



**ATPER** สมาคมนักวิชาชีพไทยในภูมิภาคยุโรป  
The Association of Thai Professionals in European Region

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## **ATPER2013 Report**

**31 May – 02 June 2013**

**Stockholm, Sweden**

**Conference agenda (01 – 02 June 2013)**

**Abstracts of presentation**

**Minute of Conference meeting**

**Minute of ATPER members meeting  
(31 May and 02 June 2013)**

**Participant list**

**CVs of presenters**

**(Total 49 pages)**

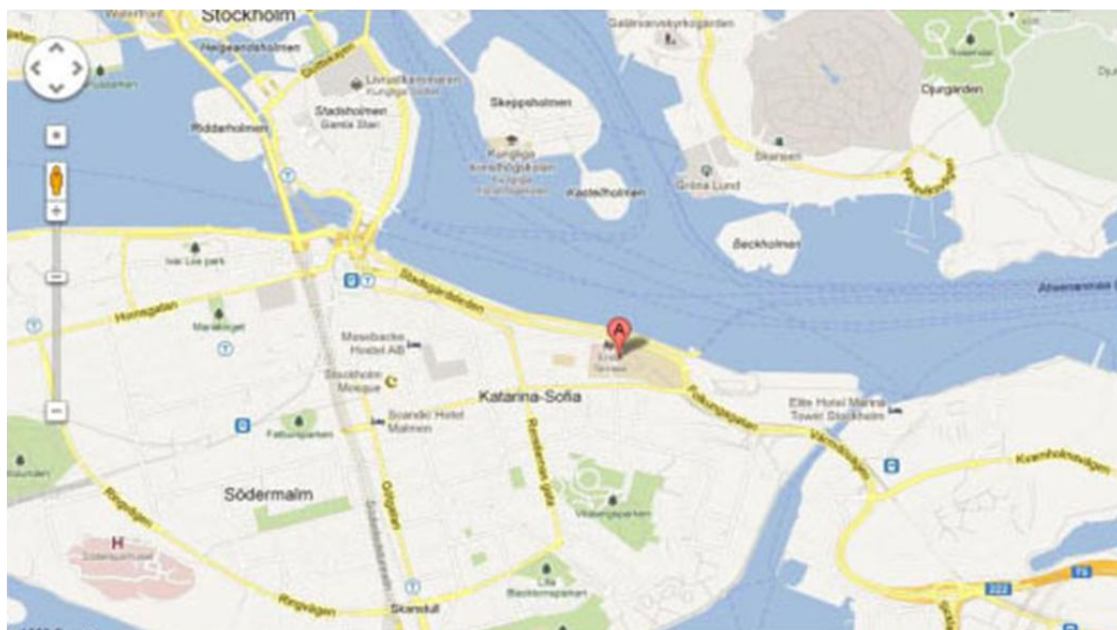


## Ersta konferens & hotel

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# ATPER2013 Conference Agenda

**วันเสาร์ที่ 01 มิถุนายน 2556**

Date and time	Topic	Presenter/Leader
<b>0830 – 0900 น</b>	<b>ลงทะเบียน</b>	
0900 – 0915 น	กล่าวต้อนรับ และ เปิดการประชุม	โดย ดร. อุษา กัลลประวิทย์ อัครราชทูตที่ปรึกษา (ฝ่ายวิทยาศาสตร์และเทคโนโลยี) สำนักงานที่ปรึกษาวิทยาศาสตร์และเทคโนโลยี ณ กรุงบรัสเซลส์
0915 – 0930 น	ATPER	ดร. กฤษณา รุ่งเรืองศักดิ์ ทอริสสัน (นายกสมาคมฯ)
0930 – 0950 น	แนวทางการพัฒนาความร่วมมือทางวิชาการระหว่างนี้ กรีซชาติไทยในยุโรปกับสถาบันอุดมศึกษาไทย	คุณอาภรณ์ แก่นวงศ์ รองเลขาธิการคณะกรรมการการอุดมศึกษา
0950 – 1010 น	การบรรยายพิเศษ	ดร. อุษา กัลลประวิทย์ อัครราชทูตที่ปรึกษา สนง. ปว.บช.
1010 – 1030 น	S&T international cooperation of Thailand	คุณสนธิ วรรณแสง ผู้อำนวยการสำนักความร่วมมือระหว่าง ประเทศและวิเทศสัมพันธ์
<b>1030 – 1040 น</b>	<b>พักดื่มชา – กาแฟ สำหรับผู้เข้าร่วมประชุมทุกท่าน</b>	
1040 – 1100 น	Projects with Thai organization	Dr. Laytragoon-Lewin
1100 – 1120 น	HUMAN BODY ENERGY HARVESTING IN WEARABLE SENSORS DEVICES REAL-TIME MONITORING	Dr. Kesorn Pechrach
1120 – 1140 น	Li batteries and beyond: the crucial technologies for becoming the greener planet	Dr. Chutchamon Sirisopanaporn
1140 – 1200 น	Study the ability of distributed power electronics in the PV system to increase the energy output	Dr. Amnaj Chimtavee
1200 – 1220 น	Key steps to achieve 100% renewable electricity (Germany target 2050)	Siriluk Pumirat
<b>1220 – 1320 น</b>	<b>อาหารกลางวัน สำหรับผู้เข้าร่วมประชุมทุกท่าน</b>	
1320 – 1340 น	Evaluation and development of Eucalyptus harvesting supply chain in Thai conditions through work studies and simulations	Nopparat Manavakun
1340 – 1400 น.	Supporting the evaluation of the trustworthiness of Web information using Semantic Web technology	Jarutas Pattanaphanchai
1400 – 1420 น	Effects of pre-cueing on bias during decision making among multiple reach goals	Lalitta Suriya-Arunroj
1420 – 1440 น	The use of oligonucleotides for biological application	Dr. Nittaya Gale
1440 – 1500 น	Genomic studies of the polyketide synthase genes : Generation of a -Based Physical Map of the Red Raspberry Genome	Imerb Punsod
<b>1500 – 1520 น</b>	<b>พักดื่มชา – กาแฟ สำหรับผู้เข้าร่วมประชุมทุกท่าน</b>	

Date and time	Topic	Presenter/Leader
1520 – 1540 น	Rapid Fungal Identification by using Matrix-Assisted Laser Desorption Ionization-Time of Flight (MALDI-TOF) Mass Spectrometry: Focus on Discrimination of <i>Cryptococcus neoformans</i> and <i>C. gattii</i>	Marut Tangwattanachuleeporn
1540 – 1600 น	Development of a Whole-Body Physiologically Based Pharmacokinetics Model for Children with Severe Malnutrition	Dr. Wanchana Ungphakorn
1600 – 1630 น	Experiences and health care needs during the last year of life of older people with End Stage Renal Disease (ESRD) managed without dialysis in Thailand	Wanicha Pungchompoo
1630 – 1700 น	Discussion and Conclusion about today presentations. How these works can be useful for OHEC and MOST?	Dr. Poramate Manoonpong Wasana Hunt คุณอาภรณ์ แก่นวงศ์ ดร. อุษา กัลลประวิทย์
1700 – 1730 น	Group discussion for future collaboration	
<b>1830 น</b>	<b>อาหารค่ำ สำหรับผู้เข้าร่วมประชุมทุกท่าน</b>	
<b>วันอาทิตย์ที่ 02 มิถุนายน 2556</b>		
Date and time	Topic	Presenter/Leader
0930 – 0950 น	Using System Dynamics to optimize High Speed Rail (HSR) benefits: Thailand's case study within the context of the ASEAN Economic Community	Peraphan Jittrapirom
0950 – 1010 น	10,000 years climate history of Lake Kumphawapi, northeast Thailand	Sakonvan Chawchai
1010 – 1030 น	Risk, Reliability, and Uncertainty in Infrastructure Systems	Poom Kongniratsaikul
<b>1030 – 1050 น</b>	<b>พักรับประทานอาหารกลางวัน – กาแฟ สำหรับผู้เข้าร่วมประชุมทุกท่าน</b>	
1050 – 1110 น	The Transfer of Risk in the International Sale of Goods: A Comparative Study between the ULIS, CISG and Thai Law.	Chayanee Srikrajang
1110 – 1130 น	National Security: Past, Present, and Future in Thai Investment Law	Sirichai Mongkolkiatsri
1130 – 1200 น.	Determinants of Bank Capital Structure: Evidence from Thailand. Can standard determinants of capital structure explain Thai Bank Capital Structure?"	Teeranun Newachuen
1200 – 12.10 น.	Discussion and Conclusion about today presentations. How these works can be useful for OHEC and MOST?	รศ.ดร. นงนิจ ลือตระกูล-เลวิน ดร. กามพิศ อักษรไพโร-ซีกส์ คุณอาภรณ์ แก่นวงศ์ ดร. อุษา กัลลประวิทย์
1210 – 1230 น	ปิดการประชุม ATPER2013 Meeting	คุณอาภรณ์ แก่นวงศ์
<b>1230 น</b>	<b>อาหารกลางวัน สำหรับผู้เข้าร่วมประชุมทุกท่าน ก่อนเดินทางกลับ</b>	

## **HUNMAN BODY ENERGY HARVESTING IN WEARABLE SENSORS DEVICES REAL-TIME MONITORING**

**Dr. Kesorn Pechrach Weaver**

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The development of smart miniaturised systems is focused on completely new products and services for specialised applications such as medical and sport technologies. For example, the use of physiological sensor systems for sports applications is an area that is exponentially growing. These sensors provide very valuable information e.g. heart rate, ECG, etc. for a better understanding of the underlying physiological responses and for an accurate monitoring of the training load, training volume and intensity. This information is helpful for trainers/coaches to improve the preparation of athletes, and for physicians to have a better control on the athletes' health. The advances made during the last years in wireless network technologies have resulted in the development Body Sensor Networks (BSNs), that enable wireless communication between several miniaturised body sensor units and a single body central unit worn at athlete's body. These capabilities enhance the interest of the physiological sensor systems, as the data can be captured and analysed in-situ and therefore a real-time monitoring of physiological responses during exercise can be accomplished.

# Li batteries and beyond: the crucial technologies for becoming the greener planet

Sirisopanaporn Chutchamon<sup>†</sup> and Bridel Jean-Sebastien<sup>‡</sup>

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<sup>‡</sup> *Umicore Research, Kasteelstraat 7, B-2250 Olen, Belgium.*

The tremendous increase in consumption has raised serious concern over the limitation of primary energy of which currently over 80% was produced by combustions of fossil fuels and consequently caused the climate change due to significant amount of green-house gas emissions. To overcome this issue, various renewable resources, such as solar and wind energy, are developed to provide the massive generation of green energy. These alternative energy supplies are mainly developed for production of the most convenient form of energy, electricity. Due to the intermittent behavior of electricity, the use of advanced storage systems is mandatory to regulate its utilization. Additionally in response to the needs of modern society, so called “nomad life”, the mobile, autonomous and flexible energy storage systems are vital for the operation of portable electronic devices, electric vehicles, and many other kinds of facilities.

Among the various types of storage technologies, rechargeable Li batteries can store the highest amount of energy in a given weight or volume and have been the technology of choice for small electronic devices in the past decades. But this battery technology will make its largest societal impact as it migrates into automotive technology, revolutionizing cars with electrified drive trains. However those vehicles will be green, only if they are powered with clean energy: the energy that is intermittent, and thus Li batteries are essential for its stationary storage.

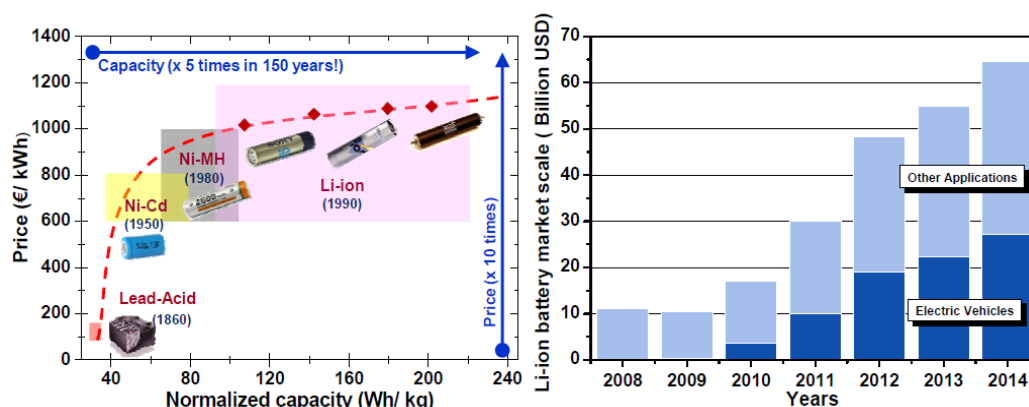


Figure 1: Price of different battery technologies vs. their associated energy density: the data correspond to the date of their first commercialization (left), Forecast of the lithium-ion market (right)

As shown in Fig.1, the Li batteries technology has not yet reach its maturity: the price per energy unit is still high and its demand is continuously increase, particularly after the re-introduction of electric vehicles in the automotive industry. Research into new materials ensures that batteries will continue to improve in power-energy density and rate capability, while lowering cost and increasing safety. In this conference, the existing and future electrode materials for Li batteries will be discussed, based on both academic and industrial perspectives. The main focus will be on ones of the most promising materials in the industry: silicon-based materials. This group of materials has attracted remarkable interests worldwide because they are abundant, non-toxic, light weight (providing high energy density) and safe to operate. The synthesis, characterizations and performances of this particular material<sup>1, 2</sup> will be given as examples of feasible challenges for the R&D projects of novel battery technologies.

