & Urban Development

In preparation for the Housing, Construction & Urban Development theme, the Seminar team contacted seventeen companies & individuals, eight companies attended the seminar with an attendance percentage of 47%.

At the first session, the industrial speakers were identified through personal contacts from BUE related academic staff members, the industrial speakers were:

- Dr. Mohamed El- Mekawy, Managing Director El- Futtaim Group, and the presentation was about Sustainable Mixed Use Communities.

- Dr. Tamer Hassan El- Affandy, Associate Professor, Concrete Housing & Building National Research Center, and the presentation was about Applications of Sustainable Post- Tensioned Concrete Slabs.

- Dr. Ahmed Hussein Hassan, Senior Deputy General Manager Strategy and Development Department - Bank Misr, and the presentations were about Architectural Engineering in Industrial Organization and Project Management & Architectural Engineering.

- Dr. Ayman Abdel- Hamid, General manager Space Consultant, and the presentation was about Architecture & Practices.

In return, the BUE academic staff members who participated in this theme were:

- Prof. Maged Morcos, Head of Civil Engineering Department, and the presentation was about Systems Approach to improve Performance and Reliability in Organizations and Projects.

- Dr. Hossam Saleh, Civil Engineering Department, and the presentation was about Consultation, Training and Capabilities.

- Prof. Ahmed Rashed, Director Center of Sustainability & Future Studies (CSFS), and the presentation was about Green Architectural Applications.

- Prof. Hossam Bakr and Dr. Ashraf Nessim Architectural Engineering Department, and the presentation was about Environmental Studies & Simulation.

- Prof. Mohamed El- Attar and Dr. Samah El- Khateeb, Architectural Engineering Department, and the presentation was about Urban Studies.
This theme was enriched by the presence of many relevant companies such as:

<table>
<thead>
<tr>
<th>Company</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENJAZ</td>
<td>Dr. Mohamed El-Zewiedy</td>
</tr>
<tr>
<td>Talaat Mustafa Group</td>
<td>Eng. Khaled El-Diek</td>
</tr>
<tr>
<td>Sega M</td>
<td>Eng. Maram Abou El-Wafa</td>
</tr>
<tr>
<td></td>
<td>Eng. Sohila Ehab</td>
</tr>
<tr>
<td></td>
<td>Eng. Mary Rodulf</td>
</tr>
<tr>
<td>CSS Concrete Stressing Systems</td>
<td>Eng. Ahmed Hafez Dawah</td>
</tr>
<tr>
<td></td>
<td>Eng. Islam Moussa Aly</td>
</tr>
<tr>
<td>Space Consultant</td>
<td>Eng. Youssef Nour El-Din</td>
</tr>
</tbody>
</table>

Detailed Theme presentations are shown in Annex I.

### 3.3 Electro-Mechanical Applications

In preparation for the Electro-Mechanical theme, the Seminar team contacted sixteen companies & individuals, eight companies attended the seminar with an attendance percentage of 50%.

Industrial speakers were identified through personal contacts from BUE related academic staff members, the industrial speakers were:-

- Eng. Abbas Radi, Technical Manager ARECO, and the presentation was about Challenges & Problems faces the Renewable Energy.

- Eng. Hamed Mosleh, Head of Electronics & Development Oriental Weavers, and the presentation was about the Oriental Weavers.

- Eng. Sayed Tolba, Head of Training Sector, Military Production Ministry, and the presentation was about how to link Industry with Academia.

- Eng. Michael Iskander, Sales Manager 3 brothers, and the presentation was about LED Revolution.
- Eng. Mohamed Fouad, General Manager United Systems, and the presentation was about
- Eng. Hani Shaltout, Sales Manager, Schneider Egypt, and the presentation was about Schneider Electric Energy University.

In return, the BUE academic staff members who participated in this Theme were:

- Dr. Mustafa Shazli, Mechanical Engineering Department, and the presentation was about Advanced Materials and its Industrial Applications.
- Dr. Ahmed Abdel-Azim, Mechanical Engineering Department, and the presentation was about the use of Renewable Energy in Industrial Applications.
- Dr. Amr Abdel-Kader, Mechanical Engineering Department, and the presentation was about Collaboration between Academic & Industrial Sectors.
- Dr. Tarek Saad, Electrical Engineering Department, and the presentation was about Capacitor Applications in Power Systems.

