

# Guide to IIDEA Workshop

## IIDEA WORKSHOP 2014 @ TSINGHUA UNIVERSITY 清华大学 2014 年国际工程教育学术工作坊

(July 4-5, 2014)

Cross-sector Collaborations in Engineering Education:  
Masters Student Learning and Faculty Development  
工程教育的跨部门合作：硕士培养和教师发展



清华大学  
工程教育研究中心

Hosted by CEE, Tsinghua University  
主办：清华大学工程教育研究中心



Presented by IIDEA workshop leaders  
主讲：国际工程教育发展研究院专家



Sponsored by MathWorks, Inc.  
赞助：迈斯沃克公司

Tsinghua University, Beijing, China  
清华大学，中国北京

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### I. Introduction and Acknowledgement 导言与致谢

IIDEA, the International Institute for Developing Engineering Academics, is a global leadership training institute focused on establishing a global network of engineering faculty development programs to disseminate learning about the transformation of engineering education worldwide. This will be carried out by twofold activities by: 1) providing a menu of development, capacity building and training activities to engineering and related disciplines professors, administrators, graduate students and other interested individuals, and 2) providing a professional growth mechanism for the community of faculty developers in engineering education.

CEE, the Center for Engineering Education, Tsinghua University, is a cross-disciplinary research center for engineering education studies. As a leading institute of engineering education research in China, CEE has not only made broad academic impacts on engineering education, but also played a think-tank role in policy-making of China's engineering education reform in the past years. Now CEE devotes to promote the transformation and development of engineering education in China even worldwide.

In May 2011, July 2012 and July 2013, CEE and IIDEA co-organized three 2-day workshops at Tsinghua University: 1) *Learning Environments & Project and Problem Based Learning*; 2) *The Role of Industry-University and Accreditation*. 3) *Engineering Education Connections: Teaching Centers and EE Accreditation*. More than 360 faculties from about 80 universities participated these events and spread the best practices in their institutes.

Welcome all to join and promote *the IIDEA workshop session 2014 @ Tsinghua University!*

Many thanks to the workshop leaders to share their expertise with EE community in China !  
Many thanks to MathWorks to sponsor this event for four years!

## II. Agenda 日程

### DAY 1 : Engineering Masters Student Learning Workshop 工科硕士培养工作坊

Friday, July 4, 2014 (星期五, 7月4日) ,

Morning at Reception Hall, Main Building (上午, 主楼接待厅, 25 on Map) ;

Afternoon at Conference Hall, Academic of Art & Design(下午, 美术学院报告厅, 34 on Map)

Presided by Jennifer (IIDEA) / Wang Sunyu & Lin Jian (CEE)

DAY 1	ACTIVITIES DESCRIPTION
Morning , Reception Hall, Main Building 上午, 主楼接待厅	
8:00-9:00	<b>Registration 代表注册</b>
9:00-9:15	<b>Opening Ceremony 开幕式</b> <ul style="list-style-type: none"><li>• Dr. Jennifer IIDEA /other workshop leaders</li><li>• Prof. Yuan Si, Vice President of Tsinghua University</li></ul>
Morning , Reception Hall, Main Building 上午, 主楼接待厅	
9:15-9:45	<b>1-Keynote Presentation by Prof. Reinhart Poprawe 主题报告</b> <ul style="list-style-type: none"><li>• Presentation on the RWTH experience, focusing on RWTH joint masters programs and the challenges and opportunities of working directly with industry partners</li><li>• 亚琛工业大学的经验, 聚焦于亚琛工业大学的硕士生联合培养项目、以及直接与行业伙伴合作的挑战与机遇</li></ul>
9:45-10:15	<b>2-Group Discussion 集体讨论</b> <ul style="list-style-type: none"><li>• Note : Participants in groups by institution reflect on the case study they have just heard and generate questions relevant to their context</li><li>• 提示: 全体代表反思所见所闻的案例, 形成与本土情境相关的问题</li></ul>
10:15-10:45	<b>3-Q&amp;A : Facilitated by Reinhart 问答环节</b>
10:45-11:00	<b>Morning Break 茶歇</b>
11:00-11:30	<b>4-Keynote Presentation by Prof. Jörg Steinbach 主题报告</b> <ul style="list-style-type: none"><li>• Presentation on perspective from TU Berlin and SEFI, in particular regarding IU masters programs and accreditation issues</li><li>• 柏林工业大学和欧洲工程教育学会的视角, 特别是校企合作培养硕士与认证议题</li></ul>
11:30-12:00	<b>5-Group Discussion 集体讨论</b> <ul style="list-style-type: none"><li>• Note : Participants in groups by institution reflect on the case study they have just heard and generate questions relevant to their context</li><li>• 提示: 全体代表反思所见所闻的案例, 形成与本土情境相关的问题</li></ul>
12:00-12:30	<b>6-Q&amp;A : Facilitated by Jörg 问答环节</b>
12:30-14:00	<b>Lunch Break 午餐</b>