After all the battery research is the challenge that Thailand may take into its consideration since it is one of the largest automotive manufacturing countries in Asia<sup>3</sup>: without strong knowledge on the advance storage technologies, it is unpersuasive for the investors to implement plants for electric vehicles in the country due to lack of an important ingredient- a production base for EVs' batteries. Besides, the renewable energy cannot be efficiently utilized and distributed without advance stationary storage system.

<sup>1</sup> Sirisopanaporn, C., (a) *J. Am. Chem. Soc.* **2010**, 133, 1263; (b) *Inorg. Chem.* **2010**, 49, 7446; (c) *J. Mater. Chem.*, **2011**, 21, 17823; (d) *J. Mater. Chem.*, **2011**, 21, 9811; (e) *J. Elec. Soc.*, **2010**, 157, A1309

<sup>2</sup> Bridel, J.S., (a) PAT-120002-WO-PCT; (b) *Chemistry of Materials*, **2010**, 22, 1229; (c) *J. Elec. Soc.*, **2011**, 158(6), A750

<sup>3</sup> International Organization of Motor Vehicle Manufacturers, 2011, <http://oica.net/>

# Study the ability of distributed power electronics in the PV system to increase the energy output

**Amnaj Chintavee**

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## Abstract

Thailand is a developing country that has continuous GDP growth rate about 4 – 5% per year. In the same way, the electrical demand growth is about two times of the GDP that possible lead to the energy crisis in the near future. In 2012, the total power generation capacity in Thailand was 34.27 GW that generate from natural gas nearly 70% and the peak demand was higher than 26 GW that result in the reserve generation capacity is about 8 GW. The shutting down natural gas pipeline from Myanmar in April 2013 that result in reducing power generation about 6 GW and reserve generation capacity to lower than 1GW is the warning signal of the energy insecurity and energy crisis. To increase power generation capacity, coal and nuclear power plants are planned to build in the near future. However, these power plants is usually resisted from the local people. The renewable energy is an appropriate solution for this problems. In Germany, more than 12.5% of electricity consumption is supplied by renewable energy and going to reach 30 % in 2020 for completing Germany's renewable energy goal. From the renewable energy goal, PV plays the important role to supply electricity consumption with accumulated installation more than 32.5 GW and increasing every year. Moreover, German feed in tariff for solar electricity has been continuously reduced from 45.7 €ct/kWh in 2004 to 11.02 €ct/kWh in 2013 for ground mounted system. At 2013 feed in tariff, the solar electricity cost is only 4.41 Baht/kWh that possible to compete with retail electricity price in a few year. In addition, solar electricity price is continuously decreasing while the electricity from fossil such as natural gas and coal is continuously increasing. So, it is possible that solar electricity price can competes with the electricity from natural gas and coal in 5 – 10 year. To reduce solar electricity price to this level, the performance of PV system have to improve and the losses in the PV system must be lessened. In recent year, distributed power electronics in the PV system such as power optimizer and micro-inverter are wildly is extensively introduce in the market. These devices can increase the energy output of the PV system by reducing the energy loss from PV module mismatch and partial shading. Normally, PV modules in the PV system are connected in series to form PV string for increasing the operating voltage and PV strings are connected in parallel to form PV array for increasing the operating current. When PV modules in the PV system are connected in series and parallel until that the operating voltage and current of PV array are in the optimal range to form the optimal operating power for the PV inverter, this PV array is connected to the PV inverter for converting electric current from DC to AC and inject power to the utility grid. However, the power output from the PV array is greatly dropped when the voltage and current output of a PV module in the PV array is lower than other PV modules or a PV module in the PV array is shaded by the surrounding object because the lowest current module is limiting the output current of the PV strings at its current while the lowest voltage string is limiting the output voltage of the PV array. From this point, distributed power electronics is developed to solve this problem in module level with many concepts such as power optimizer and micro-inverter by adding these devices with the PV modules. For power optimizer, it can be classify in 2 groups that are parallel and series power optimizer. For parallel power optimizer, it operates by stepping up the PV module voltage to the optimal voltage about 300 – 400 VDC. So, all PV module with parallel power optimizer in the PV system is connected in parallel with the same voltage to the PV inverter that can solve the problem. For series power optimizer, it operates by varying voltage and current of the PV modules in the string to form the PV string that has the output voltage equal to other string in the array with maximum current. So, all PV string with series power optimizer in the PV array is connected in parallel with the same voltage to the PV inverter that can solve the problem. For micro-inverter, it solve the problems in the different way. The micro-inverter converts electric current of the PV module from DC to AC and inject power to the utility grid that can solve the problem too. In this study, the performance of micro-inverter are parallel and series power optimizer in increasing energy output of PV system are study by comparing with the traditional PV system that without these devices. The study is carried on computer simulation and filed test of the real system in Kassel, Germany. 4 PV system configuration that are string inverter, string inverter with parallel power optimizer, string inverter with series power optimizer, and micro-inverter are studied in this research. We expect the distributed power electronics can increase the energy output of the PV system especially in the high mismatch of PV modules and high partial shading.

## Key steps to achieve 100% renewable electricity (Germany target 2050)

ในอดีตเมื่อประมาณปี ค.ศ. 1990 โลกของเราพยายามมองหาพลังงานทางเลือกเพื่อจะนำมาทดแทนน้ำมันที่ถูกคาดว่าจะกำลังมีจำนวนน้อยลงเรื่อยๆ เทคโนโลยีที่จะเก็บเกี่ยวพลังงานแสงอาทิตย์และพลังงานลมได้ถูกพัฒนาขึ้นอย่างมากในประมาณปี ค.ศ. 2000 และเนื่องด้วยเหตุนี้การไฟฟ้าจึงเสนอราคาซื้อไฟฟ้าจากผู้ผลิตรายย่อยในราคาที่น่าพอใจ ทำให้เอกชนจำนวนมากสนใจการลงทุนไม่ว่าจะเป็น การติดตั้งโซลาร์เซลล์ หรือกังหันลมปั่นไฟ และขายไฟฟ้าที่เหลือจากการใช้ภายในอาคารให้กับการไฟฟ้า ในปี ค.ศ. 2010 นโยบายการซื้อไฟของการไฟฟ้าและการเชื่อมต่อแหล่งผลิตไฟฟ้าจากเอกชนจึงถูกเปลี่ยน ด้วยเหตุผลที่ว่า ณ ปัจจุบัน จำนวนไฟฟ้าที่ถูกใส่เข้าไปในระบบมีปริมาณมากเกินกว่าที่ระบบจะรองรับได้ เราอาจแก้ปัญหานี้ด้วยการเริ่มปิดโรงไฟฟ้าขนาดใหญ่แล้วทดแทนความต้องการด้วยพลังงานทางเลือก แต่เราจะแน่ใจได้อย่างไรว่าพลังงานจะเพียงพอและระบบจะไม่ล่มในช่วงเวลาที่ความต้องการสูง (peak load) เพราะถ้าระบบล่มเพียงแค่นี้ก็เป็นที่ความเสียหายที่เกิดขึ้นจะมีมูลค่าประมาณไม่ต่ำกว่าพันล้านยูโร เช่น ระบบการผลิตในอุตสาหกรรม ห้องฉุกเฉินของโรงพยาบาล หรือความเครียดของประชาชน

งานวิจัยในสายพลังงานในปัจจุบันมีแนวโน้มในทางที่ว่า เป็นไปได้หรือไม่ที่พลังงานไฟฟ้าที่ถูกใช้ในชีวิตประจำวันจะมาจากพลังงานทดแทนทั้งหมด? คำตอบก็คือเป็นไปได้ จากการรวบรวมข้อมูลการใช้ไฟฟ้าตลอดทั้งปีของประเทศเยอรมนี และข้อมูลจำนวนพลังงานลมและแดดที่สามารถเก็บเกี่ยวได้ และการใช้ bio gas ช่วยในช่วง peak load บ่งบอกว่าทรัพยากรไม่ใช่ปัญหา ปัญหาตอนนี้ก็คือเราจะจัดการกับระบบอย่างไร สิ่งที่เป็นในเรื่องนี้ก็คือตัวเก็บสำรองพลังงานและตัวจัดการระบบ พลังงานอาจถูกเก็บสำรองในรูปแบบต่างๆ เช่น พลังงานไฟฟ้าใน battery พลังงานศักย์โดยการปั้มน้ำขึ้นไปเก็บบนที่สูง หรือพลังงานเคมีโดยการผลิต bio gas ส่วนการจัดการระบบพลังงานก็เป็นอีกงานวิจัยที่ยังอยู่ในเฟสของการพัฒนา ตัวอย่างเช่นการจ่ายไฟฟ้าของเอกชนเข้าไปในระบบ ที่ไม่อนุญาตให้จ่ายเฉพาะ active power (P) แต่เอกชนต้องช่วยการไฟฟ้าจ่าย reactive power (Q) ซึ่งเป็นพลังงานที่ขายไม่ได้ เพื่อช่วยเรื่องความเสถียรของระบบ แล้วเอกชนจะรู้ได้อย่างไรว่าต้องจ่าย Q เท่าไหร่ เวลาไหน? วิธีการได้ถูกแจกแจงออกเป็น 3 แบบดังนี้

1. Getting real-time Information from grids
2. Guideline curve given by grids
3. P and Q Self-sensing

วิธีการข้างต้นจะถูกอธิบายและเปรียบเทียบข้อดีข้อเสียในงานสัมมนาวิชาการ ผู้ที่จะได้รับประโยชน์โดยตรงจากความรู้นี้คืออุตสาหกรรมผู้ผลิต inverter (ตัวเชื่อมระหว่างแหล่งผลิตพลังงานและระบบ ซึ่งทำหน้าที่อัดไฟฟ้าเข้าสู่ระบบ)

Siriluk Pumirat (M.Sc.)  
Researcher at Fraunhofer Institute  
for Wind Energy and Energy System  
Technology (IWES)  
Department of Systems Engineering  
and Distribution Grids



## **Evaluation and development of Eucalyptus harvesting supply chain in Thai conditions through work studies and simulations**

Nopparat Manavakun<sup>1</sup>

The demand for pulp and wood chips has recently increased in Thailand. Consequently, forest plantations have become an important source of timber production in the country, particularly Eucalyptus plantations. Due to their astonishing growth performance, climatic adaptability and utilization, plantations of Eucalyptus have rapidly expanded and become the most common commercial tree species. However, the high operating cost of timber harvesting as well as possible labour shortages in the future are the driving force to pay attention on the rationalization and mechanization of timber harvesting. There is currently a lack of the reliable data and information concerning timber harvesting available in case of Thailand. In order to address these problems, the work studies have to be applied. Moreover, accurate time consumption models which achieve from work study may be utilized in different kinds of simulations that aim to discover the better harvesting methods or to optimize the operations. The primary aims of this study are to comprehend the overall existing timber harvesting systems, compare the alternatives, and explore the improvement of forest harvesting systems in Thailand.

According to the results, cross-cutting is the most time consuming and inefficient work phase, special attention should be paid to this work phase in order to improve the overall work efficiency. Whereas, felling and mechanized loading were the proactive work phase among others. The motor manual harvesting operations are very time consuming operations. The time consumption models were constructed as a function of several independent variables. Results indicate that an alternative system and reorganization of work sequence have a great potential to improve the overall system performance. The tree size and log length are the essential key factors that affecting the system productivity. As the small trees harvesting is very costly operations, the introducing of new working idea like multi-handling harvesting may be the future interest for enrichment of the overall productivity.

For further research it would be valuable to expand the range of variables, such as diameter distribution, skidding and forwarding distances. Since the present study was conducted in regular harvesting site, results in the limitations in variables range. Introducing other harvesting technologies, like using chain saws, farm tractors, skidders, or multi-handling harvesters may raise the potential of harvesting as well. As logging impacts were excluded in present study, Reduced Impact Logging (RIL) should be taken into consideration in the long term. The introduction of guidelines which designed to reduce the negative impacts of logging on residual stands and soil and water resources may needed, with the aim of sustaining forests for future harvesting. Forest workers training and education is the feasibility to improve operators' skills, enhance overall timber harvesting efficiency, increase work safety, and reduce accident rates. The improvement in the long term is not only to emphasize on productivity, but also it requires focusing on cost improvement, quality of work, and working safety. Better planning of harvesting operations is also recommended, especially, a focus on the whole value chain management. The forest managers should be able to assess machines for a particular application, the combining of machines to optimise the value chain. Managers should also have knowledge to identify techniques for increasing profit through cost reduction or value adding in the supply chain.

**Keywords:** Timber harvesting, Eucalyptus, supply chain, productivity, work study, simulation

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## Supporting the evaluation of the trustworthiness of Web information using Semantic Web technology

Assessing the trustworthiness of information found on the Web is challenging for at least two reasons. First, as a decentralized, data publishing platform in which anyone can share nearly anything, the Web has no inherent quality control mechanisms to ensure that content published is valid, legitimate, or even just interesting. Second, the format(s) in which Web content is presented to and consumed by people makes it difficult for them to make reliable quality assessments. For example, it is currently difficult, if not impossible, for most Web users to easily determine whether a piece of information published on the Web was actually authored by a particular individual, from genuine (authentic) sources. Moreover, studies have shown that web users base their assessments of the trustworthiness of information they find on the Web on a range of heuristic factors primarily pertaining to its presentation and layout (Fogg et al., 2003). However, such heuristics can be unreliable for a number of reasons. First, the pervasive availability of professionally-designed templates provided with content management platforms means that any information can look good and give the impression of trustworthiness, regardless of its actual quality or source. Second, with the popularity of sharing and re-blogging activities on the Web today, information is often re-contextualized into multiple distinct settings and places before being finally consumed. As a result, Web users are liable to make incorrect assessments, particularly when making quick judgments on a large scale. Therefore, Web users need credibility criteria and tools to help them assess the trustworthiness of Web information in order to place trust in it.

