

Spotlight on: Excellent Researchers from Southeast Asia

Results of a SEA-EU-NET Mapping Study

F. Gruber, A. Degelsegger (Eds.)



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Table of Contents

Introduction	5
Mathematics and Computer Sciences	10
Physics	16
Chemistry	30
Earth and Related Environmental Sciences	32
Biology	36
Other Engineering Sciences	42
Basic Medicine	52
Health Sciences	58
Agriculture, Forestry, Fisheries and Allied Sciences	66
Veterinary Medicine	70
Educational Sciences	72
Annex A – Awardees Contacted	77
Annex B – SEA-EU-NET Project Brief	85
Annex C – SEA-EU-NET Partners	87

Introduction

Executive summary

The rationale for publishing this booklet is to raise awareness for the existence of high-quality research and to present a pool of excellent researchers in Southeast Asia.

Here we do not aim to provide an exhaustive list of all the best scientists from the region. However, we want to show “spotlights” of excellent researchers and their home institutions. We expect that the portraits of these excellent researchers will heighten the interest of European colleagues to take a better look at the opportunities presented in the region of Southeast Asia, as well as to consider their colleagues from the Southeast Asian region as potential partners in their future scientific endeavours.

In this way, we aim to contribute to the enhancement of scientific cooperation between researchers in this region and the European Union.

Methodology

In order to find the excellent researchers that can be of interest to the international science community, we combined an internal and external approach, preparing the empirical ground for a qualitative and quantitative data collection and analysis:

On the one hand, the approach is internal, as our hypothesis was that the countries themselves have the best knowledge, who their excellent scientists are. Furthermore, we assumed that those scientists are in many cases nationally highlighted by awarding prizes for their scientific achievements.

On the other hand, based on this assumption, there is the external part of the approach. In order to have a comparable selection of excellent scientists we developed the following set of common global criteria for the selection of the awards in all countries:

- the awards should have a competitive selection procedure of the laureate
- it should be the or one of the major scientific awards within the country
- it should be awarded for scientific excellence, not for lifetime achievements or achievements for networking

- the prizes should be awarded regularly; each year, or each 2 years at least.
- the selected eminent scientists should have been awarded the prize during the last 5 years (in special cases we also considered a longer duration), to ensure that the scientists are still active in their field and therefore interested in cooperations
- the selected scientists should have an institutional affiliation within SEA

From the outset, in identifying awards that meet these criteria, we relied on recommendations from our SEA-EU-NET project partners from Southeast Asia, namely:

- Indonesia/ Ministry of State for Research and Technology
- Thailand/ National Science and Technology Development Agency
- Vietnam/ National Centre for Scientific and Technological Information

Singapore's excellent scientists were selected from Singapore's National Science and Technology Award winners, and the ASEAN secretariat contacted the rest of the countries that are currently not partner in our project for information. The Department of Science and Technology of the Philippines also provided a list of awardees.

Based on the selected awards, our Southeast Asian project partners provided contact data for five to ten excellent scientists.¹ The Centre for Social Innovation in Austria then contacted the scientists by e-mail and telephone and asked them to provide information for the publication by filling in an online questionnaire and providing a CV.

The information we requested was structured along:

- information on the researcher
- information on the affiliated institution
- reasons for international cooperation
- international cooperation potential
- further information

After several feedback loops we could obtain complete responses from 33 out of the 77 researchers successfully contacted, which means a response rate of 42,86%.

¹ In the case of Malaysia the Centre for Social Innovation in Austria, with the support of SIRIM Berhad, took over the selection of the awards, as no official endorsement could be obtained.

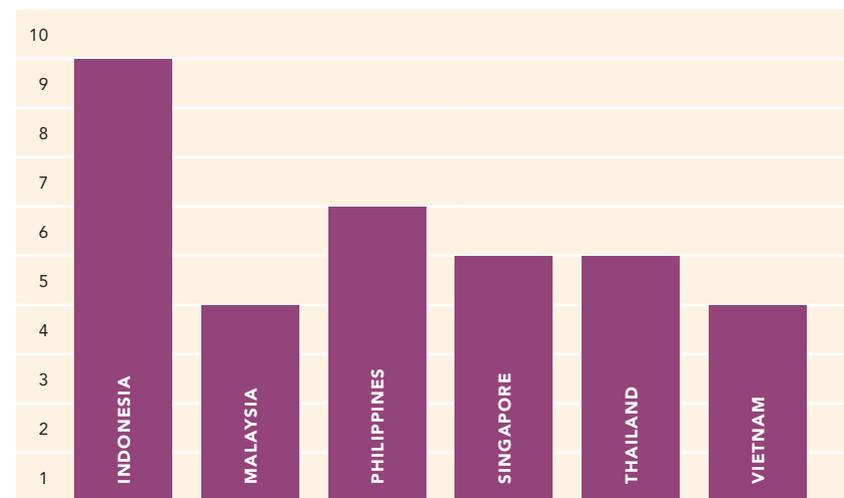


Figure 1: Number of complete research profiles per country

To emphasize the importance of the Southeast Asian region as a whole rather than taking into account national considerations, the researchers in this booklet are presented in their respective fields of science rather than per country. However, table 1 shows the distribution of number of presented researchers per country per fields of science.

	ID	MY	PH	SG	TH	VN	Total
Mathematics and Computer Sciences	-	-	1	-	2	-	3
Physics	2	2	2	1	-	-	7
Chemistry	-	-	1	-	-	-	1
Earth and Related Environmental Sciences	1	-	-	-	-	1	2
Biology	-	-	-	3	-	-	3
Other Engineering Sciences	1	-	-	1	2	1	5
Basic Medicine	2	-	-	-	1	-	3
Health Sciences	2	2	-	-	-	-	4
Agriculture, Forestry, Fisheries and Allied Sciences	1	-	-	-	-	1	2
Veterinary Medicine	-	-	1	-	-	-	1
Educational Sciences	-	-	1	-	-	1	2
Total	9	4	6	5	5	4	33

Table 1: Responses per field of research and country

Please find in the appendix of the booklet the complete list of contacted scientists, as provided by our Southeast Asian project partners.

In order to ensure a better readability of the booklet we decided to present the portraits mainly in narrative form, which sometimes necessitated omitting some part of the received information. The full information can be obtained on the SEA-EU-NET website www.sea-eu.net in the "Who's Who directory".

This booklet will be disseminated via post mail to European National Contact Points that deal with International Cooperation within the 7th Framework Programme and to stakeholders during events.

Portraits

**Department of Mathematics
Faculty of Science
Chiang Mai University**

The Department of Mathematics with its 16 research groups forms part of Chiang Mai University's Faculty of Science.

The faculty is one of the three original faculties established, when the university was first founded in 1964. It has a policy to support cooperation in joint research with the public and private sectors both at home and abroad in order to develop its own academic potential towards an international level with the capability of industrial applications. As a way of encouraging academic excellence, the Faculty of Science also promotes group research by supporting the establishment of research units and research laboratories. Researchers from these research groups have contributed their papers to professional journals, technical meetings and conferences both on a national and international level.

The Faculty of Science enjoys cooperations with many international organizations and institutions. Such cooperations include education, study tours, training programmes and joint research projects. Cooperation takes the form either of formal or informal agreements. The main objectives of this cooperation are:

- cooperative research
- exchange of scientific information
- development of lecturers and researchers

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	-
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	5
National researchers in your subunit having spent at least one study semester abroad :	-
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	-
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• FRANCO-THAI Project in Higher Education, with the Universities of Bretagne Occidentale and Brest	
Expected role in future international cooperation projects:	project partner

Prof. Dr. Sompong Dhompongsa

Thailand

Prof. Dhompongsa is professor of mathematics at Chiang Mai University in Thailand, where he is working on the fixed point theory in metric spaces, Banach spaces, Banach algebras, and Banach lattices.

From an organisational and networking point of view, Prof. Dhompongsa undertakes efforts to strengthen the University's PhD programme of mathematics.

In Thailand, he has recently been awarded the Outstanding Scientist of the Year 2007 Award for his work on the fixed point and probability theory.

Recent publications

- S. Auephanwiriyakul and S. Dhompongsa, **An Investigation of a Linguistic Perceptron in a Non-Linear Decision Boundary Problem**, IEEE World Congress on Computational Intelligence, July 2006.
- S. Dhompongsa and H. Yingtaeesittikul, **Diametrically Contractive Multivalued Mappings**, Fixed Point Theory and Applications, vol. 2007, Article ID 19745, 2007.
- S. Dhompongsa and A. Kaewkhao, **An Inequality Concerning the James Constant and the Weakly Convergent Sequence Coefficient**, J. Nonlinear and Convex Analysis, volume 8, number 2, August 2007.
- S. Dhompongsa and B. Panyanak, **On 4-Convergence Theorems in CAT(0) Spaces**, Computers and Mathematics with Applications, 56 (2008), number 10, 2572–2579.
- S. Dhompongsa, W. Fupinwong and A. Kaewkhao, **Common Fixed Points of a Non-expansive Semigroup and a Strong Convergence Theorem for Mann Iterations in Geodesic Metric Spaces**, Nonlinear Anal: TMA, 70 (2009), number 12, 4268–4273.



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**Department of Mathematics
Faculty of Science
Mahidol University**

The Department of Mathematics was founded in 1989 with only 4 staff members and one foreign lecturer. Prof. Lenbury was among the founding members.

Currently, there are 30 staff and 4 foreign lecturers in the department, who are devoted to teaching and research. Apart from a B.Sc. in mathematics, the department also offers an M.Sc. degree in applied mathematics and a Doctorate program in mathematics.

Ongoing research has been carried out in the Center in the following fields

- Dynamical Modelling of Nonlinear Systems in Biology and Medicine
- Computer Assisted Modelling of Materials
- Novel Computational Techniques in Mathematical Physics
- Statistical Modelling
- Singular Geometry
- Algebra
- Functional Analysis
- Industrial Mathematics

Special seminars and group meetings are regularly held in which experts from different fields of research are invited to present talks. Department staff and graduate students are supported by research grants from several sources, such as the National Research Council, NECTEC, MTEC, and the Thailand Research Fund. International collaboration is ongoing with institutions like the University of Warwick in the UK, the Max Planck Institute for Theoretical Physics in Germany, Vanderbilt University and University of Maryland in the US and the National University of Singapore.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	45
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	10
National researchers in your subunit having spent at least one study semester abroad :	2
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	7
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Dr. Yongwimon Lenbury

Thailand

Dr. Lenbury is a mathematician working on the dynamical modelling of non-linear systems in biotechnology, medical science, ecology and environmental science. She earned her MSc in Applied Mathematics from the Australian National University, her PhD from Vanderbilt University in the US and, since 1996, is professor at Mahidol University's Department of Mathematics.

Her research has resulted in over 60 publications in international journals, some of which are in the Science Direct's lists of top 25 hottest articles in the respective journals. In 2007, Prof. Lenbury received the Outstanding Scientist Award from the Thai Foundation for the Promotion of Science and was honoured in 1998 with the Outstanding Researcher of the Year Award by the Thai National Research Council.

Recent publications

- Rattanakul, C., Lenbury, Y. A. (2009): **Mathematical Model of Prolactin Secretion: Effects of Dopamine and Thyrotropin-Releasing Hormone**, Mathematical and Computer Modelling, 49(9-10): 1883–1892.
- Giang, D. V., Lenbury, Y., De Gaetano, A., Palumbo, P. (2008): **Model of Glucose-Insulin Systems: Global Stability and Oscillated Solutions Conditional on Delays**, Journal of Mathematical Analysis and Applications, 343(2): 996–1006.
- Lenbury, Y., Giang, D. V. (2008): **Periodicity and Knots in Delay Models of Population Growth**, Mathematical and Computer Modelling, 47: 259–265.
- Rattanakul, C., Lenbury, Y., Bell, J., Chatsudthipong, V., Traimpo, W., Crooke, P. S. (2006): **Spatial Turing-Type Pattern Formation in a Model of Signal Transduction Involving Membrane-Based Receptors Coupled by G Proteins**, Cancer Informatics, 2: 1–15.
- Siripunvaraporna, W., Egbert, G., Lenbury, Y and Uyeshima, M. (2005): **Three-Dimensional Magnetotelluric Inversion: Data-Space Method**, Physics of The Earth and Planetary Interiors, 150(1-3): 3–14.



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Department of Information Systems and Computer Science Ateneo de Manila University

The Ateneo de Manila's Department of Information Systems and Computer Science (DISCS) envisions globally-competitive Philippines, whose citizens are empowered by information and its supporting technologies.