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DAY 1	ACTIVITIES DESCRIPTION
	<b>Afternoon , Conference Hall, Academic of Art &amp; Design 下午 , 美术学院报告厅</b>
14:00-14:30	<b>7-Full Panel Discussion ( all international facilitators and industry representatives ) 专家小组讨论 ( 组织者：全体国际专家和行业代表 )</b> <ul style="list-style-type: none"> <li>Note : Moderated discussion with full panel of experts: 1 ) the international facilitators who did not present will briefly share one point relevant to IU-masters learning (both topic 1—capacity and topic 2—accreditation) from their experiences ; 2 ) and one question for the presenters (e.g., how does this fit with accreditation/capacity and faculty development) ; 3 ) presenters respond/discuss.</li> <li>提示：未作主报告的国际专家和行业企业代表，简要分享与校企合作加强硕士生培养有关的一个观点（包括话题 1 能力培养和话题 2 质量认证）；向主报告人提出一个问题（如怎样进行实践能力培养、质量认证及教师发展等）；主报告人回应与讨论</li> </ul>
14:30-15:30	<b>8-Working Session ( all international facilitators and industry representatives ) 集体头脑风暴 ( 组织者：全体国际专家和行业代表 )</b> <ul style="list-style-type: none"> <li>Note : Participants, in groups of institutions, brainstorm and create action plans to augment their own I-U masters programs; international facilitators will circulate, spending approx. 20 min per group to provide feedback, w/ translator.</li> <li>提示：代表分组头脑风暴，对各自校企合作促进硕士生培养问题进行讨论，产生行动方案，国际专家流动听取讨论，每个小组反馈和翻译时间约 20 分钟左右</li> </ul>
15:30-15:45	<b>Afternoon Break 茶歇</b>
15:45-17:15	<b>9-Group Sharing, Panel Q&amp;A 集体分享与专家反馈</b> <ul style="list-style-type: none"> <li>Note : Groups by institution will turn and share their ideas with one other group—reflect and form additional questions for panelists ( 1 hour )</li> <li>提示：各小组分享想法，反思和形成补充问题（约 1 小时）</li> <li>Note : 2 presenters (Reinhart and Jörg) share some thoughts on what they've seen—groups have another opportunity for questions (30min)</li> <li>提示：两位主报告人(Reinhart and Jörg) 分享想法，含各小组提问（半小时）</li> </ul>
17:15-18:00	<b>10 –Industry Interactive 行业企业互动</b> <ul style="list-style-type: none"> <li>Ø <b>Industry Presentation 企业代表报告 ( Ken Dunstan from MathWorks, Inc. )</b> <ul style="list-style-type: none"> <li>Note : industry representatives share their concrete experiences from their own industry perspective on (1) IU masters degrees and (2) relevant faculty development</li> <li>提示：企业代表从各自视角分享经验，包括校企合作加强工科硕士生培养和教师发展问题</li> </ul> </li> <li>Ø <b>Participant Q&amp;A 问答环节</b> <ul style="list-style-type: none"> <li>Note : individuals and groups may form questions for industry representatives</li> <li>提示：个人或小组提问</li> </ul> </li> </ul>
18:00-19:00	<b>Diner 晚餐</b>

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## DAY 2 : Engineering Faculty Development Workshop 工科教师发展工作坊