One promising approach pertains to approaches that make available additional information concerning the provenance of the Web content they are browsing. Studies showing that simply displaying the identity and expertise of the author (e.g. name, position), for example, have shown a boost in an individual's confidence pertaining to the trustworthiness of information, and an improvement in the accuracy of their assessments (Rieh & Belkin, 1998)(Wathen & Burkell, 2002). Bizer *et.al.* proposed TriQL.P, a RDF browser, that presents recommended RDF datasets that should be trusted based on trust policies. However, in their work, the user needs to go to a certain Web page, from which the browser can extract Semantic Web content (Bizer, Cyganiak, Gauss, & Maresch, 2005). On the contrary, it is more useful to provide Web users with a tool with which they can look for the information they need while it *automatically* gathers the supportive information to help them evaluate the trustworthiness of Web information.

In order to address this problem, we propose a framework to help users evaluate the trustworthiness of Web information, called TWINE, which automatically gathers information based upon the factors from the studies above. In addition, we propose a prototype tool, which employs the TWINE framework implemented as a chrome extension. The prototype collects metadata using Semantic Web technologies and presents it in a useful way in the context of the users' search for information.

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# Effects of pre-cueing on bias during decision making among multiple reach goals

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When we are free to choose among multiple behavioral options, the available response alternatives are weighed against each other until the decision is reached. According to an emerging view, the neuronal mechanisms of decision making are tightly entangled with the neural mechanisms of motor planning (Cisek & Kalaska, 2010). Regarding multiple decision making criteria, our choice is influenced not only by the objective costs and benefits that are associated with the different options, but can also be biased by other factors. Here we investigate whether the preliminary movement planning can induce choice-biases independent of objective costs or benefits when a preliminary planned movement overlaps with one of the potential action choices.

Monkey and human subjects were trained to perform memory-guided center-out reaches towards previously instructed target positions on a touch screen. The correct target had to be determined from two instructive cues. A pre-cue consisted of two differently colored triangles which appeared at one of the four cardinal directions from the center and which pointed to two opposite directions. The pre-cue indicated, first, the two possible targets in that given trial, located at either 90° clockwise and 90° counterclockwise to the position of the pre-cue. Second, the size of each triangle represented the different probabilities of each target to be instructed (probabilistic task) or the amount of the reward of each target delivered at the end of the trial (amount task). After, a spatially neutral cue was presented, which could be white (free-choice) or equal-colored to one of the two colors of the pre-cue triangles. In case of the colored context cue only the target which corresponded to the equal colored triangle of the pre-cue was rewarded. In case of the white cue both available targets were rewarded with a fixed amount, completely independent of the size of the pre-cue or any previous choice response.

Results from human psychophysics (monkey is still under training) showed that higher probability and reward associated to a rule (clockwise/counter-clockwise) indicated by the size of the pre-cue, subjects responds faster to this alternative. The rule which is more likely later to be instructed, subjects are more likely to select when they are allowed to freely choose (free-choice trials), with shorter reaction times, even though there is no objective advantage from freely selecting this rule (Biasing Effect). Whereas the rule which later will be more highly rewarded, does NOT lead to shorter reaction times, and only weakly increased likelihood of being selected in the free-choice trials.

We conclude that free-choice behaviors is particularly biased when pre-cues allow the planning of the motor response that belongs to the preferred option; if subjects are discouraged from planning a response (since both options have equal chance to be instructed), subjects show little choice bias. Our results provide behavioral evidence that motor planning and decision making are interdependent, thereby supporting the idea that the underlying neural mechanisms overlap.

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Cisek P, Kalaska JF (2010) Neural mechanisms for interacting with a world full of action choices. *Annu Rev Neurosci*, 33, 269-98.

## Keywords:

Action selection, motor planning, decision making, bias, reach, free-choice

# **The use of oligonucleotides for biological application**

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Nucleic acid chemistry has become a very useful tool for biological applications. Fluorogenic probes are important technologies in genetic analysis and diagnostics. DNA HyBeacon probes are ideally suited for post-PCR melting analysis as their fluorescence emission changes significantly on duplex melting. Moreover, in the context of melting analysis, HyBeacons have advantages over other probe based methods as they are devoid of secondary structure. Methods to increase the difference in thermodynamic stability between fully matched and mismatched probe-target duplexes are particularly valuable in forensic analysis, genetic testing and SNP detection by melting analysis. This talk will describe PNA HyBeacons as compared to DNA HyBeacons in term of the synthesis pathway and melting analysis profile. Other nucleic acid applications are the synthesis of green fluorescent protein (GFP) from small pieces of synthetic oligonucleotide.

## **Genomic studies of the polyketide synthase genes : Generation of a -Based Physical Map of the Red Raspberry Genome**

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The red raspberry (*Rubus idaeus*) has morphologic diversity and a small genome size (275 Mb), and is a good model for applications in molecular breeding programmes. Significantly, raspberry serves as a valuable source of anti-oxidants, particularly anthocyanins conferring nutritional health benefits as well as colour to fruits. The biosynthetic pathway producing anthocyanins involves type III polyketide synthase (PKSs), and has been studied in two varieties of red raspberries, resulting in PKS1 has been mapped to chromosome 7 (LG7). This study aimed to produce a physical map of part of chromosome 7 of the European red raspberry (*Rubus idaeus* cv. Glen Moy). Three bacterial artificial chromosome (BAC) clones originating from red raspberry genome were randomly mechanical sheared to generate a set of fosmid libraries in order to assist 454 genome sequence assembly. By combining fosmid ended-pair sequences with resulting 454 sequences, this BAC-based physical map consists of 10 contigs, covering a range of 290 kb in physical length. Several open reading frames (ORFs) have been identified in the BACs. Two ORFs encode polyketide synthase and chalcone synthase (PKS1 and PKS5). All of these sequences were compared with the North America red raspberry *Rubus strigosus* cv. Lathaim and also other related fruits. The map produced represents an important genomic resource for the completion of the red raspberry genome. Furthermore, this physical map will be a useful tool for the comparative analysis of soft fruit genomes and applications in molecular breeding strategies.

**Keywords** Bac-based physical map, anthocyanins, ORFs, PKSs, polyketide synthase, chalcone synthase

**Rapid Fungal Identification by using Matrix-Assisted Laser Desorption Ionization-Time of Flight (MALDI-TOF) Mass Spectrometry: Focus on Discrimination of *Cryptococcus neoformans* and *C. gattii***

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The incidence of fungal infection in human is increasing in worldwide including Thailand because of the rising of immunocompromised hosts, resulting from AIDS, cancer, organ transplant, and auto-immune disease patients. Generally, fungal infection is not harmful but systemic fungal infection can be life-threatening. The time for diagnosis and pathogen identification is very important to rescue a patient who has a systemic infection. Therefore, the novel MALDI-TOF approach is used for fungal identification to reduce the time for identification. Moreover, the application of MALDI-TOF can be developed for direct identification from clinical specimens, intra-species identification or subtyping, and prediction of antifungal drug resistance but these applications still are not perfect, so it need a scientific study to improve the applications.

The collaborated project between Thailand (Chulalongkorn University) and Germany (University Medicine Göttingen) was conducted under the topic “Cryptococcosis in Thai patients: improving subtyping procedures for epidemiology and diagnostics of *C. neoformans* infections”. The preliminary results indicated that MALDI-TOF has efficiency in discrimination the species and subtyping of *Cryptococcus*. *C. neoformans* serotype A was the highest incidence (higher 90%) in clinical samples and environmental samples (pigeon droppings). Currently, there is no data on the prevalence of *C. neoformans* in the South East Asian environment other than from Thailand. Therefore, Thai data must be considered representative for *C. neoformans* prevalence in South East Asia environment.

Finally, I would like to introduce German National Reference Centre for Systemic Mycoses to a participant who is interested in pathogenic fungal field to make collaboration between this center and institute in Thailand. I strongly believe that Thailand will get a benefit from this collaboration.

# Development of a Whole-Body Physiologically Based Pharmacokinetics Model for Children with Severe Malnutrition

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**Background:** Severe malnutrition in children is a problem in both developing and less developed countries. The pharmacokinetics of drugs are affected by several physiological changes associated with malnutrition, such as oedema and decreased renal and hepatic function. Whole-body physiologically based pharmacokinetic (WBPBPK) models have advantages in relating pharmacokinetic parameters to such physiological changes and may be useful to predict drug disposition in malnourished population.

**Aim:** (1) To create a whole-body PBPK model for predicting drug disposition in children with severe malnutrition, using ciprofloxacin (a zwitterionic compound) as a model drug and (2) to investigate the impact of tissue:plasma partition coefficients ( $K_p$ ) predicted with different methods on the predictions.

**Methods:** The WBPBPK model was initially developed for healthy adults and then scaled to healthy and malnourished children. The model comprises 13 physiologically realistic compartments namely artery, venous, lungs, liver, kidneys, gut, adipose, skin, muscle, heart, brain, bone, and spleen. A rest compartment was included in the model to compensate for unaccounted mass of drug. The dynamic processes of drug in each organ/tissue were described using linear ordinary differential equations written in the MATLAB program. Physiological parameters for healthy adults and children aged 6 months to 10 years were compiled from the literature.  $K_p$ (s) were calculated using Poulin models [1], Rodgers' models [2] and the empirical methods [3]. For malnourished children, body weights were predicted using age, height, gender and Z-score taken from the WHO database. Organ/tissue weights were scaled from normal values using scaling factors for each organ. Cardiac output was estimated using body surface area and cardiac index and was subsequently used to calculate organ blood flows. Predictions of pharmacokinetic profiles were compared with observed data taken from the literature.

**Results:** For healthy adults and children, the predicted versus observed concentration-time profiles were well described with intravenous (IV bolus and short infusion) models. Oral predictions were also in good agreement with literature data but peak concentrations achieved faster with a higher dose (1000 mg). Unlike the Poulin model, the concentration-time profiles predicted using  $K_p$  from the Rodgers models and the empirical methods were very similar and closely resembled the observed data. When models were scaled for malnutrition, inter-individual variability was higher, especially during the absorption phase. However, pharmacokinetic profiles were still adequately described.

**Conclusion:** A WBPBPK model was developed successfully for malnourished children. The Rodgers models and the empirical methods are suitable to predict  $K_p$  values for ciprofloxacin.

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**Abstract Title:** Experiences and health care needs during the last year of life of older people with End Stage Renal Disease (ESRD) managed without dialysis in Thailand

**Wanicha Pungchompoo, Richardson A. and Brindle L.**

**Lay Statement:** Symptom experiences and unmet health care needs are an important issue of concern in older patients with ESRD managed without dialysis in Thailand. It has been argued that those patients are a neglected group and as a consequence they are likely to have unmet needs with respect to healthcare and suffer from symptoms that could be better managed.

**Background:** The number of people with end-stage renal disease is growing steadily around the world. In Thailand, patients often have to suffer with unresolved symptoms and complications of ESRD at home. Dialysis is often not provided toward the end of life. This is because the management of ESRD in Thailand is costly and more than half of the population of ESRD patients do not have enough financial resources to access the necessary health care<sup>2</sup>. In order to develop palliative care aimed at improving the quality of life of this group in Thailand knowledge is required about patients' experiences, symptom burden and health care needs as the end of life approaches.

**Objectives:** The study objectives are as follows:

**Phase 1:** To explore experiences and health care needs during the last year of life of older people with ESRD managed without dialysis from the perspective of bereaved relatives in Thailand.

**Phase 2:** To develop/adapt the VOICES (View of informal Carers-Evaluation of Service) questionnaire for use in Thailand.

**Phase 3:** To conduct a pilot survey to test and refine the VOICES questionnaire in Thailand.

**Methods:** A mixed method exploratory design (instrument development model)<sup>3</sup> is being used including

**Phase 1:** A retrospective exploratory interview was used to collect data about older peoples experiences with ESRD managed without dialysis from the perspective of bereaved relatives. Purposive sampling was used to recruit participants from the renal units of two hospitals in Thailand between September to December 2011. Semi-structured interviews with 12 bereaved relatives of elderly ESRD patients managed without dialysis between 5-10 months after death were conducted. Interviews were digitally recorded, transcribed and analysed through Framework Analysis.

**Phase 2:** A cognitive interviewing technique will be applied with a sample of 5-10 bereaved carers using a prototype of the Thai VOICES questionnaire. Data will be analysed by using content analysis.

**Phase 3:** A small scale pilot survey of an interviewer-administered questionnaire with a sample of up to 20 bereaved carers. Data will be analysed using descriptive statistics (SPSS version 17).

**Results:** In phase 1, the experiences and health care needs of older people with ESRD managed without dialysis were explored under four themes (sub-themes) including 1) symptom experiences and impacts (physical, psychological, social, spiritual and financial aspects), 2) symptom control (pharmacological and non-pharmacological management and medical interventions) 3) health service utilization (30 Bath scheme, levels of health service provision, type of cares and information sources) and 4) unmet needs (need for health services, need for information and need for financial support).

**Conclusion:** The qualitative finding revealed important information about symptom experiences and unmet needs of older people with ESRD managed without dialysis in Thailand. The prototype Thai VOICES questionnaire and its pilot survey will be developed and implemented in order that the resulting questionnaire could be used in future to determine the healthcare needs and experiences of this group in a large sample of bereaved carers

**Future work:** The findings from phase 1 will inform the content of the prototype questionnaire to be tested in phase 2 and 3.

