Essay

Overview and Expectations of Student Exchange Programs through International Internship

Prasit Prapinmongkolkarn, Professor Emeritus, Dr., Chulalongkorn University, Chairman, The National Broadcasting and Telecommunications Commission, Thailand, Ex. Representative, IEICE Bangkok Section

It is my great honor to be invited by IEICE for a short article on international cooperation through student exchange and internship. Within this context, I would like to share my knowledge and experiences with you, which I have gained while I was working as a Professor of the Department of Electrical Engineering, Chulalongkorn University (CU) (1976–2004), as a Commissioner of the National Telecommunications Commission (NTC) (2004–2008) and as Chairman of NTC (2008–2011).

Let me begin by introducing CU at first. It is the first academic institution for higher education in Thailand which was officially founded on March 26, 1917. Over the years, it has evolved to become an internationally recognized university with eighteen faculties, eleven research institutes, three teaching institutes and three other affiliated institutes. In 1935, CU established three separate departments in the Faculty of Engineering (FOE), to foster the growth and advance of various disciplines in the field of engineering. Today, CU has 12 Departments offering Bachelor, Master and PhD degrees. The number of Faculty staff is 314 and the ratio of students to the Faculty staff is around 10:1 in reference to the number of students listed in Table 1.

Table 1 Current scale of Faculty of Engineering in Chulalongkorn University (the number of enrolled students in 2010)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2,472</td>
<td>76%</td>
</tr>
<tr>
<td>Female</td>
<td>777</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>3,249</td>
<td></td>
</tr>
<tr>
<td>M. Eng</td>
<td>1,112</td>
<td>85%</td>
</tr>
<tr>
<td>PhD</td>
<td>191</td>
<td>15%</td>
</tr>
</tbody>
</table>

Following the trend of globalization, students find themselves in need of a good command of English for studying and working aboard. In order to fulfill their expectations, the International School of Engineering (ISE) was established to cover four special programs, namely Automotive Design and Manufacturing Engineering (ADME), Aerospace Engineering (AERO), Information and Communication Engineering (ICE) and Nano Engineering (NANO) for the time being.

ISE also provides the internship program to CU students studying at various overseas universities and industries as shown in Table 2. On the other hand, the number of internship students studying in ISE in academic year 2010 is summarized in Table 3. Department of Electrical Engineering has established various Research Laboratories since 1950 as shown in Fig. 1. These Laboratories accommodate international internship students. The internship program is a compulsory course work with credits during the three-month summer vacation, authorized in the normal curriculum. Both local and overseas industries such as NEC, NTT etc. generously have accepted CU students.

On the other hand, the new National Broadcasting and Telecommunications Commission (NBTC) which merged with the National Broadcasting Commission (NBC) was established with 11 commissioners approved by House of Representatives in November 2011, grants more than 30 scholarships to both undergraduate and graduate students to study overseas at many prestigious universities around the world. Before that, NTC has granted various internships for

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Table 2 Overseas Internship Program for international students dispatched from Chulalongkorn University in 2010

<table>
<thead>
<tr>
<th>Recipient</th>
<th>University, Institution</th>
<th>Industry</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>6</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Canada</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Japan</td>
<td>3</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>China</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Korea</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Singapore</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Sweden</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Denmark</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>UK</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>9</td>
<td>58</td>
</tr>
</tbody>
</table>

Table 3 Overseas Internship Program for international students dispatched from Chulalongkorn University in 2010

<table>
<thead>
<tr>
<th>Program</th>
<th>Local</th>
<th>Overseas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AERO</td>
<td>35</td>
<td>4</td>
<td>39</td>
</tr>
<tr>
<td>ADME</td>
<td>54</td>
<td>10</td>
<td>64</td>
</tr>
<tr>
<td>ICE</td>
<td>80</td>
<td>6</td>
<td>86</td>
</tr>
<tr>
<td>NANO</td>
<td>34</td>
<td>37</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>203</td>
<td>57</td>
<td>260</td>
</tr>
</tbody>
</table>

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Fig 1 Evolution of research laboratories based on the future perspectives of Electrical Engineering field

- HVRL: High Voltage Research Laboratories (RL)
- SDRL: Semiconductor Device RL
- PSRL: Power System RL
- TSRL: Telecommunications Systems RL
- PERL: Power Electronics RL
- CSRL: Control Systems RL
- IDAR: Integrated Circuit Design Application Research
- IIRL: Industrial Instrumentation RL
- BERL: Bioelectronics RL
- DSPRL: Digital Signal Processing RL
- EMRL: Electro-Magnetic RL
- OERL: Optoelectronics RL

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Note for Prof. Prasit's Contribution

TFIPP, Kenzo Takahashi

Prof. Prasit received his PhD deg. from Osaka University in 1976 and served CU as Professor/FOE, Dir.,/Chula Unisearch (1989-1995) and DG/Intellectual Property Inst. (1996-2004). He concurrently served Communications Authority of Thailand as Board Director (1992-1993), APEC as Member of Tel WG (1998-1999). He is known as a world level leader in ICT education and research activities. He has also taken initiatives of telecommunication standardization as Chairman of National Telecommunication Commission (NTC) Thailand so far. His suggestions of international internship well matches the world trend of cooperative education between universities and industries, it will exactly encourage younger generation.

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IEICE Communications Society

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