

Binational PhD- The Mission

Prof. Dr.-Ing. habil. Herwig Unger



25 October 2016
@AutSys-Conference
Majorca, Spain



FernUniversität in Hagen



King Mongkut's University of Technology North Bangkok

Binational PhD in Information Technology & Computer Science

Offering a Thai & a German Doctorate Degree at the same time

from King Mongkut's University of Technology North Bangkok (KMUTNB), a leading Thai Technical University, and FernUniversität in Hagen, Germany's university with the most students.

Thesis supervised, worked out, and written in Thailand or/and Germany under supervisory of both Thai and German Experts.

Contact point at:

Faculty of Information Technology

1518 Pracharat 1 Road, Wongsawang,
Bangsue, Bangkok 10800.

Phone : +662-555-2726

E-mail : sunantha.s@it.kmutnb.ac.th



Vision

- ▶ **Educate students and graduate PhDs which belong to the 10% best and 10% most wanted ones in Thailand**
- ▶ Graduate students with high theoretical and practical knowledge as compared to the world-wide standards
- ▶ Having work experience in the international communities of reserachers and practitionars
- ▶ Showing the right hard- and soft skills in their areas of expertise
- ▶ at no additional costs

Current Problems

- ▶ **Two Killer questions** for most PhD-candidates:
 - What is the scientific merit, my thesis' novelty?
 - How is my work related to similar research in my area in the international community?
- ▶ **Major other problems:**
 - Limited language skills
 - Missing journal publications (with SCOPUS/ISI indexing)
 - Poor basic theoretical knowledge

Arnakul said yesterday the agency has worked with civic groups and city cyclists to improve city infrastructure through a mobile app, called Punmuang, since July.

The app was created by the Green World Foundation, aimed to improve safety of cyclists in Bangkok. Users also can lodge a complaint on a range of issues with the 50 district offices via the app.

The app has about 14,700 subscribers. Of them, about 1,600 use the app each day.

Apart from the app, the BMA's hotline, 1555, received 263 complaints from cyclists of which 63 were solved, Mr Suthon added.

Earlier in July, the Office of the Auditor-General (OAG) asked the BMA to revise its plan to improve or build new bike lanes in the city, saying the existing 8km loop in old town area is underused.

The OAG also said the 28-million-baht budget which had been spent on improving city bike lanes was not worth the investment.

The BMA mulled scrapping the BRT earlier this year after the Bangkok City Council questioned the cost of the service, which resulted in a loss of 1.2 billion baht after six years in operation.

The council found the service was underused and did not really help ease traffic congestion.

ase on life

crane for over 40 years. The birds disappeared from the village after they were hunted by residents.

He said he was happy to see the sarus cranes making a comeback and hoped to see more of them in the wild.

He added the discovery of the chicks proved the cranes could live and breed in the local forest as they did in the past.

Suriya Saengpong, the ZPO acting director, said the organisation has villagers to thank for helping save a species on the brink of extinction. It has also offered to support the local community in the preservation of the cranes.

The organisation has spent around one million baht to buy locally grown organic rice from farmers under the government's scheme to help farmers suffering from a jump in rice prices.

conomic growth will be driven by innovation. "We need to produce more scientists, researchers, technocrats and innovators to compete in a changing world, or the country will lose its competitiveness," he said.

Mr Suchatvee also expressed concern over the latest Programme for International Student Assessment (Pisa) results in which the performance of Thai students in mathematics and science was much lower than in many other Asian countries.

He said it shows Thais are not yet ready to turn the country into an innovative manufacturing nation.

To transform the country according to the government's Thailand 4.0 policy, the workforce needs to create "4.0 citizens" who have innovation skills.

"All Thai universities and academics have to play a crucial role in driving this change. We cannot just wait to follow policies from the Education Ministry. Sometimes, we have to do things ourselves," he said.

Under his plan, CUPT will try to convince top universities in the US and Europe to set up campuses and laboratories in Thailand or sign deals with Thai universities to provide teaching support in key subjects such as nanotechnology, digital technology, robotics, engineering and medicine.

Thailand has the potential to be a leader in international education in this region which may attract top universities, said Mr Suchatvee.

Thailand also has long-term infrastructure projects which will require a qualified workforce in the science and technology fields.

He also urged Thai universities to motivate young people to study sciences by providing a clearer picture of the career path a student can have after graduation.

To encourage more students to pursue studies in sciences and mathematics, more encouragement must be provided starting from primary education.

Parents should also help their children by telling them sciences and mathematics can be fun, he said.