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**Proposal for a joint research project**  
**“Using System Dynamics to optimize High Speed Rail (HSR) benefits: Thailand’s case study**  
**within the context of the ASEAN Economic Community”**

The focus of Thailand transport development over the past five decades has been intensely on its road-based infrastructure. Consequently, the nation’s passenger and cargo movements are dominated by road transport. However, there has been a growing interest in rail transport, especially in high speed rail (HSR) projects over the recent years. Four high-speed rail routes consisting of 1,400 kilometers tracks have been embraced by the government into its infrastructure investment package worth 1,000 billion Baht, 80% of which will be invested in the rail transport system. These developments are expected to reduce the nation’s transport cost, its energy usage, the CO<sub>2</sub> emission, and the number of traffic accidents. Additionally, the HSR should provide a viable step to transform the nation toward oil independence. Moreover, the HSR development is considered as a key element to provide movement of goods and people between countries within the ASEAN Economic Community (AEC) and China as part of the Trans-Asian Railways network.

The prospective benefit of HSR is said to be high; however various past experiences show that the unintended effects can threaten the project’s overall benefits. The risks and adversity of these effects, such as induced travel and relocations of residents and workplaces should not be overlooked. For instance, in Japan the introduction of HSR affected the locations of companies’ offices and increased long distance commuting efforts. Thus, the overall success of the Thailand’s HSR development will hinge on how its effects within land use and transport system are understood and how they are addressed.

This proposal is seeking an opportunity to establish funding and collaboration between the Research Center of Transport Planning and Traffic Engineering, Vienna University of Technical (IVV-TU Wien) and a partner university in Thailand to undertake a 24-month research project on the subject above. The research project aims to develop a policy package that will optimise the benefits of the HSR development in Thailand. The policy package will be developed from the results of HSR assessment, which will be made using an integrated framework that takes into account the development’s impacts to the nation’s social, environment, and economic aspects. For the quantitative evaluation of the HSR implementation we will adapt IVV’s System Dynamics based long-distance travel demand model called LUNA. LUNA has been used to forecast and evaluate long-distance passenger travel demand of the citizens of the EU27 plus Norway and Switzerland. It is able to assess long-term effects of changes in socio-demography, economy, technology, and transport policy. Both the integrated framework and the LUNA model have been applied in EU-funded projects, namely PROSPECTS and ORIGAMI. They will be enhanced and tailored to fit with the case study. Improvements to LUNA will be carried out to include freight transport and ensure its transferability to Asian context. The focus area of this study will be Thailand, with the AEC countries and China as peripheral zones and focuses on the movement of passengers, as well as goods.

The leapfrog development of HSR in Thailand is expected to bring immense benefits to its people. It is inevitable that there are also unintended effects to this development. The overarching questions this research seeks to address are: what are the favourable and undesirable effects of HSR development and how to address the adverse effects? It will build upon the extensive knowledge and experience in transport planning at the IVV and provides an opportunity for exchange of knowledge between Thailand and Europe. The outcome of the project will help to optimize the benefit of Thailand’s HSR development and will be relevant to other AEC countries with similar HSR projects.

LUNA: Simulating the demand for Long-distance travel Using a Non-OD-matrix based Approach  
 PROSPECT: Procedures for Recommending Optimal Sustainable Planning of European City Transport Systems  
 ORIGAMI: Optimal Regulation and Infrastructure for Ground, Air and Maritime Interfaces

## 10,000 years climate history of Lake Kumphawapi, northeast Thailand

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The multiple devastating flood events during recent years in Thailand have drawn attention to the importance of understanding the long-term climate dynamics of the region and to place current events into a longer temporal perspective. The motivation behind this study is to contribute to the knowledge of past climate and monsoon variability in northeast Thailand. Detailed paleolimnological studies can provide baseline information for improving water and agricultural management, add important information for understand the regional climate models and future climatic trends. For this purpose, we use lake sediment as palaeoclimatic archive to reconstruct the variability of monsoon and climate change in the past which influenced environmental condition in Thailand. Sediment sequences from Lake Kumphawapi, the second largest natural lake of northeast Thailand, were analysed for detailed lithostratigraphy, multi-proxy geochemistry and <sup>14</sup>C Chronology. The sedimentary records and their proxies in Kumphawapi imply higher precipitation >10,000 to c. 7000 cal yr BP, caused by a stronger summer monsoon. By 6500 cal yr BP parts of the large lake had transformed into a peatland, while shallow water bodies still occupied the deeper basin until c. 5400-5200 cal yr BP. This development indicates that effective moisture had decreased, possibly as a result of a gradually weaker summer monsoon. The interval between c. 5200 and 3200 cal yr BP seems to have been the driest interval in Kumphawapi's history. Thereafter, the water level increased, which led to the formation of a wetland in the deeper parts. This wetland existed until c. 1600 cal yr BP and Increased human influence in the catchment can only be observed after 600 cal yr BP.

**Contribution to Thailand:** Most people in northeast Thailand rely on monsoon rainfall, and changes in this precipitation influence agriculture, economy, social and public health. Our study provides the first comprehensive paleoclimatic and paleoenvironmental synthesis for northeast Thailand during the Holocene (c. 10,000 cal yr BP); accordingly, it allows discussing past monsoon variability in Thailand and makes detailed comparisons to other Asian monsoon records possible.

### Publications

Wohlfarth, B., Wichuratree, K., Inthongkaew, S., Fritz, S.C., Blaauw, M., Reimer, P.J., Chabangborn, A., Löwemark, L., **Chawchai, S.**, 2012. Holocene environmental changes in northeast Thailand as reconstructed from a tropical wetland. *Global and Planetary Change* 92-93, 148-161.

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บทคัดย่อเพื่อสมัครเข้าร่วมงานประชุม ATPER2013  
โดย สมาคมนักวิชาชีพไทยในยุโรป (ATPER) วันที่ 1-2 มิถุนายน 2556 ณ กรุงสตอกโฮล์ม ประเทศสวีเดน

ชื่อหัวข้อ (ภาษาไทย):  
ความเสี่ยง ความน่าเชื่อถือ และความไม่แน่นอนของระบบโครงสร้างพื้นฐาน

ชื่อบทความ (ภาษาอังกฤษ):  
**Risk, Reliability, and Uncertainty in Infrastructure Systems**

บทคัดย่อ:  
ในสังคมยุคปัจจุบัน มนุษย์มีความจำเป็นต้องพึ่งพาระบบโครงสร้างพื้นฐานที่ซับซ้อนและยากที่จะเข้าใจ ยกตัวอย่างเช่น ระบบไฟฟ้า ระบบการขนส่ง ระบบการสื่อสารและระบบคอมพิวเตอร์ เป็นต้น ระบบต่างๆเหล่านี้ต่างต้องพึ่งพากันเป็นเครือข่าย การที่ระบบใดระบบหนึ่งเกิดการชำรุด หรือเกิดข้อผิดพลาดขึ้นมา อาจส่งผลกระทบต่อระบบอื่นๆต่อไปเป็นวงกว้างได้ ดังนั้นความเสี่ยง ความน่าเชื่อถือ และความไม่แน่นอนของระบบเหล่านี้จึงมีความสำคัญกับสังคมมนุษย์อย่างไม่ต้องสงสัย

นอกจากนั้น ภัยพิบัติของโลกที่เกิดขึ้นในอดีตที่ผ่านมาไม่นาน ได้ก่อให้เกิดการตระหนักถึงความสำคัญของความเสี่ยง ความน่าเชื่อถือ และความไม่แน่นอนของระบบโครงสร้างพื้นฐานเหล่านี้ ตัวอย่างภัยพิบัติดังกล่าวได้แก่ การระเบิดของแท่นขุดเจาะน้ำมันดีพวอเตอร์ฮอไรซัน ประเทศแม็กซิโกในปีพ.ศ. 2553, เหตุการณ์รั่วไหลของเตาปฏิกรณ์นิวเคลียร์ฟูกูชิมะ-ไดอิจิ ประเทศญี่ปุ่นในปีพ.ศ. 2554, เหตุการณ์ไฟฟ้าดับในระดับวงกว้างในประเทศอินเดียในปีพ.ศ. 2555, และโอกาสในการเกิดเหตุการณ์ขาดแคลนไฟฟ้าในประเทศไทยในเดือนเมษายนปีพ.ศ. 2556 ที่จะถึงนี้

ในสังคมที่กำลังพัฒนาอย่างรวดเร็วเช่นสังคมไทย ระบบโครงสร้างพื้นฐานได้มีการพัฒนาอย่างรวดเร็วและต่อเนื่อง การศึกษาถึงความเสี่ยง ความน่าเชื่อถือ และความไม่แน่นอนในบริบทของสังคมไทย เป็นสิ่งที่สำคัญในการป้องกันอันตรายของสังคมไทยที่สามารถเกิดขึ้นในอนาคต

ในการเข้าร่วมงานประชุมครั้งนี้ ผู้นำเสนอได้คาดหวังถึงการพูดคุยในเชิงวิชาการในหัวข้อที่เกี่ยวข้อง แลกเปลี่ยนความคิดเห็นในเรื่องของมาตรฐานและศัพท์ทางวิชาการของสาขาที่เกี่ยวข้อง รวมถึงการนำเสนอผลงานทางวิชาการและวิทยานิพนธ์ระดับปริญญาเอกของผู้นำเสนอ จากมหาวิทยาลัยดุยส์บวร์ก-เอสเซน ประเทศเยอรมนี โดยเฉพาะหัวข้อที่เกี่ยวกับมาตรฐานที่ได้รับการยอมรับจากนานาชาติ และข้อเสนอของกรอบความคิดที่สามารถนำมาใช้ปฏิบัติได้อย่างเป็นรูปธรรม

ผู้เสนอยังได้คาดหวังอีกว่า ผลของการประชุมในครั้งนี้จะสามารถนำไปปรับใช้ได้กับแนวทางพัฒนาระบบโครงสร้างพื้นฐานในประเทศไทยในอนาคต รวมไปถึงการนำระบบที่มีอยู่แล้วในสังคมไทยมาใช้เป็นกรณีศึกษาในเชิงวิชาการ

ผู้นำเสนอ: นายภูมิ คณินริตติชัยกุล

## **The Transfer of Risk in the International Sale of Goods: A Comparative Study between the ULIS, CISG and Thai Law.**

Chayanee Srikrajang under supervision of Dr. Christopher Kee (The University of Aberdeen)

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Economic policy and legislation plays an important role in many aspects of global society, including the ASEAN countries. In 2015, the ASEAN Economic Community (AEC) will be established with the aim of building a single market and production base which has a free flow of goods, services, investment, skilled labour and capital. This new economic community will pose a number of challenges and opportunities for ASEAN and its member states. To move the idea of the AEC forward it is necessary that the laws, regulations and economic policy of ASEAN countries should be reformed in order to facilitate trade and investment growth under the AEC. It is apparent that, however, the transfer of risk in contract of sale involve carriage of goods provision under Thai law is likely to be uncertainty, which has become an increasingly significant obstacle for conducting international business transactions in Thailand. Therefore, the provision of transfer of risk under Thai law needs to be reformed by identifying whether the ULIS or CISG provides the more culturally sensitive model to the Thai legal system. This research is a critical comparative study of the transfer of risk in the international sale of goods between the ULIS, CISG and Thai law. It compares and critically evaluates the efficiency and flexibility of the transfer of risk provision under the CISG, ULIS and Thai sales law in order to identify if: there should be reform in Thai system and, the ULIS or CISG provides a model that is sensitive to the legal origin of the state. The research methodology is based on a comparative case study of risk under the transfer of risk under the ULIS and CISG, which allow the researcher to identify the benefits and disadvantages of the models in legal abstract. A qualitative review of the ULIS and CISG case law are undertaken to identify these benefits as well as identify the flexibility of the framework when implemented. However, as this discussion is determining if either the ULIS or CISG provides a persuasive model of codification in developing countries, it is then necessary to apply a socio-legal approach to the Thai case study.

# National Security: Past, Present, and Future in Thai Investment Law

Sirichai Mongkolkiatsri<sup>1</sup>

National security, in an investment context, is generally applied and invoked to safeguard host States when their essential interests are threatened.<sup>2</sup> However, under investment law host States also have an obligation to protect foreign investors' rights, as well as their own states interests. Considering the protection of investment granted to foreign investors nowadays, this is not limited only with respect to investment law; but they are also protected under human rights law,<sup>3</sup> particularly in the aspect of right to property. In most of the BITs,<sup>4</sup> the term investment pertains to any kind of assets such as moveable and immoveable properties, intellectual properties, shares, and claims to money. Hence, when a host State adopts measures to protect its essential interests under the national security exception, these adopted measures may adversely affect foreign investors' properties. This research will further examine the development of human rights law in relation to the protection of foreign investors. Finally, this article will examine national security in the context of Thai investment law at both national and international levels.<sup>5</sup> This part will explore how Thailand applies national security and whether its application is compatible at international level, particularly under its BITs. Considering national security and protection of foreign investors, this article will also raise awareness to the Thai authorities in the application of national security when they would like to introduce or amend its model bilateral investment treaties (BITs). This awareness will create the legitimacy of adopted measures for Thailand when it has to protect its essential interests. This will ensure compatibility with international law, allowing Thailand to protect its national interests, and also the interests of foreign investors.

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<sup>1</sup> PhD candidate at the Centre for Energy, Petroleum and Mineral Law and Policy (CEPMLP), University of Dundee, a lecturer at Bangkok University, Thailand

<sup>2</sup>This term can mean public order, public interest, and public health. For public health, it might appear in the term of 'extreme emergency'. See United Nations, 'The Protection of National Security in IIAs', in United Nations Conference on Trade and Development (ed.), *UNCTAD Series on International Investment Policies for Development* (New York: United Nations, 2009) 77. For instance, the Agreement between The Government of The Arab Republic of Egypt and The Government of The Republic of India For The Promotion and Reciprocal Protection of Investments 1997, Article 11(2) states that: "Notwithstanding paragraph (1) of this Article nothing in this Agreement precludes the host Contracting Party from taking action for the protection of its essential, security interests or *in circumstances of extreme emergency* in accordance with its laws normally and reasonably applied on a non-discriminatory basis."