In partnership with the Ateneo community and the various sectors of society, the DISCS aims at developing world-class information technology professionals capable of designing and implementing information systems that meet society's needs. The Department aspires to produce graduates, who are technically skilled and solidly grounded in computational theory, able to adapt to changes in technology and able to address a wide breadth of problem situations. The Department's graduates should also have the interpersonal and communication skills to work effectively with other people.

In 2007, the DISCS was granted the status of a Center of Excellence (COE). In the Philippines, COEs are higher education institutions (HEIs) that demonstrate the highest degree or level of standards along the areas of instruction, research, and extension work.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	16
Researchers from abroad currently working in your subunit:	2
International scientists to visit your subunit in 2008 staying for at least one week for research:	8
National researchers in your subunit having spent at least one study semester abroad :	6
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	11
Approximate proportion (in %) of internationally funded research projects in your subunit:	30
Participation in international cooperation projects:	
• MedGrid, http://www.medgrid.org/	
• ONCO-MEDIA, http://www.onco-media.com/	
• Moca, http://mocamobile.org/	
Expected role in future international cooperation projects:	project partner

Asst. Prof. Luis Francisco G. Sarmenta, PhD Philippines

While being based as a research scientist in the Media Lab at the MIT in Massachusetts/USA, Dr. Sarmenta still holds a position as an assistant professor in the Department of Information Systems and Computer Science (DISCS) at Ateneo de Manila University, where he has studied and taught since 1992.

As a computer scientist, Dr. Sarmenta is specialised on mobile computing (and applications in health, finance, community, etc.), technologies for the developing world, medical computing, computer security, social computing and distributed computing.

In 2005, he has been granted the ASEAN Young Scientists and Technologists Award and the Outstanding Young Scientist Award (from the Philippines National Academy of Science and Technology) for his research on mobile and grid computing.

Recent publications

• L. A. Celi, L. Sarmenta, J. Rotberg, A. Marcelo, and G. Clifford., **Mobile Care (Moca) for Remote Diagnosis and Screening**, in: Journal of Health Informatics in Developing Countries, 3(1), June 2009. • A. Marcus, G. Davidzon, D. Law, N. Verma, R. Fletcher, A. Khan, and L. F. G. Sarmenta, **Using NFC-enabled Mobile Phones for Public Health in Developing Countries**, The 1st IEEE International Workshop on Near Field Communication (NFC '09), Hagenberg, Austria, Feb. 2009. • V. Costan, L. F. G. Sarmenta, M. van Dijk, and S. Devadas, **The Trusted Execution Module: Commodity General-Purpose Trusted Computing**, Presented at CARDIS 2008, London, UK, September 2008. Published in Lecture Notes in Computer Science, Vol. 5189, Springer-Verlag, 2008. pp. 133–148. • E. Bagarinao, K. Matsuo, Y. Tanaka, L. F. G. Sarmenta, and T. Nakai, **Enabling On-Demand Real-Time Functional MRI Analysis Using Grid Technology**, Methods of Information in Medicine, Vol. 44, No. 5. Schattauer GmbH (Publisher). Stuttgart, Germany, 2005. • Luis F. G. Sarmenta, **Sabotage-Tolerance Mechanisms for Volunteer Computing Systems**, Future Generation Computer Systems: Special Issue on Cluster Computing and the Grid, Vol. 18, Issue 4, March 2002.



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School of Applied Physics National University of Malaysia

The School of Applied Physics is one of five schools carrying out research under Universiti Kebangsaan Malaysia's (UKM) Faculty of Science and Technology (FST). The school's research activities centre on the following fields: advanced materials and polymers, composite materials, corrosion, energy, instrumentation and devices, medical physics, metallurgy, nanomaterials, nuclear S&T, physics education and society, pulp and paper technology, space science as well as theoretical and computational physics.

The general research mission of the FST is to undertake fundamental research as well as to develop innovative technologies for the benefit of the nation and humankind. The faculty is committed towards research excellence to ensure that UKM continues to be a premier research university in Malaysia.

Basic and applied research is undertaken across all schools, supported by centres of excellence as well as various institutes within the university. Research facilities such as field stations, experimental field plots, green houses and animal houses, as well as fully equipped modern laboratories are available. Faculty members have international networking experience and are endowed with research grants from various national and international funding sources.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	4
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
• Brain Gain Malaysia – Superconductor Nanomagnet Hybrid, a 6 month project with the Department of Physics, Texas A&M University, USA	
Expected role in future international cooperation projects:	project partner

Prof. Roslan Abd-Shukor, PhD

Malaysia

Dr. Roslan Abd-Shukor is professor at the National University of Malaysia's School of Applied Physics and performs research in the fields of superconductors, ultrasonic studies on solid and superconductor tapes fabrication. For his work on superconductors, he received, inter alia, the Malaysia Toray Science and Technology Award in 2006 and the National Young Scientist Award in 1999.

Prof. Abd-Shukor earned his PhD from the University of Arkansas in the US and was visiting fellow at Princeton University and Texas A&M University, Kyoto University in Japan and the University of New South Wales in Australia. He has published 5 books as well as more than 100 papers in international refereed journals and is a fellow of the Malaysian Academy of Sciences since 2007.

Recent publications

- R. Abd-Shukor, W. Kong (2009): **Effect of Magnetic Nanoparticles Fe₃O₄ on the Transport Current Properties of Bi-Sr-Ca-Cu-O Superconductor Tapes**, Journal of Applied Physics, 105: 07E311.
- L. S. Ewe, I. Hamadneh, H. Salama, N. A. Hamid, S. A. Halim, R. Abd-Shukor (2009): **Magnetotransport Properties of La_{0.67}Ca_{0.33}MnO₃ with Different Grain Sizes**, Applied Physics A, 95: 457–463.
- R. Abd-Shukor (2007): **Electron-Phonon Coupling Constant of Cuprate Based High Temperature Superconductors**, Solid State Communications, 142: 587–590.
- K T Lau, S Y Yahya, R Abd-Shukor (2006): **Enhanced Flux Pinning in Ag-Sheathed Bi(Pb)-Sr-Ca-Cu-O Superconductors Tapes with Addition of Magnetic Nanorod γ -Fe₂O₃**, Journal of Applied Physics, 99(12): 123904–123907.
- R. Abd-Shukor (2002): **Acoustic Debye Temperature and Role of Phonon in Cuprate and Related Superconductors**, Superconductor Science & Technology, 15(3): 435–438.



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Maju Makmur Mandiri Foundation Research Center

The Maju Makmur Mandiri Foundation was established with the primary aim of facilitating progress for education and research in the area of natural sciences, as well as to provide the know-how on the sustainable use of natural resources in Indonesia, which is inherently weak.

The initial aim of the foundation is broadly divided into two parts: Firstly, to provide a facility for research in the area of applied laser technology and laser spectroscopy for Masters and PhD candidates; secondly, to impart knowledge and skills to both students and teachers alike on how to make use of simple, easily-obtainable equipments to clearly demonstrate various phenomena in nature.

The foundation welcomes Masters and PhD candidates from Indonesia and overseas to make use of its facilities for research and tries its best to seek financial assistance from various sources to ease the financial burden incurred during the research. The foundation will also provide information and assistance to overseas students, who wish to continue their education in Indonesia.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	6
Researchers from abroad currently working in your subunit:	1
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	2
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	80
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • Hydrogen Analysis, a 60 month project with Fukui University, Japan and the Toshiba Corporation, Japan • Concrete Hardness Test, a 36 month project with the Kajima Technical Research Institute, Japan • Deuterium Analysis, a 36 month project with Fukui University, Japan 	
Expected role in future international cooperation projects:	project partner

Koo Hendrik Kurniawan, PhD

Indonesia

Dr. Kurniawan is Chief of the Maju Makmur Mandiri Foundation Research Center and earned a PhD degree (cum laude) from the University of Indonesia in 1992 in the field of plasma spectroscopy and its application for spectrochemical analysis. Part of his PhD research was carried out in the laser laboratory of Prof. Kiichiro Kagawa at the Fukui University in Japan.

After Dr. Kurniawan's MSc research project being awarded the first prize in the Second ASEAN Science and Technology Week in 1989, he was also nominated best young engineering researcher by the Indonesia Institute of Sciences in 1997, received the Toray Young Scientist Award in 2001 for his work on applied spectroscopy, and was included in the register of Leading Scientists and Engineers of OIC Member States in 2009.

Up to now, Dr. Kurniawan has published close to 100 papers in international journals and conferences. Furthermore, he is a member of the Indonesia Physical Society, the Japanese Laser Society and the American Society for Applied Spectroscopy and a fellow of the Royal Society of Chemistry.

Recent publications

• N. Idris, S. N. Madjid, M. Ramli, Koo H. Kurniawan, Y. I. Lee, K. Kagawa (2009): **Monitoring of Laser Processing Using Induced Current Under an Applied Electric Field on Laser Produced Plasma**, J. Mater. Process. Tech., 209(6): 3009–3021. • Koo H. Kurniawan, T. J. Lie, M. M. Suliyanti, et al. (2009): **Quenching of He-Induced Intensity Enhancement Effect in H and D Emission Produced by Nd-YAG Laser Irradiation on Solid targets in Low-Pressure Helium Gas**, J. Appl. Phys., 105: 013301-1-7. • A. Khumaeni, S. Tanaka, A. Kobayashi, Y. I. Lie, Koo H. Kurniawan, K. Ishi, K. Kagawa (2008): **Demonstrations of the Action and Reaction Law and the Energy Conservation Law Using Fine Spherical Plastic Beads**, Phys. Educ., 43(6): 637–643. • A. Khumaeni, M. Ramli, Y. Deguchi, Y. I. Lee, N. Idris, Koo H. Kurniawan, T. J. Lie, K. Kagawa, D (2008): **New Technique for the Direct Analysis of Food Powders Confined in a Small Hole Using Transversely Excited Atmospheric CO₂ Laser-Induced Gas Plasma**, Appl. Spectrosc., 62(12): 1344–1348. • Z. S. Lie, M. Pardede, R. Hedwig, M. M. Suliyanti, K. H. Kurniawan, Munadi, Y. I. Lee, K. Kagawa, I. Hattori, M. O. Tjia (2008): **Spectrochemical Analysis of Powder Using 355 nm Nd-YAG Laser-Induced Low Pressure Plasma**, Anal. and Bioanal. Chem., 390(7): 1781–1787.



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**Department of Physics
Faculty of Mathematics and Sciences
University of Indonesia**

The Department of Physics, Faculty of Mathematics and Sciences of the University of Indonesia has a long history and tradition in the education and research area since its establishment over 40 year ago. There are five special study programmes, namely "Physics of Nuclear and Particle", "Physics of Material and Solid Substance", "Physics of Electronic Instrumentation", "Geophysics" and "Physics of Medical and Biophysics". There exist strong links to Indonesian government agencies such as the National Nuclear Energy Corporation, BATAN (previously known as National Atomic Energy Corporation).

Besides the regular program with five special studies as explained above, the Department of Physics has also opened the education for Bachelor degrees, such as the Diploma III Program for the electronics and industrial instrumentation fields. Considering the urgent need of bachelor staff in the instrumentation field, the Department of Physics has also opened the program Extension Bachelor with speciality of electronics instrumentation, medical physics and geophysics.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	4
Researchers from abroad currently working in your subunit:	2
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	-
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	4
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Dr. Terry Mart
Indonesia

Dr. Terry Mart works at the Department of Physics at the University of Indonesia and has the main research interest in hypernuclear physics, hadronic physics and effective field theory, strangeness physics, nuclear matter and neutron stars physics. In these fields he has published almost 100 papers in refereed journals and conference proceedings.

His work has been awarded for outstanding achievement in basic science research with the Habibie Award in 2001, the Ganesa Widya Jasa Adiutama Award from the Bandung Institute of Technology in 2009, the "Leading Scientists and Engineers from the Organization of the Islamic Conference" in 2008 for his basic science research achievements, and the 2009 "Outstanding Intellectual Property Award" from the Indonesian Ministry of National Education.

Collaboration partners in "Kaon Photo- and Electroproduction" include researchers from Germany, Japan, and the USA.

Recent publications

- T. Mart (2009): **Effects of the Higher Partial Waves and Relativistic Terms on the Accuracy of the Calculation of the Hypertriton Electroproduction**, Nuclear Physics A, 815: 18–28.
- T. Mart and A. Sulaksono (2008): **Low-Density Instability of Multi-Component Matter with Trapped Neutrinos**, Physical Review C, 78: 025808.
- T. Mart and B. I. S. van der Ventel (2008): **Photo- and Electroproduction of the Hypertriton on He-3**, Physical Review C, 78: 014004.
- T. Mart (2008): **Can We Extract the Pion Electromagnetic Form Factor from a t-Channel Diagram only?**, Modern Physics Letters A, 23: 3317–3329.
- T. Mart (2008): **Gerasimov-Drell-Hearn Sum Rule and the Discrepancy Between the New CLAS and SAPHIR Data**, Few-Body System, 42: 125–138.