Suchatvee: More science skills needed



Bangkok Post
09/12/2016
Mr. Suchatvee,

President of KMITL and
future chair of the
Council of University
Presidents of Thailand
(CUPD)

Reit

Purchase
and start
comes w
www.me

* Prizes inc
* Lucky dra
* Terms ar

Mer

KMUTNB and FernUniversität are Strong Partners since 2007!

► Strong by cooperation and specialisation

- Limiting the area of research to a single field (Data Networks = Data Mining+ Network/Communication), in which we can be strong and contribute well accepted results to the international communities
- Deploying more human resources in one highly competitive work area
- International supervision, learning English by (daily) use
- Using support of TRF and DAAD to obtain funds

Cont'd.

▶ **Being strong by real teamwork**

- Building flexible, innovative teams and supporting communication among students by suitable events and modern tools (Wiki's, AdobeConnect)
- More mutual discussion, critique and mutual support
- Providing additional knowledge and supervision according to individual needs; the contact point of FernUniverstät will be supporting this idea
- Developing true passion and strong engagement for your research task





Nordrhein-
Westfalen



FernUni Campus 1979 and 2014



FernUniversität in Hagen

- ▶ Founded by the state parliament of North Rhine-Westphalia in 1974
- ▶ The distance teaching university for German-speaking Europe and all German-speaking people worldwide
- ▶ Germany's biggest university, with more than 80,000 students
- ▶ Only university in Germany whose entire degree programme (Bachelor's and Master's) can be studied in part-time mode alongside work and family commitments



Modern Distance Education



Students in Faculties



- Faculty of Law: 12%
- Faculty of Business Administration & Economics: 34%
- Faculty of Humanities and Social Sciences: 40%
- Faculty of Mathematics and Computer Science: 14%

Binational PhD

Prof. (cand. em.) Dr. Dr. Wolfgang A. Halang

General

- ▶ *Ph(ilosophiae) D(octor)* means teacher of philosophy (*licentia docendi*).
- ▶ PhD is an academic degree obtainable by passing an examination.
- ▶ Whom does a PhD degree's quality depend on?
- ▶ There is a wide spectrum of PhD “programmes” ranging from “taught PhDs” over “structured programmes” to solely research-based PhDs.

German PhD

- ▶ The classical German approach is research-based.
- ▶ There are neither tuition fees nor any other costs.
- ▶ There are no restrictions relating to the research's duration.
- ▶ Self-study is expected to make up for knowledge deficiencies.
- ▶ The research results obtained must advance science by an “epsilon”, which bears the risk to fail (mainly by giving up on the way).
- ▶ Classically, the research results are not published before the defence (as journal or conference contributions).
- ▶ The examination comprises presenting a thesis and defending it (usually a “rigorosum” is not required anymore).
- ▶ The thesis is usually published in form of a book.

Binational PhD

- ▶ What is the added value? Higher quality, prestige or is it just a fashion?
- ▶ Actually, more is obtained at almost the same effort.
- ▶ Regrettably, language requirements exist only in rare cases.
- ▶ Two diplomas issued by two universities vs. one diploma issued by each university
- ▶ Two independent degrees issued by two universities in two countries require an individual contract between both universities for every candidate.
- ▶ Such contracts may be rather long and full of over-complicated, superfluous provisions.
- ▶ Some ten years ago I extracted the essential aspects from several contracts, and came up with a short single-page contract.

Cooperation Agreement

- ▶ In lieu of concluding an individual contract for each candidate, KMUTNB and FernUni agreed on the following procedure.
 1. A candidate has to enrol as doctoral student at both universities according to the prevailing regulations.
 2. Indicating the intention to pursue a binational doctorate, the candidate has to pass the admission processes for doctoral programmes as established by the pertaining faculties of both universities.
 3. In the course of these admissions, from both universities one supervisor each is nominated and assigned to the candidate.
 4. The candidate's doctoral research work shall be conducted at both universities.

Cooperation Agreement (cont'd)

5. The respective examination regulations of both universities valid at the time of thesis submission determine the admission to thesis defence and how the latter is carried through. Stipulations (6) and (7) guarantee the reconcilability of both sides' examination regulations.
6. As rapporteurs both supervisors are members of the examination committee at FernUni.
7. The candidate's thesis has to be orally defended both at KMUTNB and FernUni.
8. If the thesis has successfully been defended, the candidate is awarded the degrees *Doctor of Philosophy (PhD)* by KMUTNB, and *Doctor rerum naturalium (Dr. rer. nat.)* by Fern Universität in Hagen.
9. The respective examination regulations of both universities determine the modalities of submitting and publishing the thesis in its final form.