<sup>3</sup>General Assembly, United Nations, "Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie" United Nations A/HRC/14/27 9 April 2010.

<sup>4</sup>For instance, Article 1(a) of the US-Argentina BIT 1994 states:

"investment" means every kind of investment in the territory of one Party owned or controlled directly or indirectly by nationals or companies of the other Party, such as equity, debt, and service and investment contracts; and includes without limitation:

- (i) tangible and intangible property, including rights, such as mortgages, liens and pledges;
- (ii) a company or shares of stock or other interests in a company or interests in the assets thereof;
- (iii) a claim to money or a claim to performance having economic value and directly related to an investment;
- (iv) intellectual property which includes, inter alia, rights relating to: literary and artistic works, including sound recordings, inventions in all fields of human endeavor, industrial designs, semiconductor mask works, trade secrets, know-how, and confidential business information, and trademarks, service marks, and trade names; and
- (v) any right conferred by law or contract, and any licenses and permits pursuant to law;

<sup>5</sup>For instance, Foreign Investment Act and Foreign Business Act.

# Determinants of Bank Capital Structure: Evidence from Thailand

## Can standard determinants of capital structure explain Thai Bank Capital Structure?

*Teeranun Newachuen*

*Stockholm University School of Business*

*Stockholm Sweden*

### **Abstract:**

Capital structure is important and has influences for firms both in bank and non-finance in terms of the return on a company earns for shareholder and a condition of a firm that can survive in recession. Bank's capital structure is difference from non-financial firm because banks have been controlled by regulation and the characteristics of banks are distinction from non-financial firms. After Financial crisis in 1997, Thailand banking sector was restructured and the bank's regulations were improved. This research aimed to study whether standard determinants of capital structure of non-financial firm can be applied to banks in Thailand during the years 2004-2011. The Ordinary Least Square (OLS) and the Least Square Dummy Variables (LSDV) were employed to examine the determinants of bank capital structure. The result suggested that in the cases of Thai bank, determinants of capital structure had little explanatory power for both book and market leverage. The direction of influences did not perform as expected in some determinants (such as collateral). When decomposing bank leverage into non-deposit liability and deposit liability, the result found that Thai commercial banks have better access to debt market.

**Keywords:** bank capital structure, determinants of bank capital structure, leverage, regulations, financial crisis

## รายงานการประชุม ATPER2013

### ดร. อุษา กัลลประวิทย์ (อัครราชทูตที่ปรึกษา ฝ่ายวิทยาศาสตร์และเทคโนโลยี ณ กรุง บรัสเซลส์) (Office of Science and Technology Counsellor, OSTC)

กล่าวเปิดงาน โดยแจ้งให้ทราบว่า การประชุมปีนี้ ทาง สวทช. ให้การสนับสนุนไม่ได้ เนื่องจากปัญหา  
การลดงบประมาณ

งบประมาณวิจัยเพิ่มจาก 0.25 เป็น 1-2 เปอร์เซ็นต์ แต่ไม่ยืนยันว่าจะเป็นจริงมากน้อยแค่ไหน เพราะ  
ไม่นานหลังจากทราบข่าวนี้ มีข่าว สวทช. ถูกตัดงบวิจัย

ระบุว่ารุ่นน้องวิจัยอย่าหมดกำลังใจ ให้คิดโครงการวิจัยใหญ่ที่สามารถนำไปสู่อุตสาหกรรม อย่าคิด  
โครงการเล็ก โอกาสยังมีมากมายในระดับ EU สำหรับน้องๆ ควรเก็บความสัมพันธ์กับพี่ๆ ATPER  
เอาไว้ สำหรับความร่วมมือหรือ connection ในอนาคต

น้องๆ ที่กำลังจะจบกลับไปประเทศไทย จะเป็นกำลังรุ่นใหม่ หากมีปัญหา อย่าท้อถอย ขอให้มีความ  
หวังด้านวิทยาศาสตร์และเทคโนโลยี

### Dr. Krisna Rungruangsak-Torrissen (ATPER President, Principal Research Scientist – Institute of Marine Research, Ecosystem Processes Research Group, Norway)

กล่าวแนะนำ ATPER ทีมงานและกรรมการ website และ facebook ของสมาคมฯ โดยสมาคมฯ  
เกิดขึ้นจากการสนับสนุนของ สกอ. (OHEC) และ สวทช. (NSTDA) ภายใต้โครงการ RBD สำหรับปี  
นี้ได้รับการช่วยเหลือจาก OHEC 200,000 บาท และ OSTC เป็นค่าอาหารเย็น

ถึงปีนี้ได้รับการช่วยเหลือน้อย แต่ ATPER สามารถจัดประชุมได้ เนื่องจากการเก็บงบจากปีที่ผ่านมา  
สำหรับการปฏิบัติงาน รวมทั้งการประชุม แต่ละปี จำเป็นต้องได้รับงบอย่างน้อย 8-900 000 บาท

ถ้า ATPER ไม่ได้งบ ก็คิดว่าปีหน้าคงไม่ได้จัด สำหรับปีนี้เข้าใจว่าจะขาดทุน ผู้เข้าร่วมประชุม  
อาจต้องจ่ายเองบางส่วน แต่ได้รับเงินจาก สกอ. ช่วยในการประชุม 200 000 บาท ทำให้ไม่ขาดทุน

แจ้งการเปลี่ยนชื่อใหม่ของสมาคมฯ ซึ่งหลังจากการประชุมในวันที่ 2 มิถุนายน ได้แก้ไขชื่อนี้

ชื่ออังกฤษ The **A**ssociation of **T**hai **P**rofessionals in **E**uropean **R**egion (**ATPER**)

ชื่อไทย สมาคมนักวิชาชีพไทยในภูมิภาคยุโรป

ผลงานที่เกิดขึ้นหลังจากมี ATPER คือ

Website & facebook

โครงการสอน

โครงการวิจัย และผลงานตีพิมพ์

บทความ 3 บทความใน newsletter ของ สวทช.

Workshops

นอกจากนี้ ดร. กฤษณา นำเสนอผลงานตีพิมพ์ที่เกิดขึ้นจากโครงการที่ท่านทำร่วมกับสถาบันใน  
ประเทศไทย

## คุณากรณ์ แก่นวงศ์ (รองเลขาธิการ สำนักงานคณะกรรมการการอุดมศึกษา, สกอ.)

นำเสนอข้อมูลปรับปรุงล่าสุดเรื่อง “แนวทางการพัฒนาความร่วมมือทางวิชาการระหว่างนักวิชาชีพไทยในยุโรปกับสถาบันอุดมศึกษาไทย” รวมถึงความท้าทายของความร่วมมือภายใต้ข้อจำกัดของงบประมาณ

ระบบอุดมศึกษาต้องเป็นสากล (international) ไม่ได้ตั้งเป้าหมายเฉพาะระยะใกล้ในระดับอาเซียน แต่รวมถึงการตั้งเป้าหมายระยะไกลในระดับโลก ดังนั้นต้องพร้อม เช่น เรื่องการใช้ภาษา

นโยบายด้านการอุดมศึกษา

ภาพปัจจุบันการอุดมศึกษาไทย ประกอบด้วย 80 สถาบันอุดมศึกษารัฐ, 71 สถาบันอุดมศึกษาเอกชน, 21 วิทยาลัยชุมชน (เน้นความต้องการของท้องถิ่นและชุมชน)

ความร่วมมือ bilateral and multilateral ระดับเพื่อนบ้าน (ลุ่มแม่น้ำโขง) GMS, ระดับอาเซียน ASEAN, ระดับ SEAMED, ASEM, APEC, ASEA-UNINET, UMAP, ASEAN DUO, WTO

Discussion:

ความร่วมมือด้านการส่งเด็กนักศึกษาไทยมาฝึกงานในสถาบันยุโรป ระยะเวลาการฝึกงานควรมีระยะเวลาที่เหมาะสม ทำให้เกิดประโยชน์และเรียนรู้ เช่น 6 เดือน (ถ้า 2 เดือน สั้นเกินไป ไม่เกิดประโยชน์)

ดร. อุษา เสนอแนะให้ทาง สกอ. มีทุนให้สำหรับการฝึกงานที่มีระยะเวลายาว จะทำให้นักเรียนที่เรียนอยู่ เมื่อเรียนจบหลังฝึกงานแล้ว สามารถใช้ความรู้หรือการทำวิจัยที่สอดคล้องกับความต้องการของสังคมในประเทศไทย

บทบาทของ สกอ. คือการประสานให้เกิดความร่วมมือต่างๆ รวมถึงนักวิชาชีพไทยในต่างประเทศกับสถาบันอุดมศึกษาด้วย โดยคลังสมองของไทยในต่างแดน จะช่วยยกระดับคุณภาพการศึกษาไทย

มีความจำเป็นต่อการพัฒนาความร่วมมือกับ ATPER, ATPAC, ATPIJ แต่งบประมาณลดลงอย่างน่าเศร้าใจ

ข้อเสนอแนะ สำหรับทาง ATPER เพื่อทำ showcase

ริเริ่ม โดยหรือความร่วมมือกับไทย ผ่านโครงการความร่วมมือที่ได้ดำเนินการร่วมกัน

ดำเนินการ โดยรวมกลุ่มผู้เชี่ยวชาญ ATPER และ จัดทำโครงการในลักษณะ สกอ. และ สถาบันอุดมศึกษาไทย ร่วมกันสนับสนุน

ผลงาน โดยการมีส่วนร่วมพัฒนา

## ดร. อุษา กัลลประวิทย์

เล่าถึงภาพรวม และโอกาสของการสนับสนุน ช่องทางของทุนวิจัยภายใต้ EU ภายในกรอบความร่วมมือ มีทุนฝึกอบรม

สำนักงานที่ปรึกษาวิทยาศาสตร์และเทคโนโลยี (สำนัก ปว.) เริ่มเปิดที่อเมริกาเป็นแห่งแรกในปี 2532 เพื่อเสาะแสวงหาความร่วมมือ

การขยายเครือข่ายนักวิชาชีพไทยในยุโรป ไม่ค่อยประสบความสำเร็จ ซึ่งปัญหาอาจเนื่องมาจากการเป็นประเทศเล็กประเทศน้อย การรวมตัวค่อนข้างยาก นักวิชาชีพทางยุโรป ซึ่งเป็นนักวิจัย



เต็มตัว ไม่มีเวลาหยุดให้นานๆ แตกต่างจากนักวิชาชีพไทยในอเมริกาซึ่งเป็นอาจารย์ในมหาวิทยาลัย และมีวันหยุดยาว

ขอให้ทางสมาคมฯ ดำเนินงานต่อไป อย่าท้อถอย ขอให้ช่วยเหลือประเทศไทยต่อไป โดยไม่คำนึงว่าจะได้รับความร่วมมือจากรัฐบาลไทยหรือไม่

## **คุณ สนธิ วรรณแสง (ผอ. สำนักงานความร่วมมือระหว่างประเทศและวิเทศสัมพันธ์ ประเทศไทย)**

อธิบายนโยบายและโครงสร้างของกระทรวงวิทยาศาสตร์และเทคโนโลยี

การจัดรูปแบบกระทรวงใหม่

ตัวอย่างของโครงการต่างๆ จากหน่วยงานต่างๆ ที่มีการจัดบให้ 47 โครงการ

ขอ feedback จาก ATPER ว่าต้องการความช่วยเหลือมากน้อยแค่ไหน และมีความต้องการจะทำอะไร ซึ่งควรจะต้องสอดคล้องกับโครงการที่เป็นความต้องการของประเทศไทยด้วย (จากรายการ 47 โครงการของทางหน่วยงานไทยที่นำเสนอให้ทราบ เอกสารของกระทรวงที่คุณสนธิ นำเสนอ) สำหรับนักวิชาชีพที่มีโครงการที่สอดคล้องกับโครงการที่นำเสนอนี้ สามารถติดต่อโดยตรงได้ที่ คุณสนธิ

[sonthi@most.go.th](mailto:sonthi@most.go.th) หรือ [sonthivannasaeng@gmail.com](mailto:sonthivannasaeng@gmail.com)

ที่ทำงาน สำนัก ปว. ที่ญี่ปุ่น ปิดไปแล้ว แต่จะเปิดใหม่ที่จีน ที่ปักกิ่ง ส่งคนไปดูงานก่อน 1 ปี แล้วดูผลงาน ประเมิน มีเปิดสำนัก ปว. ที่เกาหลีด้วย ก็จะประเมิน 1 ปีเช่นเดียวกัน อาจย้ายไปเกาหลี (ยังมีความไม่แน่นอน)

## **Associate Professor Nongnit Laytragoon-Lewin (Department of Oncology, Rudbeck Laboratory, Uppsala University, Sweden)**

แนะนำหลักการในการทำโครงการร่วมกัน

Information  
Personality  
Trust  
Funding  
Win-win situation

### **การนำเสนอผลงานของนักวิชาชีพต่างๆ**

รายละเอียดของงานดูได้จาก Abstracts ซึ่งได้แนบมาพร้อมกับรายงานฉบับนี้

CVs ของผู้เสนอผลงาน ได้แนบมาพร้อมกับรายงานฉบับนี้

### **สรุปการจัดกลุ่มของผลงานที่เสนอในที่ประชุม**

ประกอบด้วย 4 กลุ่ม โดยมีวัตถุประสงค์คือ

Description of each group  
Point of contact  
Get to know each other

## 1. Science group

Point of contact: Dr. Nongnit Laytragoon-Lewin / Mr. Kittichate Visuttijai

## 2. Energy group

Point of contact: Dr. Kesorn Pechrach / Mr. Siwanand Misara

## 3. Law group

Point of contact: Ms. Chayanee Srikrajang / Mr. Sirichai Mongkolkiatsri

## 4. Transportation group

Point of contact: Mr. Peraphan Jittrapirom / Mr. Poom Kongniratsaikul

รายละเอียดของแต่ละกลุ่มได้แสดงไว้ที่ ATPER website (ATPER Portfolios)