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**Instrumentation Physics Laboratory
National Institute of Physics
University of the Philippines Diliman**

The National Institute of Physics at the University of the Philippines Diliman was established in 1983. It offers diploma and degree programs (from BS to PhD) with concentrations in material physics and instrumentation physics. On the average, the Institute has about 300 students at all levels in the baccalaureate degree programs and about 50 in the graduate degree programs per year.

Aside from their teaching duties, the faculty is engaged in research in the following areas: condensed matter, instrumentation, photonic, plasma, structure & dynamic and fields and particle physics.

The Instrumentation Physics Laboratory performs research in teams consisting of a professor, assistant professors, graduate and/or undergraduate students. This school year (AY 2009–10), there are 53 researchers.

It started as a laboratory working on optics and signal processing. Now, the laboratory has expanded into other fields in the theoretical and applied physics as shown by its division into the following sub-groups:

- Complex Systems
 - Granular Materials
 - Complex Networks
 - Synchronization
- Photonics
- Video and Image Processing

The laboratory works with local and international companies and institutions like, among others, Nokia or Intel and the Philippine Department of Science and Technology.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	14
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	-
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Assoc. Prof. Dr. Christopher P. Monterola
Philippines

Dr. Monterola is Associate Professor in Physics at the University of the Philippines Diliman where he works, among others, with Prof. Cesar A. Saloma. From 2003 until 2005, before returning to the university, where he also earned his PhD in 2002, he was a postdoctoral fellow at the Max Planck Institute for the Physics of Complex Systems.

Prof. Monterola's research interest is in computational and statistical physics, granular matter, neural networks and complex systems. His young career as a scientist was already distinguished with the National Research Council of the Philippines' achievement award in 2008.

Besides the goals of building up research partnerships to jointly perform research, produce patents, mutually improve the competitiveness and share costs, Prof. Monterola is interested in international cooperation as a possibility to find good postdoc positions for his graduating PhD students.

Recent publications

- M. Arciaga, M. Pastor, R. Batac, J. Bantang and C. Monterola (2009, in press): **Experimental Observation and Empirical Model of Enhanced Heap Stability Resulting from Mixing of Granular Materials**, Journal of Statistical Mechanics: Theory and Experiment, P07040.
- A. Longjas, C. Monterola, C. Saloma (2009): **Force Analysis of Jamming with Disks of Different Sizes in a Two-Dimensional Hopper**, Journal of Statistical Mechanics: Theory and Experiment, P05006: 1–14.
- R. Batac, M. Pastor, M. Arciaga, J. Bantang and C. Monterola (2009): **Kinks, Logarithmic Tails, and Super-Stability in Bi-Disperse Granular Media**, Physica A, 388: 3072–3082.
- D. E. Juanico, A. Longjas, R. Batac and C. Monterola (2008): **Avalanche Statistics of Granular Driven Slides in a Miniature Mound**, Geophysical Research Letters, 35: L19403.
- G. A. Esleta and C. Monterola (2008): **Structural Reinforcement in a Spring-Block Model of Stress-Induced Fracture Propagation**, Computer Physics Communications, 178: 635–646.



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**National Institute of Physics
College of Science
University of the Philippines Diliman**

The Institute was established in 1983 by Presidential Executive Order transforming the then Department of Physics of the College of Arts and Sciences. The Institute is the best school of physics in the Philippines and aims to become one of the best in this area of the Pacific.

The Institute offers the following degree programs: BS Physics, BS Applied Physics (with concentrations in materials physics and instrumentation physics), Diploma in Physics, MA Physics, MS Physics and Ph.D. Physics. On an average, the Institute has about 300 students at all levels in the baccalaureate degree programs and about 50 in the graduate degree programs per year. It also services the physics course requirements of over 1000 non-major students per semester and co-implements the graduate programs in environmental science and materials science of the College of Science and the College of Engineering, respectively.

Aside from their teaching duties, the faculty are engaged in research in the following areas: condensed matter, instrumentation, photonics, plasma, structure & dynamics and fields and particles physics.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	350
Researchers from abroad currently working in your subunit:	10
International scientists to visit your subunit in 2008 staying for at least one week for research:	20
National researchers in your subunit having spent at least one study semester abroad :	10
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	10
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
• Coral Reefs, http://www.msi.upd.edu.ph/ , http://www.gefcoral.org/	
• Phil. Biodiversity, http://www.msi.upd.edu.ph/	
Expected role in future international cooperation projects:	project partner

Caesar A. Saloma, PhD
Philippines

Dr. Saloma is Dean of the College of Science, UP Diliman and has as primary responsibility to promote the research efforts and academic degree programs of the 11 constituent units of his College. Professionally, he works mainly in the field of Physics at the National Institute of Physics, specialized in the field of Photonics, information processing, complex adaptive systems and management of R&D institutions. He has been awarded the International Commission for Optics' Galileo Galilei Award in 2004 for his work in Photonics, and the ASEAN Outstanding Scientist and Technologist Award in 2008 for his work in Photonics and Complex Adaptive Systems.

Recent publications

• GJ Perez and C Saloma (2009): **Allelomimesis as Escape Strategy of Pedestrians in Two-Exit Confinements**, Physica A 388: 2469–2475. • EF Legara, C Monterola, DE Juanico, M Litong-Palima and C Saloma (2008): **Earning Potential in Multilevel Marketing Enterprises**, Physica A 387: 4889–4895. • DE Juanico, C Monterola and C Saloma (2007): **Dissipative Self-Organized Branching in a Dynamic Population**, Phys Rev E Rapid Communications 5: 045105R. • P Almoro, W Garcia and C Saloma (2007): **Colored Object Recognition by Digital Holography and a Hydrogen Raman Shifter**, Opt Express 15, pp 7176–7181. • R Sarmiento, VJ Cemine, IR Tagaca, A Salvador, CM Blanca and C Saloma (2007): **Fault Localization and Analysis in Semiconductor Devices With Optical Feedback Infrared Confocal Microscopy and Optical Beam Induced Resistance Change Imaging**, Appl Opt 46: 7625–7630.



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Centre for Quantum Technologies National University of Singapore

The Centre for Quantum Technologies' mission is to conduct interdisciplinary theoretical and experimental research into the fundamental limits to information processing. The discovery that quantum physics allows fundamentally new modes of information processing has required the existing theories of computation, information and cryptography to be superseded by their quantum generalisations. The CQT focuses on the development of quantum technologies for coherent control of individual photons and atoms and explore both the theory and the practical possibilities of constructing quantum-mechanical devices for the purpose of cryptography and computation.

In 2007, the Quantum Information Technology Group was selected as the core of the first Research Centre of Excellence in quantum information science and technology. Since then, the centre has attracted a number of researchers and continues to expand.

The CQT is funded by the Singapore National Research Foundation and the Ministry of Education. It is hosted by the National University of Singapore, but enjoys a significant autonomy both in pursuing its research goals and in governance. The Centre has its own Governing Board, a Scientific Advisory Board and is headed by Director Artur Ekert.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	3
Researchers from abroad currently working in your subunit:	2
International scientists to visit your subunit in 2008 staying for at least one week for research:	5
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• SECOQC – Development of a Global Network for Secure Communication Based on Quantum Cryptography, http://www.secoqc.net/	
Expected role in future international cooperation projects:	consortium member

Assoc. Prof. Valerio Scarani, PhD

Singapore

Prof. Scarani is principal investigator at the National University of Singapore's Centre of Quantum Technologies. He earned his PhD at the Ecole Polytechnique Fédérale de Lausanne in Switzerland and joined NUS in 2007 after being senior researcher at the University of Geneva.

Prof. Scarani's research interests within the field of quantum information science include

- Quantum Non-Locality
- Quantum Cryptography
- Entanglement and Thermodynamics
- Theoretical Assessment for Experimentalists

In addition to his research and teaching activities, he is also responsible for the outreach activities of the Centre of Quantum Technologies.

Together with his CQT colleagues Christian Kurtsiefer and Antia Lamas-Linares, he has received the 2008 Singapore National Science Award for theoretical and experimental studies on quantum entanglement.

Recent publications

- R. Y. Q. Cai, V. Scarani (2009): **Finite Key Analysis for Practical Implementations of Quantum Key Distribution**, New J. Phys., 11: 045024.
- N. Brunner, N. Gisin, S. Popescu, V. Scarani (2008): **Simulation of Partial Entanglement With No-Signaling Resources**, Phys. Rev. A, 78: 052111.
- C. Branciard et al. (2008): **A Simple Approach to Test Leggett's Model of Non-Local Correlations**, Nature Physics, 4: 681.
- V. Scarani (2008): **Local and Non-Local Content of Bipartite qubit and qutrit Correlations**, Phys. Rev. A, 77: 042112.
- M. Halder, A. Beveratos, N. Gisin, V. Scarani, C. Simon, H. Zbinden (2007): **Entangling Independent Photons by Time Measurement**, Nature Physics, 3: 692.



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**Plasma Research Laboratory
Physics Department
University of Malaya**

The activities of the Plasma Research Laboratory include teaching and research. Regarding the former, the Lab runs four experiments for the Physics Department of the University of Malaya, namely: Pulse Electronics; Gas Dynamic Experiment; Flash X-ray Experiment; and Plasma Emission Spectroscopy.

The research of the Lab centres around the following types of plasma devices:

- Dense Magnetized Plasmas
- Transient Hollow Cathode Devices
- Low Temperature Low Density Plasmas

The emphasis of the research work is on the physics and applications of these devices.

The Plasma Research Laboratory has established international collaborations with EPPRA in Courtaouef/France, the Physics Department of Chulalongkorn University in Bangkok/Thailand and the School of Science at Walailak University in Nakhon-si-Thammarat/Thailand.

The Plasma Research Laboratory is part of the Faculty of Science's Physics Department. The Faculty of Science is inherited from Raffles College (opened 1929). Teaching in Kuala Lumpur started in 1957, but the Faculty of Science started official studies in the 1959/60 session not including physics. The Department of Physics was initiated in 1961.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	12
Researchers from abroad currently working in your subunit:	1
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Dr. Wong Chiow San
Malaysia

Dr. Wong Chiow San is professor of physics at the University of Malaya (UM), leader of the UM's Plasma Research Group and President of the Asian African Association for Plasma Training (AAAPT). His research focuses on plasma physics, particularly pulsed radiation sources and their applications, plasma systems for material processing and surface treatment as well as atmospheric discharges. Within these fields, he has published more than 150 papers, more than 80 of which appeared in refereed journals. Dr. Wong also has extensive experience in international cooperation with partners in Asia, Europe, Australia or Latin America.

In 2005, Dr. Wong received the Malaysian Toray Science and Technology Award for his merits in the development of plasma technology in Malaysia. He is a Fellow of the Malaysian Academy of Sciences since 2007.

Recent publications

- Prasanta Chatterjee, Taraknath Saha, S. V. Muniandy and C. S. Wong (2009): **Effect of Ion Temperature on Oblique Propagation of Large Amplitudesolitary Kinetic Alfvén Waves**, Phys. Plasma 16: 103702.
- H. Asgari, S. V. Muniandy and C. S. Wong (2009): **Effects of Strength of Dispersion and Dust Density on the Formation of Solitons**, Phys. Plasma 16: 073702.
- Prasanta Chatterjee, Koushid Roy, Sithi V. Muniandy, S. L. Yap and C. S. Wong (2009): **Effect of Ion Temperature on Arbitrary Amplitude Ion Acoustic Solitary Waves in Quantum Electron-Ion Plasmas**, Phys. Plasma 16: 042311.
- C. S. Wong, H. P. Lem, B. T. Goh and C. W. Wong (2009): **Electroless Plating of Copper on Polyimide Film Modified by 50 Hz Plasma Graft Polymerization With 1-Vinylimidazole**, Jpn. J. Appl. Phys. 48: 03650.
- M. A. Mohammadi, S. Sobhanian, C. S. Wong, S. Lee, P. Lee and R. S. Rawat (2009): **The Effect of Anode Shape on Neon Soft X-Ray Emissions and Current Sheath Configuration in Plasma Focus Device**, J. Phys. D: Appl. Phys. 42: 045203.