Saturday, July 5, 2014 (星期六, 7月5日),

Reception Hall, Main Building (主楼接待厅)

Presided by Lueny (IIDEA) / Lin Jian & Shi Jinghuan (CEE & IOE)

### DAY 2 ACTIVITIES DESCRIPTION

#### Morning , Reception Hall, Main Building 上午 , 主楼接待厅

- |             |  |
|-------------|--|
| 8:30-9:00   | <b>1-Keynote Presentation by Prof. Lueny Morell 主题报告</b> <ul style="list-style-type: none"><li>• Presentation on NEU@UNH, in particular focus on its use of novel structures for recruiting, preparing, and integrating faculty and I-U perspectives</li><li>• 纽黑文新工程大学 (NEU@UNH) 的经验, 特别聚焦于该校教师招聘、培养、整合问题以及校企合作视角</li></ul>   |
| 9:00-9:30   | <b>2-Group Discussion 集体讨论</b> <ul style="list-style-type: none"><li>• Note : Participants in groups by institution reflect on the case study they have just heard and generate questions relevant to their context</li><li>• 提示: 全体代表反思所见所闻的案例, 形成与本土情境相关的问题</li></ul>  |
| 09:30-10:00 | <b>3-Q&amp;A : Facilitated by Lueny 问答环节</b>   |
| 10:00-10:15 | Morning Break 茶歇   |
| 10:15-10:45 | <b>4-Keynote Presentation by Prof. Axel Zafoschnig 主题报告</b> <ul style="list-style-type: none"><li>• Presentation on IGIP support for industry-university faculty development, as well as examples from Austrian Technical Colleges and the broader perspective of the European Qualifications Framework</li><li>• IGIP 支持校企合作推动教师发展方面的经验, 亦涉及奥地利技术学院和欧洲资历框架的视角</li></ul> |
| 10:45-11:30 | <b>5-Group Discussion 集体讨论</b> <ul style="list-style-type: none"><li>• Note : Participants in groups by institution reflect on the case study they have just heard and generate questions relevant to their context</li><li>• 提示: 全体代表反思所见所闻的案例, 形成与本土情境相关的问题</li></ul>  |
| 11:30-12:00 | <b>6-Q&amp;A : Facilitated by Axel 问答环节</b>  |
| 12:00-14:00 | Lunch Break 午餐   |

### DAY 2 ACTIVITIES DESCRIPTION

#### Afternoon , Reception Hall, Main Building 下午 , 主楼接待厅

- |             |  |
|-------------|--|
| 14:00-14:30 | <b>7-Full Panel Discussion ( all international facilitators and industry representatives ) 专家小组讨论 ( 组织者: 全体国际专家和行业代表 )</b> <ul style="list-style-type: none"><li>• Note : Moderated discussion with full panel of experts: 1 ) the international facilitators who did not present will briefly share one point relevant to IU- faculty development (both</li></ul> |
|-------------|--|

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topic 1—capacity and topic 2—accreditation) from their experiences ; 2 ) and one question for the presenters (e.g., how does this fit with accreditation/capacity and faculty development) ; 3 ) presenters respond/discuss

- 提示：未作主报告的国际专家和行业企业代表，简要分享与校企合作促进教师发展有关的一个观点（包括话题 1 能力培养和话题 2 质量认证）；向主报告人提出一个问题（如怎样进行实践能力培养、质量认证及教师发展等）；主报告人回应与讨论

### 14:30-15:00 8-Working Session ( all international facilitators and industry representatives ) 集体头脑风暴（组织者：全体国际专家和行业代表）

- Note : Participants, in groups of institutions, brainstorm and create action plans to augment their own I-U faculty development; international facilitators will circulate, spending approx. 20 min per group to provide feedback, w/ translator
- 提示：代表分组头脑风暴，对各自校企合作促进教师发展问题进行讨论，产生行动方案，国际专家流动听取讨论，每个小组反馈和翻译时间约 20 分钟左右