### คุณอาภรณ์ กล่าวปิดงาน

การประชุมครั้งนี้มีความน่าสนใจมาก จะทำอย่างไรให้พวกเราเข้าไปมีส่วนร่วมในโครงการต่างๆ ของประเทศไทย เนื่องจากหลายโครงการที่มาเสนอนี้ มีความน่าสนใจ และ อยู่ในความต้องการของประเทศไทย

ด้านสังคมศาสตร์ ด้านกฎหมายเป็นหัวใจสำคัญ เรื่องนี้เป็นจุดอ่อนของประเทศไทย (เช่น กฎหมายระหว่างประเทศ กรณี เขาพระวิหาร) เรื่องกฎหมายมีความซับซ้อน แต่ทางไทยเรายังไม่มีการเตรียมตัวที่ดี จะทำให้ประเทศไทยเรามีความเสียหาย

ดีใจที่ ATPER มีสมาชิกเพิ่มขึ้น ที่เป็นรุ่นเยาว์ สำหรับผู้ที่ทำงานแล้วก็ให้กำลังใจ ให้มามีส่วนร่วมในโครงการของไทย สำหรับผู้ที่กลับไป หรือจะไม่กลับ ก็จะเป็นคลังสมองของประเทศไทยต่อไป

ทาง สกอ. และกระทรวงวิทยาศาสตร์ จะสนับสนุน ATPER โดยทาง สกอ. มีความมั่นใจว่า จะสนับสนุน และคงไม่น้อยไปกว่าที่เห็น (ไม่ต่ำกว่า 200 000 บาท ต่อปี)

## ประชุมสมาชิกต่อ หลังการประชุม ATPER2013

**ดร. กฤษณา** เสนอแนะทำเอกสารรายงานของการประชุมครั้งนี้ ในแบบรูปเล่ม ประกอบด้วย

Agenda และรายงาน  
Abstracts  
CVs  
Participant list with e-mail addresses  
รายงานการประชุม

**คุณ นิตยรักษ์ ชมชื่น** และทีมงาน รวบรวมเอกสารสำหรับทำรายงาน



ขอให้ปรับปรุง CV ของสมาชิกใน website โดย CV ที่เขียนควรเป็นแบบที่ทุกคนสามารถเปิดอ่าน และยอมรับให้ download ได้ โดย **คุณ ติวานันท์ มิสระ** จะเสนอรูปแบบ template ของการจัดทำ รายงาน แล้วส่งให้คุณนิตยรักษ์

สำหรับข้อมูล 47 โครงการที่คุณสนธิเสนอเอาไว้ คุณนิตยรักษ์จะประกาศทาง ATPER website เพื่อให้ผู้ที่สนใจเสนอความคิดเห็น และเสนอโครงการที่สนใจ หลังจากนั้น ATPER จะรวบรวม และสรุปผลส่งให้คุณสนธิ เพื่อดำเนินงานต่อไป และขอให้คุณสนธิแจ้งผลให้ทาง ATPER ทราบด้วย

ในกรณีที่เจ้าของโครงการติดต่อโดยตรงกับคุณสนธิ ขอให้แจ้งให้ทาง ATPER ทราบด้วย (โดยส่งผ่าน [contact@atper.eu](mailto:contact@atper.eu)) เพื่อจะได้ทราบความเป็นไปของโครงการนั้นๆ ว่าจะได้รับการตอบรับ และเกิดโครงการหรือไม่

ขอให้สมาชิกที่จะกลับไปเยี่ยมประเทศไทย ติดต่อคุณสุดาพร อิมเจริญ (สกอ.) โดยติดต่อที่ [sdp\\_ohc@hotmail.com](mailto:sdp_ohc@hotmail.com) เพื่อช่วยติดต่อประสานงาน หากต้องการนำเสนอผลงาน จัดสอน และช่วย promote ATPER ด้วย รวมถึงการติดต่อแหล่งงานหรือกระทรวงอื่นๆ เพื่อการขอสนับสนุนงบประมาณ

**ดร. กฤษณา** เตรียมสไลด์ นำเสนอ ATPER เพื่อที่สมาชิก ที่จะกลับไปเยี่ยมประเทศไทย จะสามารถใช้ promote ATPER ได้

**คุณ นิตยรักษ์** เสนอความเห็น โดยมองว่าถ้า ATPER เป็น consulting company เราควรมีข้อมูลบทความ expert ใส่ไว้ในเว็บไซต์ experts' view and comment

**คุณ Peraphan Jittrapirom** จะช่วยรวบรวมข้อมูล และเขียนเป็นวาระหรือ recommendation ของสถานการณ์ในไทย เช่น เรื่องสิ่งแวดล้อม แหล่งน้ำ ฯลฯ และส่งผ่าน ATPER

**คุณ ติวานันท์** เป็นห่วงว่า ถ้าต้องทำเอกสารมาก คงจะเหนื่อยเกินไป

**ดร. กฤษณา** เน้นว่า สิ่งแรกที่จะต้องทำคือทำโครงการ 4 กลุ่ม เสนอก่อน ส่วนข้อมูลหรือ experts view เราก็ควรทำ เช่น newsletters on website แตรอก่อนได้ ไม่ต้องรีบร้อนกำหนดเวลา แต่ถ้าใครมีเวลา และ อยากร่ง ก็ส่งมาได้เลย

**คุณ ติวานันท์** แนะนำการจัดทำ portfolio ของกลุ่มต่างๆ ที่มีรายละเอียดของ references เวลาไปพบหน่วยงานของไทย จะได้เป็นที่น่าเชื่อถือ โดยใน port-folio ถ้าเป็นไปได้อาจเติมส่วนของงานบริการ เช่น การจัด Training course เป็นต้น

**คุณ นิตยรักษ์** เสนอเรื่องของการติดต่อสมาชิก หรือการค้นหา CVs ของสมาชิก

ปัญหาคือ เราจะเปิดเผยรายละเอียดของสมาชิก มากน้อยแค่ไหน ขณะนี้ถ้าใครจะเข้าไปดู ก็ต้อง login เข้าไปก่อน

ผู้ประสานงานของแต่ละกลุ่ม บุคคลภายนอกสามารถติดต่อได้ CV เบื้องต้น (สถานที่ทำงาน) พร้อมรูป

**ดร. กฤษณา** ตกลงว่า วาระกรรมการ 4 ปี แต่ครั้งนี้จัดแบบปิดบัญชี

หากไม่มีงบประมาณจัดการประชุม กิจกรรมของสมาคมฯ ก็ยังเกิดขึ้นได้ เช่น การสื่อสารข้อมูลไปยังสมาชิก ในกรณีที่ทางไทยมีความต้องการด้านต่างๆ

ดร. งามพิศ ชิกส์-อักษรไพโร รายงาน



# Minute of ATPER members meeting, Stockholm

## 31 May and 02 June 2013

**Attendee:** Dr. Krisna Rungruangsak-Torrissen  
 Dr. Nongnit Laytragoon-Lewin  
 Dr. Ngampis Six-Aksornprai  
 Ms. Wasana Hunt  
 Dr. Kesorn Pechrach  
 Dr. Poramate Manoonpong  
 Ms. Nitayaruk Chomchuen  
 Dr. Jirapha Liangsiri  
 Open panel on June 2<sup>nd</sup> – ATPER members were welcome to join

Comment/Discussion	Responsibility
<p><b><u>Budget/Funding</u></b></p> <p>ATPER 2013 conference was organized mainly from the carry-over from the past years funding (approx. 190,000 NOK). We have received very limited support this year (i.e. 200,000 THB from OHEC and conference dinner from MOST-Brussels).</p> <p>After this conference, ATPER will not have any budget left to organize any activities. This will be hard for ATPER to continue its operation because the main activity to recruit members is the conference.</p> <p><b><u>New ATPER committee &amp; co-ordinators</u></b></p> <p>The term for current ATPER committee will end in 2013. Therefore, the assembly has elected the ATPER committee for the next term of 4 years. It was agreed that most of the committee will be the same due to the on-going registration process. The new ATPER committee are:</p> <p>President: Dr. Krisna Rungruangsak-Torrissen          Vice-President: Dr. Nongnit Laytragoon-Lewin          General Secretary: Dr. Ngampis Six-Aksornprai          IT Secretary: Ms. Nitayaruk Chomchuen          Treasurer: Dr. Jirapha Liangsiri          Public Relation: Dr. Kannika Leelapanyalert          Industry Relation: Mr. Siwanand Misara          Webmaster: Mr. Kittichate Visuttijai</p> <p>The new ATPER co-ordinator is:          Austria and Eastern Europe Co-ordinator: Mr. Peraphan Jittrapirom          The rest of the co-ordinators remain the same.</p>	

**Financial management**

It has been agreed that treasurer will not be the same person as the president. A new account for ATPER will be opened in Switzerland under the name of ATPER – after the registration is complete. The access authorization will be given to the treasurer and vice president. All transactions (except reimbursement for ATPER conference) must be approved by the president prior to the any transfer.

Dr. Krisna  
Dr. Nongnit  
Dr. Jirapha

**Registration of ATPER**

ATPER registration in Thailand was not successful.

Dr. Krisna  
Dr. Ngampis

As original ATPER registration in France has not been dissolute, ATPER will be registered as a new association in France in order to avoid any complications.

English name: The Association of Thai Professionals in European Region (ATPER)

Thai name: สมาคมนักวิชาชีพไทยในภูมิภาคยุโรป

The association together with its new committee will be registered under the Royal Thai Embassy in France.

The logo will be new as well (please see below). It is provided by Ms. Lalitta Suriya-Arunroj.



The details on how ATPER runs its operation will be written in the internal regulations as an example:

All payments will only be performed through transactions via internet banking. All receipts including reimbursement from the conference should be sent to the treasurer for pay out. The summary of transactions will be sent to president and vice president for controlling.

<p><b><u>Disciplinary</u></b></p> <p>As there are common areas of interest among ATPER members, the members are group into 4 disciplinary with a single point of contact (SPOC). In this way, external parties can easily get insight of ATPER and related person. Moreover, the group members have a chance to work closely together.</p> <ol style="list-style-type: none"> <li>1. Science (SPOC: Dr. Nongnit Laytragoon-Lewin) <ul style="list-style-type: none"> <li>• Pure science</li> <li>• Health science</li> <li>• Environmental science / Agriculture</li> </ul> </li> <li>2. Energy (SPOC: Dr. Kesorn Pechrach)</li> <li>3. Law (SPOC: Mr. Sirichai Mongkolkiatsri)</li> <li>4. Transportation (SPOC: Mr. Peraphan Jittrapirom)</li> </ol> <p>The general information and description of each disciplinary are now posted on ATPER website (ATPER Portfolios).</p> <p><b><u>By-law</u></b></p> <p>In order to support ATPER members who work on the research corporations, Mr. Sirichai will provide a Code of Conduct and Contract templates for research corporations. These materials are now available for ATPER members on ATPER website.</p> <p><b><u>Research corporation with Thailand</u></b></p> <p>The list of 47 projects from Science and Technology Ministry will be shared with the members on ATPER website. Any member who is interested in the project can contact Mr. Sonthi Vannaseang directly.</p> <p>ATPER is committed to submit the followings to Science and Technology Ministry (Dr. Usa and Mr. Sonthi)</p> <ul style="list-style-type: none"> <li>• Meeting report</li> <li>• Participant list with contact details</li> <li>• Abstract, PPT presentation and CV of speakers</li> </ul>	<p>Dr. Nongnit Dr. Kesorn Mr. Sirichai Mr. Peraphan Ms. Nitayaruk</p> <p>Mr. Sirichai Dr. Krisna Ms. Nitayaruk</p> <p>Dr. Krisna Ms. Nitayaruk</p>
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Report by Dr. Jirapha Liangsiri



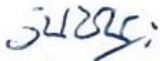





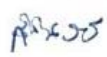



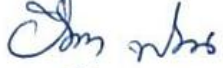
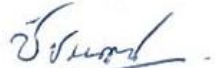
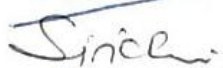
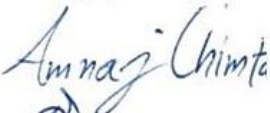

## ATPER 2013 participant list

Name	Details	Email
Dr. Krisna Rungruangsak-Torrissen	Institute of Marine Research, Norway	<a href="mailto:Krisnart@imr.no">Krisnart@imr.no</a>
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Dr. Ngampis Six-Aksornprai	EuroMediCom, France	<a href="mailto:Ngampis.six@online.fr">Ngampis.six@online.fr</a>
Ms. Wasana Hunt	Freelance Process Engineer and Computer Science, UK	<a href="mailto:Wasana_hunt@hotmail.com">Wasana_hunt@hotmail.com</a>
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Ms. Nitayaruk Chomchuen	TCS, Finland	<a href="mailto:nitayaruk@gmail.com">nitayaruk@gmail.com</a>
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Dr. Nittaya Gale	ATDBio Ltd, UK	<a href="mailto:ng5@soton.ac.uk">ng5@soton.ac.uk</a>
Dr. Chutchamon Sirisopanaporn	Commisariat aux énergies alternatives-CEA /LITEN, France	<a href="mailto:ngbridel@gmail.com">ngbridel@gmail.com</a>
Mr. Poom Kongniratsaikul	Automotive Lighting Reutlingen GmbH, Germany	<a href="mailto:poomkongniratsaikul@gmail.com">poomkongniratsaikul@gmail.com</a>
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Mr. Sakonvan Chawchai	Department of Geological Science, Stockholm, Sweden	<a href="mailto:sakonvan.chawchai@geo.su.se">sakonvan.chawchai@geo.su.se</a>
Mr. Sirichai Mongkolkiatsri	University of Dundee, UK	<a href="mailto:sirius_auddy@hotmail.co.uk">sirius_auddy@hotmail.co.uk</a>