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Philippine Rice Research Institute

The Philippine Rice Research Institute (PhilRice) began as a research unit of the University of the Philippines, Los Baños in 1985, until it became a government-owned corporation attached to the Department of Agriculture. Although it was relocated to the Science City of Muñoz, Nueva Ecija, it still maintains a research center in Los Baños.

PhilRice is the national leading agency for the planning, coordination, implementation, and monitoring of all rice research and development (R&D) activities in the Philippines. Its mission is to lead national efforts in rice R&D, technology promotion, capacity building, and policy advocacy to attain a sustainable, self-sufficient, and competitive rice economy.

PhilRice's R&D Programme is composed of 4 programs:

- Favorable Ecosystem (irrigated lowland)
- Unfavorable Ecosystem (rainfed lowland)
- Knowledge Management and Promotion
- Impact and Policy Research

Sixty-five percent of PhilRice's 450 core staff belong to the R&D sector: 25 of them are PhD holders, 80 hold MS degrees, while others are BS graduates. Most of the PhDs obtained their degrees through fellowship and scholarship grants awarded by the Rockefeller Foundation, Ford Foundation, US-AID, Fullbright-Hayes, Mombusho, and JICA, among many others. Many of PhilRice's scientists and researchers are recipients of major national awards.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	5
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	-

Participation in **international cooperation** projects:

- The use of PCR for variety identification of Philippine rices, a 12 month project with Dr. Ken'ichi Ohtsubo, Japanese National Food Research Institute in Tsukuba
- Relation of distribution of short chains of debranched indica rice starches differing in gelatinization temperature, a 12 month project with Dr. Yasunori Nakamura from the Faculty of Biological Resources at Akita Prefectural University, Japan
- Comparative content of tocopherols and gamma-oryzanol in brown and milled rices in normal and organic culture, 12 months, with Dr. Zhimin Xu, Louisiana State University, USA

Expected role in future international cooperation projects: **project coordinator**

Bienvenido O. Juliano, PhD

Philippines

Dr. Juliano is senior expert at the Philippine Rice Research Institute. His research focuses on screening methods for excellent-quality rice on the Philippines and the relationship among glycemic index, satiety index and an apparent amylose content of Philippine rices.

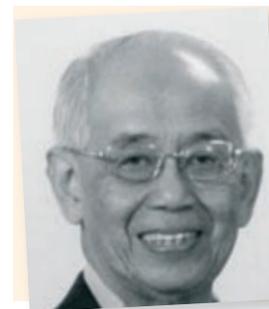
He earned a PhD in organic chemistry from Ohio State University in the US, then was a visiting professor at the University of Hong Kong and the University of Durham/England as well as a research fellow at the UC Berkeley and Michigan State University in the US.

Dr. Juliano is author and co-author of 390 publications and member of the Philippine National Academy of Science and Technology. For his work in rice chemistry and quality, he received the title National Scientist from the Philippine President in 2000 and the ASEAN Outstanding Scientist and Technologist Award in 1998.

In 1988, he was awarded the Thomas B. Osborne Medal from the American Association of Cereal Chemists.

Recent publications

- Tũaño APP, LT Roferos, BO Juliano (2009): **Field Test for Apparent Amylose Content for Milled Rice Quality Classification**, Philipp Agric Scientist, 92: 228–232.
- BO Juliano, CM Perez, AP Resurreccion (2009): **Apparent Amylose Content and Gelatinization Temperature Types of Philippine Rice Accessions in the IRRI Gene Bank**, Philipp Agric Scientist, 92: 106–109.
- Roferos LT, VM Butardo Jr, MA Fitzgerald, BO Juliano (2008): **Association Between Alleles of the Waxy Gene and Traits of Grain Quality in Philippine Seed Board Rice Varieties**, Philipp Agric Scientist, 91: 334–337.
- Trinidad TP, AC Mallillin, RS Sagun, DP Briones, RR Encabo, BO Juliano (2008): **Iron Absorption from Brown Rice/Brown Rice-Based Meal and Milled Rice/Milled Rice-Based Meal**, Intern J Food Sci Nutr.
- Nakamura Y, A Sato, BO Juliano (2006): **Short Chain-Length Distribution in Debranched Rice Starches Differing in Gelatinization Temperature or Cooked Rice Hardness**, Starch/Stärke, 58: 155–160.



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Research Centre for Geotechnology Indonesian Institute of Science (LIPI)

The Research Center for Geotechnology (RCG) is part of the Indonesian Institute of Sciences (LIPI), with the responsibility to promote and advance research in the field of earth sciences and related technology. Today, the RCG comprises four divisions: Earth dynamics and geologic hazards, Earth resources and mineral engineering, Earth information systems and spatial management and Engineering geology and nature conservation. There are three operational (field) units: The Karangsambung Field Campus providing practical training in field geologic methods to geology students of Indonesian universities, The Liwa earthquake research unit and the Jampang experimental mine.

Besides conducting research and development in geosciences, the responsibilities of RCG include dissemination of scientific and technological developments to regional governments and to the industry. Field courses were held e.g. in carbonate sedimentation, deep-water sedimentation and reservoir potential of volcanoclastic sediments and field geologic methods for petroleum geologists. At present, the RCG is also active in the introduction and development of magneto-telluric (MT) methods for petroleum exploration in frontier areas and difficult/adverse terrains, and the combination and integration of different geophysical and remote sensing techniques.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	200
Researchers from abroad currently working in your subunit:	3
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	5
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	6
Approximate proportion (in %) of internationally funded research projects in your subunit:	20
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • INDOPAL – Indian Ocean role to the global climate, a 24 month project in cooperation with Prof. Christian Dullo, IFM-GEOMAR, Kiel/Germany and Dr. Miriam Pfeiffer, Universität Köln, Germany • Corals as a proxy of anthropogenic induced pollution and environmental modification: case study Kepulauan Seribu/Jakarta Bay, a 12 month project in cooperation with Dr. Jens Zinke and Dr. Simon Toelstra, Vrije Universiteit Amsterdam, The Netherlands 	
Expected role in future international cooperation projects:	project partner

Dr. Sri Yudawati Cahyarini

Indonesia

Dr. Yudawati Cahyarini has a doctorate degree from the University of Kiel in Germany and works currently as a researcher at the Research Centre for Geotechnology at the Indonesian Institute of Sciences (LIPI). She is chief scientist of the Enggano-Indonesia coral drilling project to study the Indian Ocean's role in climate change.

Her research interest is in the geochemical proxy analysis of coral skeleton. The studies of paleoclimate and paleoceanography focus on environmental changes in relation to pollution and sediment discharge, as well as the impact of agriculture to the coral reef waters. In 2006, she held the post of postdoctoral fellow at the Leibniz Institute fuer Meereswissenschaften in Kiel, Germany.

Her excellent research work has been awarded with several major research grants, for example from the Indonesian Toray Science Foundation (ITSF) in 2007 and from the International Science Foundation (IFS) in 2009.

Recent publications

- Cahyarini S. Y., M. Pfeiffer, and W.-Chr. Dullo (2009): **Improving SST Reconstructions from Coral Sr/Ca Records: Multiple Corals from Tahiti (French Polynesia)**, International Journal of Earth Sciences, 98(1): 31–40.
- Cahyarini S. Y., M. Pfeiffer, O. Timm, W.-Chr. Dullo, and D. Garbe-Schoenberg (2008): **Reconstructing Seawater $\delta^{18}\text{O}$ from Paired Coral $\delta^{18}\text{O}$ and Sr/Ca Ratios: Methods, Error Analysis and Problems, With Examples from Tahiti (French Polynesia) and Timor (Indonesia)**, Geochimica et Cosmochimica Acta, Vol. 72/12: 2841–2853.
- Cahyarini S. Y. and Wolf-Chr. Dullo (2007): **Correlation Between Coral Sr/Ca Ratios and Sea Surface Temperature: Coral Proxy Records from Timor and Tahiti**, Jurnal Teknologi Mineral, ITB, vol. XIV(1).
- Cahyarini, S. Y., B. Suwargadi, D. Prayudi, and W. S. Hantoro (2007): **Field Correlation Between Precipitation-El Nino Related Variation and Coral $\delta^{18}\text{O}$** , Bulletin of the Marine Geological Institute of Indonesia, 22(1).
- Cahyarini, S. Y., W. S. Hantoro, B. W. Suwargadi, D. Prayudi (2003): **Oxygen Isotope Variability in Coral From Maudulung, Sumba Indonesia**, Bulletin of Marine Geology, 18(2).



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Center for Environment Research Education and Development

The objective of CERED is to carry out its strategy for environmental and developmental research in Vietnam in co-operation with other organisations, both domestic and international. The focus of CERED's work lies in finding the balance between environmental conservation and socio-economic development. The formation of a co-operative internal and international network of scientists in the field of environmental studies is also among its goals.

CERED is a non-governmental organisation (NGO) sponsored by the Vietnam Union of Science and Technology Associations (VUSTA).

The Center was established in 1991. It employs a number of permanent staff in Hanoi, including its founding chairman/director, Dr. Nguyen Huu Ninh. Its associate staff includes a broad network of university professors and researchers in Vietnam.

CERED has established collaboration with, inter alia, UNEP, the World Meteorological Organization (WMO), IPCC, the International Geosphere-Biosphere Programme (IGBP), etc. The Center's operating costs are covered by research contracts and by contributions from domestic and international donors. Among the funding agencies are, for example, Land-Ocean Interactions in the Coastal Zone (LOICZ), the UK Economic and Social Research Council, Toyota, UNEP, the British Council, UNDP, AusAID, the EU, the Foundation for the Advancement of Tropical Research of the Netherlands Organisation for Scientific Research (WOTRO), and UNU.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	17
Researchers from abroad currently working in your subunit:	3
International scientists to visit your subunit in 2008 staying for at least one week for research:	1
National researchers in your subunit having spent at least one study semester abroad :	3
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	5
Approximate proportion (in %) of internationally funded research projects in your subunit:	80
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • Linking Climate Change Adaptation and Disaster Risk Management for Sustainable Poverty Reduction, http://www.developmentgateway.com.au/jahia/Jahia/pid/4916 • Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand, http://www.unepscs.org/SCS_Documents/Download/14_-_South_China_Sea_Project_Knowledge_Documents.html • Human Development Report 2007/2008, http://hdr.undp.org/en/reports/global/hdr2007-2008/papers/Nguyen_Huu%20Ninh.pdf 	
Expected role in future international cooperation projects:	project coordinator

Dr. Nguyen Huu Ninh

Vietnam

Dr. Nguyen Huu Ninh is an environmental researcher and the director of the Center for Environment Research Education and Development. His main research interest is the climate change and the human dimension of sustainable development. He received his PhD from the Hungarian Academy of Sciences in Hungary in 1986 and subsequently, worked at the Centre for Biology of the Hungarian Academy of Sciences.

Dr. Nguyen Huu has published 85 scientific essays and reports and represented Vietnam in a series of international environmental programmes. He took part in the work of the International Geosphere-Biosphere Programme and is a member of the Intergovernmental Panel on Climate Change (IPCC).

As a member of the IPCC, in recognition of the panel's work, in 2007, the Nobel Committee awarded him the Nobel Peace Prize. In 2007, he also received the medal for Achievement of Associations of Science and Technology, VUSTA (Vietnam), for his work in environmental science.

Recent publications

- Nguyen Huu Ninh, Luong Quang Huy, Mick Kelly (2010): **Social Vulnerability to Climate Change in Cambodia, Lao PDR and Vietnam**, in: Pak Sum Low (Ed.): Global Change and Sustainable Development in the Asia-Pacific Region, Cambridge University Press, Cambridge (in press).
- Nguyen Huu Ninh, Le Thi Tuyet, Cao Thi Phuong Ly (2009): **The Role of Biodiversity in Climate Change Mitigation in Vietnam: Red River Estuary-Balat Case Study**. Paper presented at the International Conference on Biodiversity and Climate Change in Southeast Asia, SEARCA/ABC, Manila, Philippines.
- Luong Quang Huy, Nguyen Huu Ninh and Philip Michael Kelly (2009): **Social Vulnerability in Indochina**, in: Louis Lebel et al. (Eds.): Critical States – Environmental Challenges to Development in Monsoon Southeast Asia, SIRD Publishing House, Petaling Jaya, Malaysia, 367–380.
- Cruz, R. V., H. Harasawa, M. Lal, S. Wu, Y. Anokhin, P. Batima, Y. Honda, M. Jafari, C. Li, N. Huu Ninh (2007): **Asia. Climate Change 2007: Impacts, Adaptation and Vulnerability**, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden and C. E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 469–506.
- Nguyen Huu Ninh (2007): **Flooding in Mekong River Delta, Vietnam**. UNDP Human Development Report 2007/2008, Paper No. 2007/53.