15:00-15:15 Afternoon Break 茶歇

### 15:15-16:40 9-Group Sharing, Panel Q&A 集体分享与专家反馈

- Note : Groups by institution will turn and share their ideas with one other group—reflect and form additional questions for panelists ( 45min )
- 提示：各小组分享想法，反思和形成补充问题（约 45 分钟）
- Note : 2 presenters (Lueny and Axel) share some thoughts on what they've seen—groups have another opportunity for questions (30min)
- 提示：两位主报告人(Lueny and Axel) 分享想法，含各小组提问（约半小时）

16:40-17:00 10-Evaluation, Thankyous & Closing Ceremony

17:00-18:00 Diner 晚餐

## Group Planning Session, Next Steps for IIDEA-Tsinghua MOU 主办方研讨会

Saturday, July 5, 2014 (星期六, 7 月 5 日), Unicenter, 紫光国际酒店

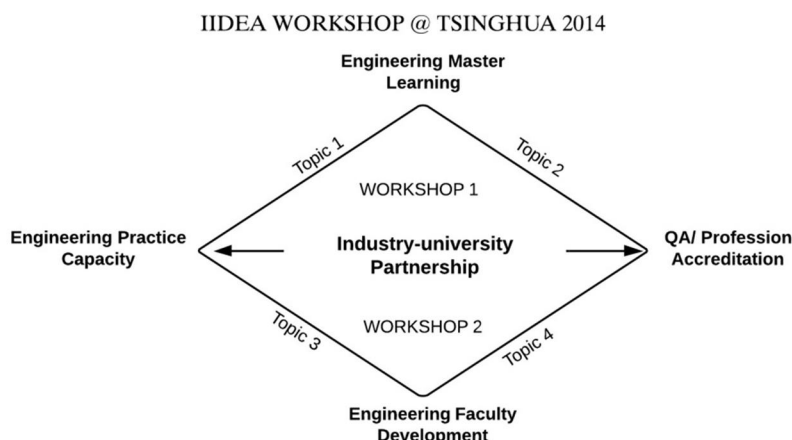
This would allow the small group of workshop leaders, organizers and sponsors to participate

DAY 2	ACTIVITIES DESCRIPTION
17:00-18:00	<ul style="list-style-type: none"> <li>• Evaluate the structure and execution of this year's workshop</li> <li>• Identify key topics for next year's workshops</li> <li>• Discuss next steps for other components of MOU (e.g., research collaborations, publications)</li> <li>• Discuss additional institutional collaborations and upcoming events (e.g., WEEF 2014)</li> </ul>
18:00-19:30	<ul style="list-style-type: none"> <li>• Diner 晚餐</li> </ul>

## III. Appendix 附件

### 1. Workshop Abstracts 内容提要

#### Cross-sector Collaborations in Engineering Education: Masters Student Learning and Faculty Development ( Two Days )



Engineering programs are uniquely challenged with the need to connect with industry and practice while at the same time teaching critical thinkers and supporting instructors. Industry-university collaborations are a vital area of growth for engineering educators in China as well as around the world. Unique new programs have sprung up to answer these needs, and two of these programs will be addressed in this workshop:

- Industry-academia joint masters programs, or, more specifically, “How to strengthen I-U Collaboration for engineering master students' learning and practice and how to assurance and evaluate its quality”, and
- Industry-university collaboration for faculty development, or, more specifically, “How to strengthen I-U Collaboration to promote engineering faculty development”.

Industry and academic leaders from various sectors will provide their perspectives as well as implications for accreditation and the use of technology in multiple sessions. Local and regional leaders will also provide their perspectives through highly interactive meetings.

#### Concept & Goals

The goal is to highlight both global and local examples as well as to bring in new perspectives. Panels of local and global experts offer complementary perspectives on important issues. The goal is to facilitate concrete planning for participants who will support their own teacher centers.

Topics and subtopics are drawn from numerous places. Tsinghua leaders surveyed the engineering education community on critical challenges faced by Chinese engineering faculty. Faculty and staff provided additional feedback. Further, in 2013, the IIDEA workshop collaborators had an extensive debrief and planning meeting. Finally, previous participant feedback was taken into account.

There are other goals including: gather participant feedback for policy formation; coordinate presenters' materials in order to have them submit relevant journal articles.