Name	Details	Email
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Ms. Jarutas Pattanaphanchai	ECS, University of Southampton, UK	<a href="mailto:shamonk@hotmail.com">shamonk@hotmail.com</a>
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Mr. Amnaj Chimtavee	Fraunhofer Institute for Wind Energy and Energy System Technology IWES, Germany	<a href="mailto:S42010443@hotmail.com">S42010443@hotmail.com</a>
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Dr. Marut Tangwattanachuleeporn	University Medical Centre Göttingen, Germany	<a href="mailto:tp.marut@gmail.com">tp.marut@gmail.com</a>
Ms. Teeranun Newachuen	Stockholm University School of Business, Sweden	<a href="mailto:teeranun_n@hotmail.com">teeranun_n@hotmail.com</a>
Mr. Sonthi Vannasaeng	The international Cooperation Office, Science and Technology Ministry, Thailand	<a href="mailto:sonthivannasaeng@gmail.com">sonthivannasaeng@gmail.com</a>
Dr. Usa Kullaprawithaya	Office of Science and Technology, Belgium	<a href="mailto:lexusa001@gmail.com">lexusa001@gmail.com</a>
Ms. Aporn Kanvong	OHEC, Thailand	via Ms. Sudaporn Imcharoen
Ms. Sudaporn Imcharoen	OHEC, Thailand	<a href="mailto:sdp_ohcec@hotmail.com">sdp_ohcec@hotmail.com</a>




Registration

ชื่อ	ประเทศ	ลายเซ็น
ดร. นิตยา นิลนพ	U.K	
ดร. อรุณ นิลนพ	U.K	
ดร. อธิชา นิลนพ	Sweden	
ดร. อธิชา นิลนพ	Sweden	
ดร. อธิชา นิลนพ	Germany	
ดร. อธิชา นิลนพ	UK	
ดร. อธิชา นิลนพ	Finland	
ดร. อธิชา นิลนพ	UK	
ดร. อธิชา นิลนพ	Germany	
ดร. อธิชา นิลนพ	Sweden	
ดร. อธิชา นิลนพ	Sweden	
ดร. อธิชา นิลนพ	Austria	
ดร. อธิชา นิลนพ	Scotland	
ดร. อธิชา นิลนพ	France	
ดร. อธิชา นิลนพ	UK	
ดร. อธิชา นิลนพ	Germany	
ดร. อธิชา นิลนพ	Germany	



MAB GRAFISKA 08-93 09 08






Profile	Name	Last Name	Summary
 <p>AUSTRIA            Architecture &amp; Planning, Civil Engineering,            Transportation/Trucking/Railroad  <a href="mailto:peeratop@gmail.com">peeratop@gmail.com</a></p>	Peraphan	Jittrapirom	<p><b>Summary of work experiences:</b>Experienced in transport and traffic engineering. Worked in various types of public and private sector projects. Sustainable transport planning, system thinking and system dynamic modelling.</p> <p><b>Work experiences:</b> Research Centre of Transport, Vienna University of Technology, Austria (November 2009 – present)</p> <ul style="list-style-type: none"> <li>- devise a planning methodology for sustainable transportation system using System Dynamics as a tool. The subject of the research is a medium sized city of Chiang Mai, Thailand. The thesis analyses the transport system of the city, defines its sustainable transport indicators, formulates policy scenarios and tests them using a land use-transport System Dynamics model.</li> </ul> <p>Office of Transport and Traffic Policy and Planning, Thailand (June 2009 – August 2009)</p> <ul style="list-style-type: none"> <li>- Worked as a trainee in the department of traffic and public transport system development and the department of traffic and transport information.</li> <li>-Attended various meetings and seminars related to the Bangkok Mass-transit master planning project and Bangkok bus network system master plan project.</li> <li>-Audited Bangkok mass transit interim and final reports. Held meetings with consultants to address issues found.</li> <li>-Updated the micro-simulation model (Dynasim) of Bangkok's historic area from 2005 base year to 2009. Composed the process report and made recommendation on the suitability of the model.</li> </ul> <p>Transport for London, London, England</p>

Profile	Name	Last Name	Summary
			<p>(November 2007 - June 2009)</p> <ul style="list-style-type: none"> <li>-Worked as assistance project manager on Parliament Square Improvement project.</li> <li>-Coordinated and co-chaired project meetings. Arranged internal stakeholders' consultation meetings.</li> <li>-Liaised with designers and architects on various aspects of the projects.</li> <li>-Worked as a traffic engineer on several projects.</li> </ul> <p>Took part on a tender review panel for a TfL's project</p> <ul style="list-style-type: none"> <li>-Reviewed proposed transport projects from London local authorities, liaised with and provide recommendations to the authorities on their proposals.</li> <li>-Composed business plans and funding applications for various TfL's projects.</li> </ul>
			<p>Colin Buchanan, Bristol, England (September 2004 – June 2009)</p> <ul style="list-style-type: none"> <li>-Worked as a traffic engineer consultant</li> <li>-Skills learnt are problem solving, investigating the cause of problem, identify mitigation and solution, impact assessment, advise and liaison with client, survey and monitoring traffic data, construct traffic models, report writings, accident analysis, feasibility study and client liaised.</li> <li>-Undertaking a 6-month secondment with Transport for London between November 2007 - April 08 and extended as an agent until June 2009</li> </ul>
			<p>Mott MacDonald Limited, Winchester/Bristol, England (October 2002 – August 2004)</p> <ul style="list-style-type: none"> <li>-Worked as a graduate highway engineer, took part in various projects as a highway designer</li> <li>-Report writing and assisted project manager on the different aspects of projects</li> </ul>

Profile	Name	Last Name	Summary
			<p>-Member of highway maintenance team Area 2, InterRoute.</p>
			<p>Technical project highlights:</p>
			<p>2012 Transport data Household interview (Chiang Mai travel demand study - CM-MTS 2012)</p>
			<p>Planned and lead a team of surveyors in a household interview survey to capture the travelling behaviour of the city's residents. Designed questionnaires and allocated sampling size. Estimated the project's cost and budgets. Recruited and trained field workers. Liaised with local authorities, partner organisation (Chiang Mai University) and community leaders. Led and undertook the field works. Screened, processed and analysed the data using SPSS. Composed the project reports.</p>
			<p>2012 Chiang Mai Old city walkability survey</p>
			<p>Worked as the project manager. Estimated the project cost. Designed and planned the survey procedure and data processing. Trained field staffs. Supervised the field work together with staffs from Chiang Mai University. Analysed the data and composed part of the project report.</p>
			<p>2008 Parliament Square Improvement Composed Stage I Safety Audit response. Composed a project submission to Network Assurance Team. Took part in the governance group meetings. Carried out bus stops, signs, and guardrails audits. Liaised with designers on various aspects of the projects. Arranged internal consultation meetings. Composed Highway issue log system. Reviewed PERS audits, way finding, pedestrian and cycle facilities</p>



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 <p data-bbox="147 1241 537 1346">FINLAND Environmental Services <a href="mailto:nopparat.manavakun@gmail.com">nopparat.manavakun@gmail.com</a></p>	Nopparat	Manavakun	<p data-bbox="1040 264 1114 296">study.</p> <p data-bbox="1040 302 1471 401"><b>Work experiences:</b> 2009 - on-going:Vienna University of Technology, Austria</p> <p data-bbox="1040 407 1422 548">PhD. Candidate Thesis topic: Sustainable Transport planning for Chiang Mai City, a system dynamic approach</p> <p data-bbox="1040 585 1390 653">1999 - 2003:University of Bristol, England</p> <p data-bbox="1040 659 1471 831">Civil Engineering, M Eng. (Hons) Dissertation topic (2003): Adopting a holistic approach in order to develop a Sustainable integrated transport system for Bristol city</p> <p data-bbox="1040 869 1357 936">1997 - 1999: Oundle School, Peterborough, England.</p> <p data-bbox="1040 942 1357 974"><b>Highest level of Education:</b></p> <p data-bbox="1040 980 1187 1012">Doctoral/Phd</p> <p data-bbox="1040 1018 1357 1050"><b>Graduated:</b> No, still studying.</p> <p data-bbox="1040 1073 1479 1209"><b>Summary of work experiences:</b> Forest harvesting related operation research, supply chain management and forest certification.</p> <p data-bbox="1040 1215 1406 1283"><b>Work experiences:</b> Lecturere at Kasetsart University</p> <p data-bbox="1040 1289 1471 1388"><b>Work experiences:</b> B.Sc. Forestry (Second honour), Kasetsart University, Thailand</p> <p data-bbox="1040 1430 1471 1497">M.Sc. European Forestry , University of Joensuu, Finland</p> <p data-bbox="1040 1503 1357 1535"><b>Highest level of Education:</b></p> <p data-bbox="1040 1541 1187 1572">Doctoral/Phd</p> <p data-bbox="1040 1579 1357 1610"><b>Graduated:</b> No, still studying.</p>
 <p data-bbox="147 1797 537 1902">FRANCE Nanotechnology, Renewables &amp; Environment, Research</p>	Chutchamon	Sirisopanaporn	<p data-bbox="1040 1629 1252 1661"><b>Summary of work</b></p> <p data-bbox="1040 1667 1471 1871"><b>experiences:</b> 1.Project coordinator for industrial projects:patent and R&amp;D process evaluation of electrode materials,2.Electrode re-engineering of commercial Li-ion batteries,3.R&amp;D on battery technologies</p>



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<p><a href="mailto:ngbridel@gmail.com">ngbridel@gmail.com</a></p>			<p><b>Work experiences:</b> (1) Researcher at Commissariat aux énergies alternatives-CEA (France)  (2) Post-doctoral fellow at Lawrence Berkeley National Laboratory (U.S.A.)  (3) Ph.D in Chemistry of materials at Université de Picardie Jules Verne (France) and European research institute (Alistore-ERI)</p> <p><b>Work experiences:</b> (1) Ph.D.: under collaboration with Alistore-European research institute  -Université de Picardie Jules Verne, France  -National Institute of Chemistry, Slovenia  (2) Master: Erasmus Mundus Program  -Université de Provence, France  -Université Toulouse III, France  -Warsaw University of technology, Poland  -University of Rome, La Sapienza, Italy  (3) Bachelor: Silpakorn University, Thailand</p> <p><b>Highest level of Education:</b>  Doctoral/Phd  <b>Graduated:</b> Yes</p>
 <p>GERMANY  Electrical/Electronic Manufacturing  <a href="mailto:spumirat@gmail.com">spumirat@gmail.com</a></p>	<p>Siriluk</p>	<p>Pumirat</p>	<p><b>Summary of work experiences:</b> since 04/2011 Researcher at Fraunhofer IWES Germany  06/2008-03/2011 Application Engineer at Bombardier Transportation Germany  <b>Work experiences:</b> since 04/2011 Researcher at Fraunhofer IWES Germany  06/2008-03/2011 Application Engineer at Bombardier Transportation Germany  08/2007-02/2008 Researcher at Institute of Microtechnology, Hannover, Germany  <b>Work experiences:</b> M.Sc. in Electrical Engineer from University of Hannover  B.Eng. in Electrical Engineer from Kasetsart University  <b>Highest level of Education:</b> Master  <b>Graduated:</b> Yes</p>


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 <p>GERMANY Automotive, Computer Hardware, Computer Software, Electrical/Electronic Manufacturing, Industrial Automation, Oil &amp; Energy, Research, Utilities <a href="mailto:poomkongniratsaikul@gmail.com">poomkongniratsaikul@gmail.com</a></p>	Poom	Kongniratsaikul	<p><b>Summary of work experiences:</b> In 2009 he joined the scientific staff of University of Duisburg-Essen, and has since become a doctoral candidate. Currently he works as engineer at Automotive Lighting Reutlingen GmbH, Germany.</p> <p><b>Work experiences:</b> Currently: Software Engineer, Automotive Lighting Reutlingen GmbH, Germany 2010 - 2013: Researcher, Institute of Computer Engineering, University of Duisburg-Essen, Germany 2009 - 2010: Research Assistant, Institute of Information Logistics, University of Duisburg-Essen, Germany 2007: Software Consultant, Moscii Systems Co. Ltd., Thailand 2005 – 2006: Teaching Assistant, Faculty of Engineering, Kasetsart University, Thailand 2006: Internship, PTT Exploration and Production Plc., Thailand</p> <p><b>Work experiences:</b> * (attending) Dr.-Ing., University of Duisburg-Essen, Germany * M.Sc. Control and Information Systems, University of Duisburg-Essen, Germany * B.Eng. Computer Engineering, Kasetsart University, Thailand * Highschool, Triamudom-Suksa School, Bangkok</p> <p><b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> No, still studying.</p>
 <p>GERMANY Research <a href="mailto:lalitta.suriya.arunroj@googlemail.com">lalitta.suriya.arunroj@googlemail.com</a></p>	Lalitta	Suriya-Arunroj	<p><b>Summary of work experiences:</b> I have only internship experience in France and Switzerland during my Master education. Currently, I get a position as lecturer at the Mahidol University where I will work after my PhD.</p> <p><b>Work experiences:</b> 2009-2010 Trainee in The Computational Neuroscience Group, University of Bern (Working on a model for reinforcement learning in spiking neuron populations). Supervisor:</p>