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Genome Institute of Singapore
A*STAR – Agency for Science, Technology and Research

The Genome Institute of Singapore (GIS) is a national initiative with a global vision that seeks to use genomic sciences to improve public health and public prosperity. As a center for genomic discovery, the GIS pursues the integration of technology, genetics and biology towards the goal of individualized medicine.

Background: GIS is the national flagship program for genomic sciences in Singapore.

The Agency for Science and Technology Research (A*STAR) is the parent funding body for the GIS.

In March 2001, Professor Edison T. Liu, was appointed the first executive director of GIS.

In October 2003, a new research building was inaugurated, the Genome – a 7,200 sq meter advanced facility. Set in the Biopolis – a 180 hectare biomedical city within the Buona Vista Science Hub, the Genome is adjacent to other biomedical institutes.

GIS plans to grow to a house over 300 scientists, trainees and staff. The major technical platforms of high throughput sequencing, molecular cytogenetics, bioinformatics, proteomics and expression array technologies have been integrated with programs in molecular and cellular biology, computational biology and population genetics.

The scientific focus of GIS is to investigate questions in the realm of functional genomics and integrative biology.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	14
Researchers from abroad currently working in your subunit:	8
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	-
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	3
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• The International Regulome Consortium, http://www.internationalregulomeconsortium.ca/	
Expected role in future international cooperation projects:	consortium member

Adj. Assoc. Prof. Huck Hui Ng, PhD
Singapore

Dr. Ng is currently a senior group leader at the Genome Institute of Singapore and an adjunct associate professor with the Department of Biological Sciences at the National University of Singapore and the School of Biological Sciences of Nanyang Technological University. He has spent more than a decade in research on understanding the intricacies of gene regulation and how they are related to cell biology. Dr. Ng's laboratory studies the regulation of gene expression in stem cells. His group is one of the pioneers, who used chromatin immunoprecipitation to elucidate the targets of transcription factors in living cells.

Dr. Ng's publications in a variety of journals have registered over 4000 citations. For his outstanding contribution to research on cellular circuits that are crucial in regulating genome stability and cell division, Dr. Ng received the 2007 National Science Award. He was also awarded the Singapore Youth Award for S&T in 2005 and the Young Scientist Award in 2004.

Recent publications

- Feng Bo, Ng Jia-Hui, Heng Jian-Chien Dominic, Ng Huck-Hui (2009): **Molecules That Promote or Enhance Reprogramming of Somatic Cells to Induced Pluripotent Stem Cells**. Cell Stem Cell, Apr 3; 4(4): 301–12.
- Feng Bo, Jiang Jianming, Kraus Petra, Ng Jia-Hui, Heng Jian-Chien Dominic, Chan Yun-Shen, Yaw Lai-Ping, Zhang Weiwei, Loh Yuin-Han, Han Jianyong, Vega Vinsensius B., Cacheux-Rataboul Valere, Lim Bing, Lufkin Thomas, Ng Huck-Hui (2009): **Reprogramming of Fibroblasts Into Induced Pluripotent Stem Cells With Orphan Nuclear Receptor Esrrb**. Nat. Cell Biol., Feb; 11(2): 197–203.
- Jiang Jianming, Chan Yun-Shen, Loh Yuin-Han, Cai Jun, Tong Guo-Qing, Lim Ching-Aeng, Robson Paul, Zhong Sheng, Ng Huck-Hui (2008): **A Core Klf Circuitry Regulates Self-Renewal of Embryonic Stem Cells**. Nat. Cell Biol., Mar; 10(3): 353–60.
- Chen Xi, Xu Han, Yuan Ping, et al. (2008): **Integration of External Signaling Pathways with the Core Transcriptional Network in Embryonic Stem Cells**. Cell, Jun 13; 133(6): 1106–17.
- Loh Yuin-Han, Zhang Weiwei, Chen Xi, George Joshy, Ng Huck-Hui (2007): **Jmjd1a and Jmjd2c Histone H3 Lys 9 Demethylases Regulate Self-Renewal in Embryonic Stem Cells**. Genes Dev., Oct 15; 21(20): 2545–57.



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Singapore Immunology Network A*STAR – Agency for Science, Technology and Research

The Singapore Immunology Network (SIgN) was launched by Agency for Science Technology and Research (A*STAR) with the aim of expanding and strengthening the immunology research expertise in Singapore. It moved into the Immunos Building with 6000 m² of laboratory space in 2008. It currently has more than 100 researchers and through the use of Systems Immunology approaches and cutting-edge technologies, SIgN investigators focus on three major areas of human immunity: infection, immunoregulation and inflammation in human tissues. In particular, immune responses during infection, immunoregulation and inflammation (including tumors) are studied in organs such as the skin, lung, liver, kidney, lymphoid organs and blood. The mission of SIgN is to build up a strong platform in basic human immunology research and translate its discoveries into clinical applications. The scientific vision of the Singapore Immunology Network (SIgN) is to research the complexity of the human immune system or, using the modern term, "Systems Immunology". It is chaired by Prof. Philippe Kourilsky, the Professor and Chair of Molecular Immunology at the College de France.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	7
Researchers from abroad currently working in your subunit:	3
International scientists to visit your subunit in 2008 staying for at least one week for research:	1
National researchers in your subunit having spent at least one study semester abroad:	3
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	3
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• Integration of Chikungunya Research, in cooperation with John Fazakerley, University of Edinburgh/UK	
Expected role in future international cooperation projects:	consortium member

Adj. Assist. Prof. Lisa Fong Poh Ng, PhD Singapore

Lisa Ng is a Principal Investigator at the Singapore Immunology Network and an adjunct assistant Professor at the Department of Biochemistry, National University of Singapore.

Prof. Ng has spent more than a decade working on viral diseases from academia to public health in developing a framework to deliver broad-range capability for disease preparedness.

She joined the Singapore Immunology Network (SIgN) in 2007 and her laboratory aims to gather knowledge on the immune responses mounted against arboviruses to develop new immune-based preventive and treatment strategies which could be applied to other diseases in the region. Her work involves an integrated network at the scale of Singapore with regional and international implications through multiple collaborations.

In addition to numerous other awards, Lisa received the ASEAN Young Scientist and Technologist Award in 2008 for her research on Asia's infectious diseases.

Recent publications

• Her Z, Kam YW, Lin RTP, Ng LFP (2009): **Chikungunya: A Bending Reality**, *Microbes and Infect*, 10th Sept 2009. • Kam YW, Ong EKS, Renia L, Tong JC, Ng LFP (2009): **Immuno-Biology of Chikungunya and Implications for Disease Intervention**, *Microbes and Infect*, 6th Sept 2009. • Ng LFP, Ojcius DM (2009): **Chikungunya Fever: Re-emergence of an Old Disease**, *Microbes and Infect*, 6th Sept 2009 • Ng LFP, Chow A, Sun YJ, Kwek DJC, Lim PL, Dimatatac F, Ng LC, Ooi EE, Choo KH, Her ZS, Kourilsky P, Leo YS (2009): **IL-1b, IL-6, and RANTES as Biomarkers of Chikungunya Severity**, *PLoS ONE*, 4: e4261. • Pipper J, Inoue M, Ng LFP, Neuzil P, Zhang Y, Novak L (2007): **Catching Birdflu in a Droplet**, *Nat Med*, 13: 1259–1263.



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Institute of Molecular and Cell Biology
A*STAR – Agency for Science, Technology and Research

The IMCB was established in 1987 at the National University of Singapore (NUS) before becoming an autonomous research institute (RI) of A*STAR. Its mission is to develop and foster a vibrant research culture for cutting-edge basic biomedical sciences and for training high-quality PhD students for the flourishing biotechnology and pharmaceutical industries in Singapore. IMCB graduates, post-docs, principal investigators and alumni are much sought-after and have consistently found excellent positions in academic and industrial organizations.

Funded primarily by Biomedical Research Council (BMRC) of A*STAR, IMCB now boasts about 40 core research labs and eight core facility units consisting of over 400 research scientists in total. IMCB's research activities focus on six major fields: Cell Biology, Developmental Biology, Structural Biology, Infectious Diseases, Cancer Biology and Translational Research.

IMCB's achievements include being part of the international consortium that successfully sequenced the entire pufferfish (*Fugu rubripes*) in 2002. IMCB was awarded the Nikkei Prize 2000 for Technological Innovation in recognition of its growth into a leading international research centre and its collaboration with industry and research institutes worldwide. IMCB continues to publish in renowned international journals, with more than 1300 publications to its credit since 1987.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	9
Researchers from abroad currently working in your subunit:	2
International scientists to visit your subunit in 2008 staying for at least one week for research:	1
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Uttam Surana, PhD
Singapore

Uttam Surana is a cell biologist, who undertook his graduate studies at the University of Arizona and obtained a PhD from the Department of Molecular and Cellular Biology in 1986. Thereafter, he moved to the Department of Engineering at the University of Cambridge, where he spent two years studying the mechanical properties of bacterial cell surface polymers and their role in cell shape determination. He spent the subsequent four years as a postdoctoral fellow at the Institute of Molecular Pathology in Vienna, investigating various aspects of cell division in the budding yeast. He joined the A*STAR Institute of Molecular and Cell Biology (IMCB) in Singapore in 1992. For his outstanding contribution to the understanding of cellular control circuits that regulate the cell division, Prof. Surana was awarded in 2007 Singapore's National Science Award. One of the main goals he sees in international research cooperation is to generate innovative ideas through discussions.

Recent publications

• Lim, H. H., Zhang, T. and Surana, U. (2009): **Regulation of Centrosome Separation in Yeast and Vertebrates: Common Threads.** Trends in Cell Biology, in press. • Crasta, K., Lim, H. H., Giddings Jr, T. H., Winey, M. and Surana, U. (2008): **Inactivation of Cdh1 by Synergistic Action of Cdk1 and Polo Kinase Is Necessary for Proper Assembly of Mitotic Spindle.** Nature Cell Biology 10: 665–675. • Krishnan, V., Dirick, L., Lim, H. H., Lim, T. S. J., Si-Hoe, S. L., Cheng, C. S., Yap, K., Ting, A., Schwob, E. and Surana, U. (2007): **A Small Molecule Inhibitor Stalls Replication Forks and Activates S Phase Checkpoint.** Cell Cycle 6:13, 1621–1630. • Crasta, K., Huang, P., Morgan, G., Winey, M. and Surana, U. (2006): **Cdk1 Regulates Centrosome Separation by Restraining Proteolysis of Microtubule-Associated Proteins.** EMBO J. 25: 2551–2563. • Zhang, T., Lim, H. H., Cheng, C. S. and Surana, U. (2006): **Deficiency of Centromere-Associated Protein Slk19 Causes Premature Nuclear Migration and Loss of Centromeric Elasticity.** J. Cell Science 119: 519–531.



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Singapore Institute of Manufacturing Technology A*STAR – Agency for Science, Technology and Research

As a research institute of A*Star, the Singapore Institute of Manufacturing Technology (SIMTech) develops high-value manufacturing technology and human capital to enhance the competitiveness of Singapore's manufacturing industry.

SIMTech has completed more than 880 projects with more than 410 companies in the electronics, semiconductor, precision engineering, aerospace, automotive, marine, logistics and other sectors.

Roles:

- To create intellectual capital through the generation, application and commercialisation of advanced manufacturing science and technology.
- To nurture research scientists and engineers by providing opportunities to do use-inspired research for industry.
- To contribute to Singapore's industrial capital by collaborating in projects and sharing research expertise and infrastructure with the industry.

In its quest to develop technology to meet the needs of the industry, SIMTech has, on its own or in collaboration with research and industry partners, created several innovative and award-winning research achievements.

In addition to three research programmes and an innovation and commercialisation department, SIMTech comprises eight research groups organized within the following three categories: manufacturing process, automation and industrial informatics.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	368
Researchers from abroad currently working in your subunit:	37
International scientists to visit your subunit in 2008 staying for at least one week for research:	6
National researchers in your subunit having spent at least one study semester abroad:	3
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	60
Approximate proportion (in %) of internationally funded research projects in your subunit:	20
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Chua Beng Wah, PhD

Singapore

Dr. Chua received his PhD in Mechanical engineering from the National University of Singapore in 2005 and is currently a research engineer in A*Star's Singapore Institute of Manufacturing Technology (SIMTech). He performs research in precision metal forming and casting especially in the area of light metal alloys processing. His other research interests include the understanding of deformation mechanism and metallurgical behaviour of nanostructured metals and alloys. Since 2005, he has published/presented several papers in international journals and conferences.