This theme was enriched by the presence of many relevant companies such as:

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>ARECO</td>
<td>Eng. Ahmed Reda</td>
</tr>
<tr>
<td>Egypt AIR</td>
<td>Eng. Sameh Shalash</td>
</tr>
<tr>
<td>Lotus for Solar Technologies</td>
<td>Eng. Amr Mohsen</td>
</tr>
<tr>
<td>Schneider Egypt</td>
<td>Eng. Amr Magdy Abdin</td>
</tr>
<tr>
<td>United Systems</td>
<td>Mrs. Heba Fouad</td>
</tr>
</tbody>
</table>

Detailed Theme presentations are also shown in Annex II.
3.4 Petro-Chemicals, Energy & Gas Technology

In preparation for the Petro-Chemical theme, the Seminar team contacted twelve companies 
& individuals, eleven companies attended the seminar with an attendance percentage of 91%.

The Industrial speakers were identified through personal contacts from BUE related academic 
staff members, the industrial speakers were:-

- Eng. Alaa Khashb, Vice Chairman ENPPI, and the presentation was about International 
  Engineering & EPC main Contractor.

- Eng. Mohie El- Din Abdel- Razik, CEO Pachin for Paints, and the presentation was about 
  Environment - Friend Paints.

- Dr. Mohamed Hussein Sammour, Chief of Chemical Administration, , and the 
  presentation was about A connecting Bridge between Academia and both Industry & 
  Environment.

- Eng. Ansari Hassan Ali, Senior Drilling Supervisor and the presentation was about 
  Casing Head Assembly and Surface Suspension System.

- Geol. Mustafa Bahr, Chairman BoDs AGIBA, and the presentation was about applying 
  modern techniques in increasing Oil & Gas fields productivity.

- Eng. Radi El- Nashaar, GM Drilling Operations Manager, British Petroleum, and the 
  presentation was about Challenges in Drilling.

In return, the BUE academic staff members who participated in this Theme were: -

- Prof. Mohamed Shahir, Chemical Engineering Department, and the presentation was 
  about University-Industry Networking for Training, Research and Employment.

- Prof. Mohamed El- Desokoy, Chemical Engineering Department, and the presentation 
  was about Awareness and Internal Audit of ISO Management Systems.

- Prof. Attia Attia, Petroleum Engineering Department, and the presentation was about 
  Enhanced Oil Recovery Techniques (EOR).

- Dr. Atef abdel- Hady, Petroleum Engineering Department, and the presentation was 
  about Production Optimization from Reservoir to Industry.
This theme was enriched by the presence of many relevant companies such as:

<table>
<thead>
<tr>
<th>Company</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Petroleum</td>
<td>Dr. Wael El-Husseiny</td>
</tr>
<tr>
<td>MIDOR</td>
<td>Eng. Manal Metwally</td>
</tr>
<tr>
<td>ADCO</td>
<td>Eng. Mohamed Ansari Hassan Ali</td>
</tr>
<tr>
<td>Arab British for Dynamic Industries</td>
<td>Eng. Mohamed Bahaa El- Din Bakry</td>
</tr>
<tr>
<td>ENPPI</td>
<td>Eng. Yehia Shaaban Mohamed</td>
</tr>
<tr>
<td></td>
<td>Eng. Ahmed Saeed Fatouh</td>
</tr>
</tbody>
</table>

Detailed Theme presentations are also shown in Annex III.

4 Seminar Evaluation
In terms of attendance and participation, 45 companies & individuals were contacted to attend the seminar, 27 attended with a participation percentage of 60%.

Petro-Chemical theme was the highest participation percentage among all themes (91%); the invited members in this theme were all contacted personally by our current academic staff in this specialty area.

In other themes, companies which are providing our students internship opportunities were the ones contacted for participation, where all invitations were sent by courier.

In terms of seminar presented materials, each theme had presentations from BUE staff and industrial members. BUE presentations were focused on academic staff consultation expertise & research capabilities that can attract the industry to explore potential cooperation.

On the other hand, industrial presentations were expected to focus on their main and current challenges & obstacles that may need support from the academic field. Few presentations managed to reach this point while most of the presentations were particularly meant to advertise the company products.

At the end of the seminar day, an evaluation form was distributed among different themes to explore the attendees’ feedback regarding seminar various areas (organization, content, distributed materials, presentations, etc).

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The evaluation feedback resulted in the following:

**Strengths:**
- Building relations with Industry & BUE staff.
- Presenting BUE staff abilities.
- Knowing new information & techniques.

**Weaknesses:**
- Time given to speakers was very limited.
- Some industrial presentations were not up to the seminar purpose.

The survey inquired about a ranking for the overall usefulness of the subject matter which resulted in an average score of 4.2/5.0 with a distribution as shown in figure (1).

The survey also inquired about the usefulness of the information package which was distributed to all attendees with an average score of 3.7/5.0 with a distribution as shown in figure (2) and according to the distribution shown in figure (3).

![Overall Usefulness of the subject matter (4.2)](image)

**Figure (1)**
Overall usefulness of the material distributed (3.7)

Figure (2)

Overall rating of the Seminar (4.1)

Figure (3)

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5 Concluding Remarks

All three themes had a mapping session where participants from BUE and the relevant industry engaged in group led discussions triggered by the morning presentations.