Profile	Name	Last Name	Summary
			<p>Prof Walter Senn</p> <p>2008-2009 Trainee (2 days a week) in the INSERM Unit 575, University of Strasbourg (Working on neurobiology of the cortical development). Supervisor: Dr Dominique Bagnard, Assoc Prof</p> <p><b>Work experiences:</b> 2010-present PhD in Neurosciences, Sensorimotor Group, The German Primate Center Göttingen Graduate School for Neurosciences and Molecular Biosciences (GGNB), Germany</p> <p>Project: Neural activities in Posterior Parietal Cortex, the sensorimotor transformation area, during the decision making among multiple goal choices in Rhesus monkeys. Supervisors: Prof Dr Stefan Treue and Dr Alexander Gail</p> <p>2008-2010 MASTER en Neuroscience, « The Joint Master in Neuroscience » (mention bien, 2/5) Equivalent to a Master's degree in Neuroscience (with honours, rank 2/5) Universities of Strasbourg (France), Basel (Switzerland) and Freiburg (Germany)</p> <p>2005-2008 LICENCE en sciences du vivant, mention biologie et informatique (mention bien, 1/22) Equivalent to a Bachelor's degree in Life Science majoring in Biological and Computational Sciences (with honours, rank 1/22) Louis Pasteur University, Strasbourg, France</p> <p><b>Highest level of Education:</b> Doctoral/Phd</p> <p><b>Graduated:</b> No, still studying.</p>



Profile	Name	Last Name	Summary
 <p>GERMANY Renewables &amp; Environment, Research <a href="mailto:s42010443@hotmail.com">s42010443@hotmail.com</a></p>	Amnaj	Chimtavee	<p><b>Summary of work experiences:</b> 2008-2012 a researcher of SERT, Naresuan University 2013-Now a researcher of Fraunhofer IWES</p> <p><b>Work experiences:</b> PV system design PV system evaluation PV system troubleshooting PV system component standard testing Standard testing for grid connection of renewable energy system Microgrid system</p> <p><b>Work experiences:</b> 2003 B.Eng. (Control Engineering) King Mongkut 's Institute of Technology Ladkrabang, Bangkok, Thailand</p> <p>2007 M.S. (Renewable Energy) Naresuan University, Phitsanulok, Thailand</p> <p>2013 Ph.D. (Renewable Energy) Naresuan University, Phitsanulok, Thailand</p> <p><b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> Yes</p>
 <p>GERMANY Biotechnology <a href="mailto:tp.marut@gmail.com">tp.marut@gmail.com</a></p>	Marut	Tangwattanachuleeporn	<p><b>Summary of work experiences:</b> - Medical Microbiology - Mycology - Immunology - Human Genetics and Genetic Engineering</p> <p><b>Work experiences:</b> - Lecturer in the Department of Medical Science, Faculty of Science, Burapha University, Chonburi, Thailand. (Feb 2006 – Mar 2009)</p> <p>- Lecturer in Faculty of Allied Health Sciences, Burapha University, Chonburi, Thailand.</p> <p>- The Young ISHAM representative for Southeast Asia (Oct 2011 – present)</p>



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 <p>SWEDEN Pharmaceuticals <a href="mailto:ungphakw@hotmail.com">ungphakw@hotmail.com</a></p>	Wanchana	Ungphakorn	<p><b>Work experiences:</b> - B.Sc. in Microbiology (Burapha University, Thailand)</p> <p>- M.Sc. in Medical Microbiology, The highest GPA in the class with 3.94 (Chulalongkorn University, Thailand)</p> <p>- Ph.D. student in Institute of Medical Microbiology, University Medical Center Goettingen (UMG) (Oct 2009 – present)</p> <p><b>Highest level of Education:</b> Doctoral/Phd</p> <p><b>Graduated:</b> -</p> <p><b>Summary of work experiences:</b> - Population PK/PD modelling and simulation</p> <p>- Mechanistic PK/PD modelling</p> <p>- PBPK</p> <p>- Optimal design methods</p> <p><b>Work experiences:</b> Postdoc: Uppsala University</p> <p><b>Work experiences:</b> PharmD, Mahasarakham University, Thailand PhD (Pharmacometrics), The University of Strathclyde, Glasgow, UK</p> <p><b>Highest level of Education:</b> Doctoral/Phd</p> <p><b>Graduated:</b> Yes</p>
 <p>SWEDEN Research <a href="mailto:sakonvan.chawchai@geo.su.se">sakonvan.chawchai@geo.su.se</a></p>	Sakonvan	Chawchai	<p><b>Summary of work experiences:</b> I work with multi-proxy geochemical records of lake sediment and peat archives from Thailand with the aim to reconstruct the extent, dynamics and timing of past changes in Asian monsoon.</p> <p><b>Work experiences:</b> Field Work Experience: Thailand, Germany (Black Forest), Switzerland (Finero Alp), France (Massif Central), Sweden, Taiwan, Hungary (Süttő and Basaharc loess profiles), and India (Trap Deccan).</p> <p>2012 Teaching assistant in the courses Bio-Geo, Department of Geological</p>

Profile	Name	Last Name	Summary
 <p data-bbox="147 1562 444 1661">           SWEDEN            Banking, Financial Services  <a href="mailto:teeranun_n@hotmail.com">teeranun_n@hotmail.com</a> </p>	<p data-bbox="602 1392 719 1419">Teeranun</p>	<p data-bbox="764 1392 898 1419">Newachuen</p>	<p data-bbox="1024 260 1446 359">Sciences, Stockholm University, Field assistant for Piston core-shipboard to Askö, Baltic Sea</p> <p data-bbox="1024 405 1463 575">2009 Teaching assistant in the courses Geochemistry I, Geochemistry II, and Bausteine der Erde I, Institute of Geosciences, University of Freiburg, Germany</p> <p data-bbox="1024 621 1484 968">           2008 Worked for the German Cochrane Centre annual international conference  <b>Work experiences:</b> April 2010–present: PhD candidate at the Department of Geological Science, Stockholm University.            My PhD topic is in the framework of the project “Asian monsoon variability and its impact on terrestrial ecosystems in Thailand during the past 25,000 years”.         </p> <p data-bbox="1024 1014 1430 1113">MSc Geoscience 2009: Institute of Geosciences, University of Freiburg, Germany (Diploma in Mineralogy)</p> <p data-bbox="1024 1159 1422 1362">           BSc Geology 2006: Department of Geology, Chulalongkorn University, Bangkok, Thailand  <b>Highest level of Education:</b> Doctoral/Phd  <b>Graduated:</b> No, still studying.         </p> <p data-bbox="1024 1388 1446 1671"> <b>Summary of work experiences:</b> Assisted in Migration Process for Sweden Embassy (Temporary 5 months)  <b>Work experiences:</b> Thai oil Ethanol, Thairoil Company- Business Analyst - Investigated, Created and Analyzed Financial Model for M&amp;A Project         </p> <p data-bbox="1024 1717 1463 1887">           Microsoft Thailand- Junior Finance and Sales Analyst            - Analyzed financial statement and finance reports  <b>Work experiences:</b> Stockholm         </p>


Profile	Name	Last Name	Summary
 <p>UNITED KINGDOM Research <a href="mailto:ng5@soton.ac.uk">ng5@soton.ac.uk</a></p>	Nittaya	Gale	<p>University, Stockholm School of Business Master of Science in Finance</p> <p>Kasetsart University, Bangkok Thailand Bachelors in Economics <b>Highest level of Education:</b> Master <b>Graduated:</b> Yes</p> <p><b>Summary of work experiences:</b> <b>Summary of work experiences:</b> <b>Work experiences:</b> -peptide nucleic acid chemistry -DNA chemistry -peptide chemistry -organic synthesis involving biomedical sensors, nanotechnology and forensic science. <b>Work experiences:</b> Nakorn Sawan school for secondary school University of Chaing Mai for Dentistry (DDS) University of Southampton for PhD in Chemistry (PhD) <b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> -</p>
 <p>UNITED KINGDOM Building Materials, Design, Electrical/Electronic Manufacturing, Oil &amp; Energy, Writing and Editing <a href="mailto:kesorn.pechrach@ronsek.com">kesorn.pechrach@ronsek.com</a></p>	Kesorn	Pechrach	<p><b>Summary of work experiences:</b> TBD <b>Work experiences:</b> Dr. Kesorn Pechrach is a highly experienced technologist with both commercial and research and development experience in smart materials, energy technology, sensors for medical devices and electrical engineering science. As well as my scientific and engineering skills I have experience in the operation of small and large businesses, project and program management, quality, and commercial design and development. I have a background in electrical engineering with more than 18 years academic and industrial experience in the design and construction of electrical facilities for</p>

Profile	Name	Last Name	Summary
			<p>industrial and oil refinery plants, commercial buildings, high buildings, motorways, express ways, high voltage systems, and management. I want to use my skills to help create new commercial and scientific opportunities for technology and research and development.</p> <p><b>Work experiences:</b> University of Southampton Southampton, UK July 1999 - May 2003</p> <p>Doctor of Philosophy (PhD), Electro-Mechanical Engineering</p> <p>Award Overseas Research Scholarship and Department Studentship</p> <p>Smart materials, arc physics, experiment and instrumentation, high current, modelling and software programming.</p> <p>Arc Root Commutation from the Contact Region in Low Contact Velocity Circuit Breakers</p> <p>King Mongkut's Thonburi University, Thailand Oct 1993 - March 1997</p> <p>Master of Engineering (M.Eng), Energy Technology Engineering</p> <p>Specializing in Energy Technology and Energy Management</p> <p>Electrical Management in skylight buildings in KMITT</p> <p>Khon Kaen University Thailand May 1988 - March 1992 Bachelor of Engineering (B.Eng),</p>

Profile	Name	Last Name	Summary
 <p>UNITED KINGDOM Legal Services <a href="mailto:sirius_auddy@hotmail.co.uk">sirius_auddy@hotmail.co.uk</a></p>	Sirichai	Mongkolkitsri	<p>Electrical Engineering</p> <p>Majored in Electronic, Electrical and Computer Engineering</p> <p><b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> -</p> <p><b>Summary of work experiences:</b> Have worked as a lecturer at law School, Bangkok University (BU) since 1998. In 2006, won a scholarship from BU for Postgraduate study. Now, a 4th year student, the University of Dundee, Scotland, UK.</p> <p><b>Work experiences:</b> 1990-1991 Practicing Lawyer at Kamnual Chalopathum law office 1992-1997 Marketing Manager at the Manager Media Group (Phoo Jad Karn) 1998-present Lecturer at School of Law, BU</p> <p><b>Work experiences:</b> 2009 LL.M. (by research) King's College University of Aberdeen, UK 2004 Certificate of Australian Legal and Institutions, University of Melbourne, Australia 1997 LL.M. (International Law) Thammasat University, Thailand 1990 LL.B. Thammasat, Thailand 1980-1985 Suankularb Wittayalai Nonthaburi</p> <p><b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> No, still studying.</p>
 <p>UNITED KINGDOM Biotechnology <a href="mailto:punsimerb2005@hotmail.com">punsimerb2005@hotmail.com</a></p>	Imerb	Punsod	<p><b>Summary of work experiences:</b> brief info about your work experiences ( less than 500 characters)</p> <p><b>Work experiences:</b> List of your work experiences.</p> <p><b>Work experiences:</b> Rajamakala Institute of Technology, Bangpra, Sriracha, Thailand. (Bsc. in Food science and technology)</p>

Profile	Name	Last Name	Summary
 <p>UNITED KINGDOM Higher Education <a href="mailto:chayanee11@gmail.com">chayanee11@gmail.com</a></p>	Chayanee	Srikrajang	<p>King Mungkut University of Technology Thonburi, Thailand. (Biotechnology) University of Strathclyde, Glasgow, Scotland, UK (stil studying/final year in Food biotechnology)) <b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> No, still studying.</p> <p><b>Summary of work experiences:</b> I have worked as a lecturer at the Prince of Songkla University since 2008. My major responsibility as a lecturer has been to teach commercial law to undergraduate students. <b>Work experiences:</b> 2008-Present Lecturer, Faculty of Law, Prince of Songkla University, Thailand <b>Work experiences:</b> 2012-Present PhD candidate, School of Law, The University of Aberdeen, UK</p> <p>2007-2008 Master of Law (Commercial Law), Monash University, Australia</p> <p>2002-2005 Bachelor of Law (Honour Class), Prince of Songkla University, Thailand <b>Highest level of Education:</b> Doctoral/Phd <b>Graduated:</b> No, still studying.</p>
 <p>UNITED KINGDOM Hospital &amp; Health Care <a href="mailto:pwanicha@hotmail.com">pwanicha@hotmail.com</a></p>	Ms. Wanicha	Pungchompoo	<p><b>Summary of work experiences:</b> WORK EXPERIENCE 2001 – present: Assistant Professor at Department of Medical Nursing, Faculty of Nursing, Chiang Mai University Thailand <b>Work experiences:</b> 2001 – present :Assistant Professor 2009 - present: DCLinP student (Doctoral of clinical practice student in health sciences)</p>



Profile	Name	Last Name	Summary
 <p>UNITED KINGDOM Computer Software, Internet <a href="mailto:shamonk@hotmail.com">shamonk@hotmail.com</a></p>	Jarutas	Pattanaphanchai	<p><b>Work experiences:</b> Doctoral in Clinical Practice (DClinP), University of Southampton. UK</p> <p><b>Highest level of Education:</b> Doctoral/Phd</p> <p><b>Graduated:</b> No, still studying.</p> <p><b>Summary of work experiences:</b> My research topic focuses on trust in Web information using Semantic Web technologies.</p> <p><b>Work experiences:</b> 2006-2009 Lecturer in ICT program, Faculty of Science, Prince of Songkla University, Thailand</p> <p>2009-current PhD student in Computer Science, University of Southampton</p> <p><b>Work experiences:</b> Master degree - Computer Science, Prince of Songkla University</p> <p>Bachelor degree - Computer Science, Prince of Songkla University</p> <p><b>Highest level of Education:</b> Master</p> <p><b>Graduated:</b> No, still studying.</p>