In 2008, Dr. Chua received the Singapore National Technology Award together with his colleagues in the Liquid Forging Team, namely Dr. John Yong, Steven Tong and Ho Meng Kwong. The Award was dedicated to this group for their outstanding contributions to the development of liquid forging technology for the manufacturing of high-strength components.

Among other things, Dr. Chua is interested in international cooperation in order to share the common goal of saving the world from global warming through the development of energy saving technology.

Recent publications

• K. K. Tong, B. W. Chua, T. Muramatsu, A. Danno and M. S. Yong (2008): **Squeeze Casting of Al Alloys for Higher Formability in Cold Forging**, International Journal of Cast Metals Research, 21(1-4). • B. W. Chua, Y. W. Tham, K. B. Lim, K. K. Tong and M. S. Yong (2006): **Effect of Al and Ca Addition on the Oxidation, Microstructures and Mechanical Properties of AZ91 Alloys**, The 5th International Conference on Materials Processing for Properties and Performance (MP3), vol. 5: 241–244. • B. W. Chua, L. Lu and M. O. Lai (2006): **Creep Behavior of Nanostructured Mg Alloy at Ambient and Low Temperature**, Materials Research Bulletin, 41(11): 2102–2110. • Chua BW, Lu L, Lai MO (2006): **Deformation Behaviour of Ultrafine and Nanosize-Grained Mg Alloy Synthesized Via Mechanical Alloying**, Philosophical Magazine, 86(19): 2919–2939. • Lu L, Lai MO, Chua BW, Lim SH (2006): **From Waste to High-Strength Alloy – Recycling of Magnesium Chips**, Zeitschrift für Metallkunde, 97(2): 169–173.



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**Department of Chemical Engineering
Faculty of Engineering
Chulalongkorn University**

Chemical Engineering as a field of research at Chulalongkorn University was first established in 1942, then ceased in 1947 because of a lacking demand from Thai industries at that time. Finally, it was re-established in 1961 offering chemical engineering together with industrial engineering, becoming a department in its own right in 1975.

Over the past decades, the department has evolved to be the premier chemical engineering department in the country, both in terms of teaching and research. With its thirty six faculty members, it is the most endowed department in terms of human resources and staff experience. Over 1,400 students have graduated from the department up to today.

Its mission is to:

- Provide high-quality undergraduate and graduate education,
- Generate knowledge and develop technology through excellence in research,
- Contribute to the sustainable development of the nation and the quality of life of the people.

The department emphasizes interdisciplinary research and offers a wide variety of modern laboratories. Its ten research laboratories cover all the important areas of chemical engineering research and are organized in the following five clusters:

- Bio- and Enviro-Chemical Engineering
- Catalysis and Reaction Engineering
- Process Control and Process Systems Engineering
- Material Engineering
- Chemical Engineering Fundamentals

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	8
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	1
National researchers in your subunit having spent at least one study semester abroad :	3
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	-
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Dr. Piyasan Prasertthdam

Thailand

Prof. Dr. Prasertthdam is head of the Department of Chemical Engineering of Chulalongkorn University in Bangkok. After earning his MSc in the Polytechnic Institute of New York in the US, he obtained a PhD from the Institut National des Sciences Appliquées (INSA) in Toulouse, France.

Prof. Prasertthdam conducts research in a series of chemical engineering sub-fields like selective hydrogenation catalysts, oxidation catalysts, Ziegler-Natta catalysts, nanocatalysis or nano-crystal synthesis. He has published nearly 200 articles in international journals and won the 2003 National Outstanding Researcher Award, conferred by the National Research Council of Thailand. In 2006, Prof. Prasertthdam received the Outstanding Scientist Award from the Foundation for the Promotion of Science and Technology under the Patronage of His Majesty the King.

In 1979, he established the Catalysis and Catalytic Reaction Engineering Laboratory as part of the Chemical Engineering Department.

Recent publications

- Tangjitubun, K., Jongsomjit, B., Prasertthdam, P. (2009): **Catalytic Behaviors of SiO₂-Supported Various Coactivator in MgCl₂/DEP/TiCl₄-TEA Catalysts for Propylene Polymerization**, Catalysis Communications, 10(9): 1319–1323.
- Wongmaneevil, P., Jongsomjit, B., Prasertthdam, P. (2009): **Influence of Calcination Treatment on the Activity of Tungstated Zirconia Catalysts Towards Esterification**, Catalysis Communications, 10(7): 1079–1084.
- Suriye, K., Jongsomjit, B., Satayaprasert, C., Prasertthdam, P. (2008): **Surface Defect (ti3+) Controlling in the First Step on the Anatase TiO₂ Nanocrystal by Using Sol-Gel Technique**, Applied Surface Science, 255(5): 2759–2766.
- Khom-in, J., Prasertthdam, P., Panpranot, J., Mekasuwandumrong, O. (2008): **Dehydration of Methanol to Dimethyl Ether Over Nanocrystalline Al₂O₃ With Mixed Gamma- and Chi-Crystalline Phases**, Catalysis Communications, 9(10): 1955–1958.
- Kunjara Na Ayudhya, S., Soottitantawat, A., Prasertthdam, P., Satayaprasert, C. (2008): **Effect of Aging on the Properties of Mesoporous Niobium Oxide**, Materials Chemistry and Physics, 110(2-3): 387–392.



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Research Centre for Physics Indonesian Institute of Sciences

The Indonesian Institute of Sciences (LIPI) was established in 1967. It is a non-departmental governmental research institution. The Chairman of LIPI is directly responsible to the President of the Republic of Indonesia. The mission of LIPI is to assist the President in organizing research and development, to provide guidance and service to scientific and technological enterprises, and to conduct strategic and fundamental research in science and technology.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	210
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	3
National researchers in your subunit having spent at least one study semester abroad :	40
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	15
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • Development of Nanomaterial Based on High Energy Milling and Its Application for Nanosilica Production for High Strength Concrete, DIPA LIPI Grant, Second Year, Research Center for Physics – Indonesian Institute of Sciences in collaboration with Kagoshima University, Japan and Sepuluh November Institute of Technology 	
Expected role in future international cooperation projects:	project coordinator

Dr. Nurul Taufiqu Rochman, M. Eng. Indonesia

Dr. Taufiqu Rochman is Senior Researcher at the Research Center for Physics at the LIPI PUSPI TEK, Indonesia. He graduated from Kagoshima University in Japan, and worked as a post doc for the Japan Science and Technology Corporation (JST) and the Japan Society for Promotion of Science (JSPS). Since 2005, he acts as chairman for the Indonesian Society for Nanotechnology. Currently, his major research interests are the development of a mechanical system of high energy milling for nanostructured material production, the development of fine grained steels prepared by MA-PM, and removing Pb for copper alloys (scrap) containing Pb using the compound separation method.

In 2009, he received the Science and Technology Award for his work on "Development of Nanomaterials Based on Local Resources Prepared by New HEM". Further awards received include the Ganesha Widya Jasa Aditutama Award in 2009 and the Best Innovations & Best Ideas In Business Award in 2005.

Recent publications

- Agus S. W., Nurul T. R., S. Sameshima, K. Takewaka, H. Sueyoshi (2009; submitted): **Fabrication of Iron Aluminide Coating on Steel Surface by Mechanical Alloying at Elevated Temperature**, Transactions of The Materials Research Society of Japan.
- Nurul T. R. (2007): **Research and Development of Nanotechnology in Indonesia**, Indonesian Nanoletter, 1(1): 1–7.
- Atushi Nakano, Nurul T. R. and H. Sueyoshi (2005): **Removal of Lead from Copper Alloy Scraps by Compound-Separation Method**, Materials Transactions, 46(12): 2719–2724.
- Atushi Nakano, Nurul T. R. and H. Sueyoshi (2005): **LCA of Manufacturing Lead-Free Copper Alloys**, Materials Transactions, 46(12): 2713–2718.
- Nurul T. R. and H. Sueyoshi (2003): **Fe-C System Alloys Prepared by Mechanical Alloying and Powder Metallurgy**, Journal of The Japan Society of Powders and Powder Metallurgy, 50: 976–980.



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Industrial Machinery and Instruments Holding (IMI Holding)

The Industrial Machinery and Instruments Holding is organized in form of parent-subsidiary company complex, in which the parent company is an S&T enterprise aiming at linking science, research, training and production. Its fields of activities are:

1. Science and research:
 - Research, development and application of mechatronics in industry, consumerware, medicine and environment.
 - Research and design of high-tech breakthrough products and non-conventional technologies
 - Design and testing of industrial chips, technical and management software
 - S&T consultancy in industrial and environmental fields.
2. Training:
 - Training engineering doctors in mechanical engineering and mechatronics
 - Training engineers in mechatronics (in co-operation with the College of Technology)
3. Production and Trade:
 - Rapid transfer of scientific achievements to the production of new products with high added value
 - Manufacturing, trading and installing of machines, technological equipment in the fields of industry, consumerware, medicine and environment
 - Supply of automation solutions and systems, chips, technical and management software
 - Provision of investment consultancy and trading activities

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	231
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad:	20
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• CHIP, a 12 month project with Integral, Belarus on chip design and testing	
• X-Ray, 24 month project with Medigration AG, Germany and Swissray, Switzerland on a research, design and manufacture of x-ray machines for hospitals	
Expected role in future international cooperation projects:	project coordinator

Prof. Dr. Truong Huu Chi

Vietnam

Dr. Truong Huu Chi is group chairman and president of the Industrial Machinery and Instruments (IMI) Holding in Hanoi. In 1990, he earned a PhD in Engineering from TU Chemnitz/Germany. His research focuses on Mechanical Engineering and Mechatronics with a focus on CNC cutting and milling. Among his scientific output are several national and international publications and three patents, filed in Vietnam and Germany.

Dr. Truong is a member of the National Council of Science & Technology Policy (NCSTP) of Vietnam and was Member of the XI National Assembly.

His research in design and manufacturing of mechatronic products was decorated with the Ho Chi Minh S&T Award in 2005. In 2001, he received the VI-FOTECH Award for his work on manufacturing a gas metal cutting machine.

Recent publications

- Truong Huu Chi, Vo Thi Ry (2006): **Mechatronics in Machine Manufacturing**, Science and Technology Publishing House.
- Truong Huu Chi, Vo Thi Ry (2005): **Mechatronic – Systems in Machine Manufacturing**, Science and Technology Publishing House.
- T. H. Chi, H. Lutze, K. Damm (1992): **Trennen mit Flüssigkeitsstrahl**. Wissenschaftliche Schriftenreihe, 2, 1–29.
- T. H. Chi, H. Lutze, K. Damm (1992): **Entwurf einer DIN "Wasserstrahlschneiden"**. Wissenschaftliche Schriftenreihe, 2, 29–53.
- T. H. Chi, H. Lutze, K. Damm (1992): **Auszug aus einem VDI-Entwurf "Wasserstrahlschneiden"**. Wissenschaftliche Schriftenreihe, 2, 53–60.



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Department of Mechanical Engineering King Mongkut's University of Technology Thonburi

The Department of Mechanical Engineering at the King Mongkut's University of Technology Thonburi was established in 1960. Following the credo that "the trained man wins", its faculty, currently comprising 33 scientists, offers teaching and conducts research.

Research is carried out in 5 laboratories:

- Center of Operation for Computer Aided Research Engineering (CO-CARE)
- Thermodynamics and Heat Transfer Laboratory (THT)
- Dynamic Systems and Robotics Laboratory
- Fluid Mechanics, Thermal Engineering and Multiphase Flow Research Laboratory (FUTURE)
- Combustion and Engines Research Laboratory (CERL)

The university was initially established in 1960 as the Thonburi Technical Institute. Together with Northern Bangkok Technical Institute and the Non-thaburi Telecommunication Institute, it was later changed to King Mongkut's Institute of Technology (KMIT) in 1971. In 1986, KMIT was divided into three autonomous universities, of which KMIT was one. Full autonomy and university status was reflected in the name changed to KMUTT in 1998.

At present, there are eight faculties: Engineering, Science, Industrial Education, School of Information Technology, School of Architecture, School of Energy and Materials, School of Bio-Resources and Technology and the School of Liberal Arts.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	14
Researchers from abroad currently working in your subunit:	2
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad:	-
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	-
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Dr. Somchai Wongwises

Thailand

Dr. Wongwises is full professor at the Department of Mechanical Engineering of the King Mongkut's University of Technology Thonburi and head of the Fluid Mechanics, Thermal Engineering and Multiphase Flow Research Lab (FUTURE). He earned a Doctor of Engineering in Mechanical Engineering from Chulalongkorn University and a Doktor-Ingenieur in Process Engineering from the University of Hannover in Germany.