## 2. Workshop Leaders 工作坊主讲人

(\*Sorted by presentation order)



### **Dr. Jennifer DeBoer,**

Co-Director of IIDEA  
MIT TLL  
国际工程教育发展研究院联合主任  
美国麻省理工学院教与学实验室



### **Prof. Dr. rer. nat. Reinhart Poprawe,**

Rector's Delegate for China,  
Vice-rector of RWTH-Aachen, 2007-2011  
Director of RWTH-Chair for LaserTechnology,  
Director of the Fraunhofer institute for Laser Technology in Aachen,  
德国亚琛工业大学前任副校长，校长驻中国代表  
德国亚琛工业大学激光技术中心主任  
德国亚琛弗劳恩霍夫激光技术研究所主任



### **Prof. Dr.-Ing. Jörg Steinbach,**

Former President of TU Berlin,  
Former President of SEFI,  
President elect of CESAER  
德国柏林工业大学前任校长  
欧洲工程教育学会前任主席  
欧洲高等工程教育及研究会协会当选主席



### **Prof. Lueny Morell,**

Former President of IFEEES  
Co-Founder of IIDEA  
Provost & Chief Academic Officer, NEU @ UNH  
国际工程教育学会联盟前任主席  
国际工程教育发展研究院联合创始主任  
纽黑文大学 (University of New Haven) 新工程大学教务长、首席学术官



### **Prof. Mag. Dr. Axel Zafoschnig,**

IGIP Executive Committee, Austrian  
Director of the Wolfsberg Technical College,  
VET Chief Inspector in the Austrian Province of Carinthia, Technical Colleges,  
Austrian member in the Standing Committee of Inspectorates  
欧洲国际工程教育学会奥地利执委  
沃尔夫斯堡技术学院主任  
奥地利卡林西亚省技术学院职业教育与培训总督察  
奥地利教育督导常务委员会委员

### 3. Guest Speakers from MathWorks 邀请报告人



**Dr. Ken Dunstan,**

Education and Channel Business Manager, APAC Region, MathWorks  
迈斯沃克公司亚太地区教育与渠道业务总经理



**Dr. David Chen,**

China EDU Business Development Director, MathWorks  
MathWorks 中国教育业务发展总监



## 5. Campus Bus 乘车提示

Fri.	Pickup	Arrival	Buses	Passengers
8:20	Jinchunyuan Hotel 近春园宾馆	Main Building 主楼会场	1Small	Workshop Leaders 主讲人及嘉宾 ( 8 )
12:30	Main Building 主楼前广场	Jinchunyuan Hotel cafeteria 近春园餐厅	2Big+1Small	All 全体 ( 110 )
13:45	Jinchunyuan Hotel cafeteria 近春园餐厅	Conference Hall, Academic of Art & Design , 美术学院		
18:00	Conference Hall, Academic of Art & Design , 美术学院	Jinchunyuan Hotel cafeteria 近春园餐厅	1Big+1Small	All 全体 ( 70 )
19:00	Jinchunyuan Hotel cafeteria 近春园餐厅	Main Building 主楼前广场	1Big	

Sat.	Pickup	Arrival	Buses	Passengers
8:20	Jinchunyuan Hotel 近春园宾馆	Main Building 主楼会场	1Small	Workshop Leaders 主讲人及嘉宾 ( 8 )
12:30	Main Building 主楼前广场	Jinchunyuan Hotel cafeteria 近春园餐厅	2Big+1Small	All 全体 ( 110 )
13:45	Jinchunyuan Hotel cafeteria 近春园餐厅	Main Building 主楼前广场		
17:00	Main Building 主楼前广场	Jinchunyuan Hotel cafeteria 近春园餐厅	1Big+1Small	All 全体 ( 70 )
19:00	Jinchunyuan Hotel cafeteria 近春园餐厅	Main Building 主楼前广场	1Big	
19:20	Unicenter cafeteria 紫光会议中心餐厅	Jinchunyuan Hotel 近春园宾馆	1Small	Workshop Leaders 主讲人及嘉宾 ( 5 )

## 6. Campus Contact 联系人

**Qiao Weifeng 乔伟峰 18911635242**

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**Please send short message or email and I will reply soon.**

**Campus Directory Inquiries**

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