Potential Supervisors in Hagen

<first_name.last_name>@fernuni-hagen.de
www.fernuni-hagen.de/mathinf

- ▶ Prof. Dr. Jörg Desel
 - Software Engineering
- ▶ (Prof. Dr. Dr. Wolfgang Halang
 - Real-Time Systems, Safety-Related Computing, IT Security by Design)
- ▶ Prof. Dr. Jörg Keller
 - Parallel Processing, VLSI, IT Security
- ▶ Prof. Dr. Zhong Li
 - Nonlinear Dynamic Systems, Complex Networks, EMC, Swarm Intelligence
- ▶ Prof. Dr. W. Schiffmann
 - Computer Architectures, Parallel Systems, Cloud Computing
- ▶ Prof. Dr. Herwig Unger
 - Communication Networks, NLP

PhD@KMUTNB

Assoc.-Prof. Dr. Phayung Meesad



King Mongkut's University of Technology North Bangkok

Ph.D. in IT at KMUTNB

- ▶ Thai Program
 - ▶ Regular Program (Day Time Class): DIT (~ 40,000 Baht/Semester)
 - ▶ Special Program (Sat & Sun Class): S-DIT (100,000 Baht/Semester)
- ▶ International Program: Special Program (Evening Class): I-DIT (75,000 Baht/Semester)
- ▶ All Programs are managed by IT Faculty under Graduate College.
 - ▶ Entrance Written Exam & Thesis Proposal Oral Evaluation
 - ▶ English Proficiency requirement as announce by the Graduate College
- ▶ 4 Subjects (12 Credits) Require with GPA ≥ 3.0 before taking Qualifying Examination within 2 years
- ▶ Thesis Proposal can be submitted after passing Qualifying Examination.
- ▶ Thesis Progressive Defense can be taken after passing Thesis Proposal Defense at least 182 days or before final defense at least 30 days.
- ▶ The final defense can be conducted after approval of dissertation topic at least 365 days, after receiving all 36 credits of Thesis enrolled.

Supervisors at IT-KMUTNB

- ▶ Assoc. Prof. Dr. Phayung Meesad: Data Mining, Computational Intelligence, Machine Learning, Data Science, Big Data Analysis, Signal Processing, Business Intelligence.
- ▶ Assoc. Prof. Dr. Sirapat Boonkrong: Network Security, Wireless Network, Cloud Computing, etc.
- ▶ Asst.Prof.Dr. Nattavee Uttakrit: Knowledge Management, Information Security Management, Logistics and Supply Chain Management, and other topics related in IT and MIS.
- ▶ Asst.Prof.Dr. Thippaya Chintakovid: Human Computer Interaction, Knowledge Sharing, Factor Analysis, Web Technology.
- ▶ Asst.Prof.Dr. Maleerat Sodanil : Image Processing, knowledge transfer, Ontology, Semantic, Text Mining, Time Series Analysis.
- ▶ Asst.Prof.Dr. Montean Rattanasiriwongwut : Factor Analysis, Knowledge Management, Ontology, Applied Information Systems, Computer Education.
- ▶ Asst.Prof.Dr. Sakchai Tangwannawit: Customer Relationship Management, Enterprise Resource Planning, Business Information Systems, Applied Information Systems, Computer Education.

Supervisors at IT-KMUTNB (Cont.)

- ▶ Asst.Prof.Dr. Nalinpat Porrawatpreyakorn: Software Development, Software Requirements Analysis, Software Engineering, Knowledge Transfer,
- ▶ Asst.Prof.Dr. Pongpisit Wuttidittachotti: Web Programming, Mobile & Wireless, Data Network, Database Security.
- ▶ Asst.Prof.Dr. Nawaporn Wisitpongphan: Computer Network, Wireless Sensor Network, Vehicular Ad Hoc Networks, Smart Automotive, Routing Protocol, Social Network Analysis.
- ▶ Asst.Prof.Dr. Sunantha Sodsee: P2P Network, Evolutionary Computation, Data Mining, Search Engine Optimization, Recommender System, Information Security.
- ▶ Asst.Prof.Dr. Mahasak Ketcham: Image Processing, Pattern Recognition, Artificial Intelligence.
- ▶ Dr. Pudsadee Boonrawd: Data Mining, Text Mining, Artificial Intelligence, Artificial Neural Network, Ontology, Semantic Web
- ▶ Dr. Sucha Smanchat: Parallel Computing, Distributed Computing, Algorithms, Cloud Computing, Big Data