Each theme had two chairs to lead the discussions and come up with recommendations and ideas for potential cooperation.

The following outcomes & recommendations are common between all themes:

1- Enrich the collaboration between academia & industry throughout teaching and consultants:
   a. The seminar showed some areas of development to our undergraduate curricula to meet the market demands such as (drilling modules, Geochemistry of Oil).
   b. Industrial partners offered to deliver presentations to students and provide facilities to graduation projects, etc.

2- Proposals for Cooperation agreements with BUE from:
   a. AGIBA in the field of EOR.
   b. ENPRI in graduation projects.
   c. Oriental Weavers to solve their problems & challenges.
   d. Military Production offered its lab resources to graduation projects and summer internships.
   e. Three brothers through presentations that could possibly improve the graduation projects.

3- BUE is offering its labs & resources for training to engineers and technicians from the industry.

4- Petroleum & Chemical Engineering departments could propose common graduation projects.

5- Mutual visits between senior management in both sides.

5.1 Housing, Construction & Urban Development

1) Increase the collaboration between industry and the academic field.
2) Bridging the gap between theory and practice
3) Increasing the student knowledge concerning sites, and different building materials and their field of application
4) Inviting experts in different fields of building, construction and design to lecture our students, thus enhancing their interests in different fields (For example DURAVIT, SCIB...etc.).

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5.2 Electro-Mechanical Applications

1) Oriental Weavers Company indicated their desire to activate and boost the collaboration process between them and the BUE. They have a list of problems facing them that can be handled by BUE staff as senior graduation projects, term projects for some modules, MSc projects, or even pure research projects.

2) Military Production Organization has offered its sophisticated lab facilities for use by BUE at module levels, graduation projects and/or summer training.

3) Arab Organization for Manufacturing listed in their seminar some topics for collaboration with BUE at any level.

4) Three Brothers Company can provide a list of ideas for projects to solve some problems of manufacturing processes and to raise their efficiencies. In addition, they offered to give presentations to our senior students that may help them in their graduation projects.

5) Schneider Company can provide access to their virtual Energy University (Free Programmes). In addition, they offered to make presentations to BUE students on Energy Efficiency.

5.3 Petro-Chemicals, Energy & Gas Technology

1) Interaction between BUE & industrial partners to modify existing programme (for example by adding new techniques of drilling to the existing module of drilling, by adding new modules to the programme e.g. Geochemistry of Oil & Gas...).

2) The Petroleum Engineering Department & AGIBA Company should work on developing an agreement between them in the field of Enhanced Oil Recovery (EOR).

3) The Petroleum Engineering Department & Chemical Engineering Department should propose Common Research and Design Graduation projects. (E.g. Chemical EOR).

4) AGIBA Company is ready to provide all Engineering departments by the data required for graduation projects.

5) BUE asked industrial partners to increase the number of students trained in their companies.

6) ENPPI is ready to cooperate with BUE in graduation projects by real design projects under supervision of both parties.

7) To utilize high technology in effluent discharge treatment.

8) To use BUE resources and Labs in training of Engineers and Technicians from industry.

9) BUE and Industrial partners agreed to increase field trips of students and mutual visits between High Management (Dean, Associate Deans, HODs, Programme Directors, Staff,) and CEO of companies periodically.

10) To supply BUE labs by modern techniques and simulation programme (e.g. well drilling simulator for Petroleum Engineering Department.)

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6 Next Step

The first session of the Industrial Linkage Seminar is considered to have achieved its main objectives which could be summarized as:

- Identify a number of potential industrial partners.
- Establish a communication platform between BUE and relevant industries.
- Involve industrial companies in reviewing BUE’s academic programmes.
- Engage the Industry in proposing ideas for graduates’ programmes.
- Strengthen Industrial relation through offering internship opportunities for BUE students.

The developed industrial capacity catalogue is proposing ideas for knowledge commercialization & knowledge transfer, in addition to listing facilities that could be employed by the industry.

The following steps shall be taken in order to build on the success of this event:

1. Follow up on all companies which attended the seminar to ensure the implementation of proposed ideas.
2. Develop a partnership scheme whereby a selected partner could be offered a suite of services in return for an annual fee.
3. Develop on-campus visits schedule for a selected group of potential partners to show case the faculty’s facilities.
4. Approach relevant departments at BUE to start engagement with potential industrial partners to develop ideas for graduation projects.
5. Actively promote knowledge transfer ideas by identifying a schedule of training workshops.
6. Develop detailed description of all proposed training workshops.
7. Start preparation for the second seminar in September 2015.
8. Identify a theme for the second seminar that would capture the BUE capacity & focus the discussions.

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