His research focuses on two-phase flow, heat and mass transfer enhancement, thermodynamics, refrigeration and air-conditioning. In 2006, he was awarded the Outstanding Scientist Award from the Thai Foundation for the Promotion of Science and Technology under the Patronage of His Majesty the King. In 2004, he won the Distinguished Researcher Award in Engineering and Industrial Research of the National Research Council of Thailand. Dr. Wongwises has published more than 100 papers in international journals.

Recent publications

- Daungthongsuk, W. and Wongwises, S. (2009): **Heat Transfer Enhancement and Pressure Drop Characteristics of TiO₂-Water Nanofluid in a Double-Tube Counter Flow Heat Exchanger**, International Journal of Heat and Mass Transfer, 52(7-8): 2059–2067.
- Trisaksri, V. and Wongwises, S. (2009): **Nucleate Pool Boiling Heat Transfer of an Alternative Refrigerant with Nanoparticle Suspension**, International Journal of Heat and Mass Transfer, 52(5-6): 1582–1588.
- Pirompugd, W., Wang, C. C., and Wongwises, S. (2009): **A Review on Reduction Method for Heat and Mass Transfer of Fin-and-Tube Heat Exchangers Under Dehumidifying Conditions**, International Journal of Heat and Mass Transfer, 52(9-10): 2370–2378.
- Kaew-on, J. and Wongwises, S. (2009): **Experimental Investigation of Evaporation Heat Transfer Coefficient and Pressure Drop of R-410A in a Multiport Mini-Channel**, International Journal of Refrigeration, 32(1): 124–137.
- Saisorn, S. and Wongwises, S. (2009): **An Experimental Investigation of Two-Phase Air-Water Flow Through a Horizontal Circular Micro-Channel**, Experimental Thermal and Fluid Sciences, 33(2): 306–315.



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**Division of Research and Department of Medicine
Faculty of Medicine
Chulalongkorn University Hospital**

The Division of Research's activities include basic science studies as well as transitional and clinical research. Activities comprise different fields of research such as infectious and non-infectious diseases, advanced technology-based research, public health research, emerging infectious diseases, degenerative diseases and tropical diseases. There are more than thirty-five research programs and research centers within the university.

The division has received funding support from domestic and international granting agencies. The major domestic grant awards are from the following organizations: Thailand Research Council (TRC) and Fund (TRF), Thailand BI-OPEC, the Commission of Higher Education, and Chulalongkorn Intramural Grant. Previous and current international research grant awards have been received from the National Institutes of Health (NIH) in the USA, the Japan International Cooperation Agency (JICA) and others. Clinical trials are funded by product related pharmaceutical industries.

Currently, there are several research collaborations with the US (CDC, Atlanta; NIH, Bethesda – NIAIDs and the NHGRI; the Johns Hopkins University School of Public Health; Harvard Medical School; etc.), Asia (Kobe University and Yokohama University) and Europe (Oxford University; University of Amsterdam; University of Nijmegen).

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	12
Researchers from abroad currently working in your subunit:	1
International scientists to visit your subunit in 2008 staying for at least one week for research:	3
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	-
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	
• Survey of Bat Nipah virus in Thailand and seasonal preference, a 72 month project (approved by the Ministry of Natural Resources and Environment) with the Centers for Disease Control and Prevention in Atlanta/USA	
• A project on the Bat Lyssa virus with the Centers for Disease Control and Prevention in Atlanta/USA	
Expected role in future international cooperation projects:	project partner

Prof. Thiravat Hemachudha, MD

Thailand

Dr. Thiravat is professor of neurology at the Department of Medicine and the Molecular Biology Center for Neurological Diseases of the Chulalongkorn University Hospital. Furthermore, he is the director of the WHO Collaborating Center for Research and Training on Viral Zoonoses. He studies disease transmission from animals to humans, particularly viruses, and currently works on encephalitis, rabies and, generally, biomarker proteomics.

Prof. Thiravat has published extensively, especially on rabies and neurological diseases. He is a member of the New York Academy of Sciences and the Institut Pasteur's Scientific Committee. In 2004, he received the Thailand Outstanding Scientist Award for his work on rabies and other encephalitides.

Prof. Thiravat is interested in building up concrete networks for research on emerging infectious diseases by offering MSc and PhD students exchange opportunities with mutual respect and equity.

Recent publications

- Wacharapluesadee S, Boongird K, Wanghongsa S, Ratanasetyuth N, Supavonwong P, Saengsen D, Gongal GN and Hemachudha T (in press): **A Longitudinal Study of the Prevalence of Nipah Virus in Pteropus lylei Bats in Thailand: Evidence for Seasonal Preference in Disease Transmission**, Vector-Borne and Zoonotic Diseases.
- Wacharapluesadee S, Sutipanya J, Damrongwatanapokin S, Phumesin P, Chamnanpood P, Leowijuk C and Hemachudha T (2008): **Development of a TaqMan Real-Time RT-PCR Assay for the Detection of Rabies Virus**, J Virol Methods, 151(2): 317–20.
- Avihingsanon Y, Phumesin P, Benjachat T, Akkasilpa S, Kittikowit V, Praditpornsilpa K, Wongpiyabavorn J, Eiam-Ong S, Hemachudha T, Tungsanga K, Hirankarn N (2006): **Measurement of Urinary Chemokine and Growth Factor Messenger RNAs: A Noninvasive Monitoring in Lupus Nephritis**, Kidney Int., 69(4): 747–53.
- Wacharapluesadee S, Lumlertdacha B, Boongird K, Wanghongsa S, Chanhome L, Rollin P, Stockton P, Rupprecht CE, Ksiazek TG, Hemachudha T (2005): **Bat Nipah Virus, Thailand**, Emerg Infect Dis., 11(12): 1949–51.
- Wilde H, Hemachudha T, Tantawichien T, Khawplod P. (2006): **Rabies and Other Lyssavirus Diseases**, Lancet, 363: 1906.



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Maranatha Christian University (MCU)

The university was founded on September 11, 1965 by Perkumpulan Intelegensia Kristen Cabang Bandung (Christian Scientist Fellowship-Bandung Chapter) with the support of Gereja Kristen Indonesia (Indonesian Christian Church) and Gereja Kristen Pasundan (Pasundan Christian Church). Initially, the university was made up of only one faculty: the Faculty of Medicine.

The aim of study at the Medical Faculty is to produce highly dedicated medical professionals in consistency with the medical code of the National Health System, who are capable of raising and expanding health standards, exploring personal talent in a lifetime dedication to the pursuit of knowledge, implementing strict medical ethics, and serving the needy. The Immanuel Hospital is the prime teaching hospital. Immanuel has a polyclinic in each of the departments, plus a diagnostic center equipped with medical instruments used in ultrasonography, endoscopy, bronchoscopy, fluoroscope, CT-scanning, laparoscopic surgery and others.

Additionally, the university today comprises Faculties of Engineering, Letters, Psychology, Economics, Information Technology, Arts and Design, and a Dual Degree Faculty, which includes Civil Engineering and Information Systems.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	27
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	2
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	10
Approximate proportion (in %) of internationally funded research projects in your subunit:	-
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Assoc. Prof. Khie Khiong, PhD

Indonesia

Dr. Khie Khiong is associate professor at the Immunology Division of Health (PPIK), Medical Faculty, Maranatha Christian University in Bandung/Indonesia with a current research focus on molecular mechanism of Buah Merah (Red fruit or *Pandanus conoideus* Lam) extract in preventing colitis and colorectal cancer induced in mice by DSS. He speaks four languages (Bahasa Indonesia, English, Japanese and Mandarin) and is convinced of the importance of creating academic networks with fellow institutions not only for himself, but for his home university and country.

In 2008, he received the RISTEK-Kalbe Science Award in the category "Best Research" for his work on "Spontaneous Mutation of Rag1 in MM Mice: A Model for the Omenn Syndrome".

Recent publications

- Khie Khiong, Masaaki Murakami, Chika Kitabayashi, Naoko Ueda, Shin-ichiro Sawa, Akemi Sakamoto, Brian L. Kotzin, Stepehen J. Rozzo, Katsuhiko Ishihara, Marileila Verella-Garcia, John Kappler, Phillipa Marrack, dan Toshio Hirano (2007): **Homoestatically Proliferating CD4+ T Cells are Involved in the Pathogenesis of an Omenn Syndrome Murine Model**, *The Journal of Clinical Investigation*, 117(5):1270–1281.
- Khie Khiong, Sawa Shin-ichiro, Sakamoto Akemi, Kitabayshi Chika, Ishihara Katsuhiko, Kotzin Brian. L., Rozzo Stephen J., Verella-Garcia Marileila, Kappler John, Marrack Phillipa, Hirano Toshio, dan Murakami Masaaki (2006): **A Mutant Mouse Having Excess Amount of Memory T Cells is a Model Mouse of Omenn Syndrome**, *Proceedings of The Japanese Society for Immunology (JSI)*, vol. 36.
- Khie Khiong, Pippa Marrack, John Kappler, Sakamoto Akemi, Brian L. Kotzin, Toshio Hirano, dan Masaaki Murakami (2005): **Identification of Responsible Gene(s) in a Spontaneous Mutant of C57BL/10, Which Carries Excess Amount of Memory T Cells**, *Proceedings of The Japanese Society for Immunology (JSI)*, vol 35.
- Khie Khiong, Iwan Muljadi, Kartika Dewi, Sri Utami Soegeng, dan Sylvia Soeng (2003): **Determination of Substrate Specificity and Species of Local Strains of Bacillus sp that Produce Penicillin Acylase**, *Proceedings of The 12th Indonesian Scientific Meeting in Japan*.
- Khie Khiong, Susilaningih Dwi, Mayuko Nakashima, Kazumasa Hirata, dan Kazuhisa Miyamoto (2003): **Biosurfactant Properties and Bioactivities of Extracellular Pink Pigment Produced by Freshwater Cyanobacterium, Oscillatoria sp. BTCC/A004 and Effect of Co-cultivation on Its Production**, *Proceedings of The 12th Indonesian Scientific Meeting in Japan*.



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**National Cardiovascular Center Harapan Kita
Department of Cardiology & Vascular Medicine
Faculty of Medicine, University of Indonesia**

With the mission to be the center of excellence in cardiovascular service, education and research, the National Cardiovascular Center Harapan Kita (NCC-HK) is the top referral for cardiovascular disease services (diagnosis, treatment), education (in collaboration with the Department of Cardiology & Vascular Medicine, Faculty of Medicine, University of Indonesia) and research. In the research area, NCC-HK will be the first institution in Indonesia, which consists of the facilities for basic-translational and clinical researches.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	11
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	4
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
• ECE-1 in PH – The Role of ECE-1 in Pulmonary Hypertension, a 24 month project in cooperation with Dr. Noriaki Emoto, PhD, Div. of Cardiovascular and Respiratory Medicine, Department of Internal Medicine, Kobe University Graduate School of Medicine, Japan	
• Japan-Indonesia Joint Symposium, in cooperation with the Japanese Circulation Society	
Expected role in future international cooperation projects:	project partner

Sunu Budhi Raharjo, MD, PhD

Indonesia

Currently, Dr. Budhi Raharjo is Fellow of Clinical Cardiology at the Department of Cardiology and Vascular Medicine at the Faculty of Medicine of the University of Indonesia. From 2006 to 2007 he was head of the new Cardiovascular Research Centre at the National Cardiovascular Center in Harapan Kita, Jakarta, where he was in charge of the design and development of the center.

He received his PhD from Kobe University Graduate School of Medicine, Japan for his work on the molecular basis of cardiovascular diseases. His current research focuses on pulmonary hypertension, heart failure, the Endothelin systems, the Renin-Angiotensin and Bradykinin systems, and genetic polymorphisms.

He received the Young Investigator Award for Foreign Researcher from the Japanese Circulation Society in 2004, and The Best Research Awards at the National Medical Research Competition held by the State Ministry of Research & Technology of Indonesia – Kalbe Farma Tbk., Jakarta in 2008.

Recent publications

• Raharjo SB, Emoto N, Hirata K (2009; submitted): **The Role of Endothelin-Converting Enzyme-1 and Bradykinin in Hypoxia-induced Pulmonary Hypertension**, The Journal of the American College of Cardiology. • Emoto N, Raharjo SB, et al. (2005): **Dual ECE/NEP Inhibition on Cardiac and Neurohumoral Function During the Transition From Hypertrophy to Heart Failure in Rats**, Hypertension, Jun/45(6): 1145–1152. • Isaka D, Emoto N, Raharjo SB, Yokoyama M, and Matsuo M (2003): **The Effects of Phosphoramidon on the Expression of Endothelin-Converting Enzyme-1 Isoforms**, J Cardiovasc Pharmacol, Jul/42(1): 136–141. • Raharjo SB, Emoto N, Ikeda K, Sato R, Yokoyama M, and Matsuo M (2001): **Alternative Splicing Regulates the Endoplasmic Reticulum Localization or Secretion of Soluble Secreted Endopeptidase**, J Biol Chem, Jul/276(27): 25612–20. • Nonaka H, Emoto N, Raharjo SB, et al. (2001): **Angiotensin II Induces Circadian Gene Expression of Clock Genes in Culture Vascular Smooth Muscle Cells**, Circulation, Oct/9/104(15): 1746–8.



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Faculty of Pharmacy Airlangga University

The Faculty of Pharmacy at Airlangga University provides high-quality pharmaceutical higher education in Indonesia, with ranking A according to the Directorate of Indonesian Higher Education within the Ministry of Education of the Republic of Indonesia.

In addition, the Faculty of Pharmacy, Airlangga University awarded some international projects i.e. QUE project from the World Bank (1999–2003), PHK B, competitive project from the Indonesian Ministry for Education (2006–2008) and IMHERE B.2c Project from the World Bank (2009–2012) and has established an ISO 9001:2008 Quality Management System in 2008.

The Department of Pharmacognosy and Phytochemicals employs 20 research and teaching staff members.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	34
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	1
National researchers in your subunit having spent at least one study semester abroad:	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	2
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • Ginger's PTC on in-vitro cultures of Ginger, a 5 year project in cooperation with Prof. Chan Lai Keng, Universiti Sains Malaysia, Penang/Malaysia • Biotransformation – Biotransformation of Mefenamic Acid by suspension cultures of Solanum mammosum, a 6 month project in cooperation with Prof. Mary Garson, University of Queensland, Australia 	
Expected role in future international cooperation projects:	project partner

Prof. Dr. Gunawan Indrayanto

Indonesia

Dr. Gunawan Indrayanto is a professor of pharmaceutical biology at the Faculty of Pharmacy at Airlangga University. Furthermore, he is part of the Plant Biotechnology Research Group at the Department of Pharmacognosy and Phytochemistry. He is researching the metabolite profiling of Indonesian medicinal plants, making chromatographic analysis and its validation, and he is studying secondary metabolite production as well as the bioremediation using plant tissue cultures.

Dr. Gunawan Indrayanto received his PhD at the University of Tübingen in Germany in 1983. In 2008, he was nominated as Leading Scientist by COM-STECH for his work in medical sciences, and has been nominated as "Dosen berprestasi dengan pengakuan nasional/internasional" (Nationally and internationally highly recognized professor) by the rector of Airlangga University. He appreciates cooperation with EU colleagues on the topic of natural product chemistry and related sciences.

Recent publications

- D. Widiretanani, S. I. Wahyuni, W. F. Kartinasari, G. Indrayanto (2009): **Simultaneous Determination of Pyrazinamide and Pyridoxine HCl by TLC-Densitometry: Validation of the Method.** J. Liq. Chromatogr. R & T, 32, 154–165.
- F. Melianita, J. Witha, S. Arifin, W. F. Kartinasari and G. Indrayanto (2009): **Simultaneous Determination of 6-Gingerol, 8-Gingerol, 10-Gingerol and 6-Shogaol in Some Commercial Gingers.** J. Liq. Chromatogr. R & T., 32, 567–577.
- S. Cholifah, W. F. Kartinasari, G. Indrayanto (2008): **Simultaneous HPLC Determination of Levamisole Hydrochloride and Anhydrous Niclosamide in Veterinarian Powders, and its Validation,** J. Liq. Chromatogr. R & T., 31, 281–291
- S. Surodjo, A. A. Salim, Suciati, A. Syahrani, G. Indrayanto, M. J. Garson (2008): **Biotransformation of Mefenamic Acid by Cell Suspension Cultures of Solanum Mammosum,** Natural Product Communication, 3, 257–262.
- S. Oshimi, Y. Tomizawa, Y. Hirasawa, T. Honda, W. Ekasari, A. Widyawaruyanti, M. Rudyanto, G. Indrayanto, N. C. Zaini, H. Morita (2008): **Chrobisiamone A, a New Bischromone From Cassia Siamea and a Biomimetic Transformation of 5-Acetyl-7-Hydroxy-2-Methylchromone Into Cassiarin A,** Bioorganic and Medicinal Chemistry Letters 18, 3761–3763.



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**Department of Parasitology
Faculty of Medicine
University of Malaya**

The Department of Parasitology was established under the Department of Social Preventive Medicine (SPM) in the year 1964, a year after the establishment of the Faculty of Medicine, University of Malaya. Today, the Department has twelve academic and twelve support personnel. There are three full professors, four associate professors, two senior lecturers, one lecturer, one contract senior lecturer and one SLAB trainee lecturer. The support staff includes, among others, a scientific officer and six medical laboratory technologists.

The Department of Parasitology places utmost importance in research on parasitic diseases, especially rampant, re-emerging and emerging parasites. The department has acquired a series of grants and translated its activities in the form of publications and the development of new diagnostic kits. To give a few examples, it has contributed to the Rapid *Brugia malayi* filariasis kit, which has been developed and patented by Universiti Sains Malaysia. A rapid test for *Blastocystis* called Blastokit has been developed and is in the process of obtaining patency. Moreover, a rapid method for the detection of *Acanthamoeba* from corneal scrapings has been developed in the laboratory.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	18
Researchers from abroad currently working in your subunit:	1
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	2
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	3
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
<ul style="list-style-type: none"> • Pheno geno blasto ("Phenotypic and genotypic studies on <i>Blastocystis</i>"), a 36 month project with the Scottish Parasite Diagnostic Lab, Glasgow/Scotland • Reproductive processes in <i>Blastocystis</i>, a 12 month project with the Scottish Parasite Diagnostic Lab, Glasgow/Scotland • <i>Blastocystis</i> in sewage samples, a 12 month project with the Scottish Parasite Diagnostic Lab, Glasgow/Scotland 	
Expected role in future international cooperation projects:	project partner

Prof. Dr. Suresh Kumar a/I Govind
Malaysia

Dr. Suresh Kumar is professor at the University of Malaya's Department of Parasitology. His research focuses on the diarrhoeal causing pathogen *Blastocystis* and has triggered some 200 publications.

Dr. Kumar developed an improved diagnostic test to determine the significance of *Blastocystis* in human and non-human hosts, which won the Geneva International Innovation Gold medal. Suresh has investigated aspects of the parasite's biology within six international collaborative networks (Europe, USA, Australia, Thailand, Bangladesh, India), contributed a position paper on *Blastocystis* for the WHO Guidelines for Drinking-water Quality and still serves in the respective WHO Committee. Dr. Suresh has also served as the WHO Temporary Advisor for Waterborne Zoonosis, Shellfish and Water. He has won several awards for his work, for instance the Malaysian Toray Award in 2008, the National Innovation Award in 2004 and the National Young Scientist Award in 1995.

Recent publications

- C. Rune Stensvold, G. Kumar Suresh, Kevin S. W. Tan, R. C. Andrew Thompson, Rebecca J. Traub, Eric Viscogliosi, Hisao Yoshikawa and C. Graham Clark (2006): **Terminology for *Blastocystis* Subtypes – A Consensus**, Trends in Parasitology, 23(3): 93–96.
- Suresh Kumar Govind, Khairul A. Anuar and Huw V. Smith (2003): **Response to Tan and Stenzel, and Windsor et al.: *Blastocystis* Reproduction and Morphology**, Trends in Parasitology, 19(7): 291–292.
- Suresh Kumar Govind, Anuar A. Khairula and Huw V. Smith (2002): **Multiple Reproductive Processes in *Blastocystis***, Trends in Parasitology, 18(12): 528.
- H. Rajah Salim, G. Suresh Kumar, S. Vellayan, J. W. Mak, A. Khairul Anuar, I. Init, G. D. Vennila, R. Saminathan and K. Ramakrishnan (1999): ***Blastocystis* in Animal Handlers**, Parasitology Research, 85(12): 1032–1033.
- G. D. Vennila, G. Suresh Kumar, A. Khairul Anuar, S. Rajah, R. Saminathan, S. Sivanandan and K. Ramakrishnan (1999): **Irregular Shedding of *Blastocystis Hominis***, Parasitology Research, 85(2): 162–164.



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**Nutrition and Food R&D Center
National Institute of Health Research and Development (NIHRD)
Ministry of Health**

The NIHRD is a research institution under the Ministry of Health. Its main duty is coordinating and conducting health research both through its own research centers and in collaboration with other research institutions. The NIHRD consists of a Secretarial Body and five Research and Development Centers, namely the Health Ecology R&D Center, the Disease Control R&D Center, the Pharmacy and Traditional Medicine R&D Center, the Nutrition and Food R&D Center and the Health Service and Technology R&D Center.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	169
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	-
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	3
Approximate proportion (in %) of internationally funded research projects in your subunit:	40

Participation in **international cooperation** projects:

- In cooperation with The Japan Fund for Poverty Reduction (JFPR 9065-INO Project) and the Asian Development Bank:
 - The Effectiveness of Multiple Micronutrients Fortificant (MMF) on Growth and Haemoglobin Concentration Among Underfives of Poor Families in North Jakarta
 - The Customer Research for Multi Micronutrients Fortificant (MMF) Taburia
 - Feasibility Study to Assess Development and Production of Taburin as Local Multi-Micro Nutrient Fortificant
- In cooperation with the WHO: Behaviour Change Communication Strategy, SEA/FIN/07/3/34, Code: AMS 6199613
- 2nd Asian Congress of Paediatric Nutrition, Jakarta, 2004, Vice Chairman

Expected role in future international cooperation projects: **project partner**

Dr. Muhilal
Indonesia

Dr. Muhilal is an expert researcher in nutrition at the Nutrition and Food R&D Center at the National Institute of Health Research and Development (NIHRD) of the Ministry of Health. Furthermore, Dr. Muhilal is professor of nutrition at the Faculty of Medicine of the University of Padjadjaran in Bandung, and senior lecturer of nutrition at 5 universities in Indonesia. He received his PhD in Nutritional Biochemistry at the University of Liverpool in the United Kingdom in 1974.

Besides promoting research within Indonesia (e.g. as a member of the National Research Council from 1992 to 2004), he has been active as a nutrition consultant for international organizations, such as the WHO, USAID or UNICEF.

In 2007, he received the COMSTECH award (Indonesia's Leading Scientist & Engineer) as well as the "MOH RI Award for Leading in Continuing Research on Vitamin A" in 1990.

Recent publications

- Hanafiah A, Karyadi D, Lukito W, Muhilal, Supari F (2007): **Desirable Intake of Polyunsaturated Fatty Acids in Indonesian Adults**, Asia Pac J Clin Nutr., 16(4): 632–640.
- Dijkhuizen MA, Wieringa FT, West CE, Muhilal (2004): **Zinc Plus Beta-Carotene Supplementation of Pregnant Women is Superior to Beta-Carotene Supplementation Alone in Improving Vitamin A Status in Both Mothers and Infants**, Am J Clin Nutr., Nov, 80(5): 1299–1307.
- Soekarjo DD, de Pee S, Kusin JA, Schreurs WH, Schultink W, Muhilal, Bloem MW. (2004): **Effectiveness of Weekly Vitamin A (10.000 IU) and Iron (60 mg) Supplementation for Adolescent Boys and Girls Through Schools in Rural and Urban East Java, Indonesia**, Eur J Clin Nutr., June, 58(6): 927–937.
- Wieringa FT, Dijkhuizen MA, West CE, van der Ven-Jongekrijg J, van der Meer JW, Muhilal (2004): **Reduced Production of Immunoregulatory Cytokines in Vitamin A- and Zinc-Deficient Indonesian Infants**, Eur J Clin Nutr., Nov, 58(11): 1498–1504.
- Tanumihardjo SA, Permaesih D, Muhilal (2004): **Vitamin A Status and Haemoglobin Concentrations Are Improved in Indonesian Children With Vitamin A and Deworming Interventions**, Eur J Clin Nutr., Sep; 58(9): 1223–1230.



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**Microbiology Division, Institute of Biological Sciences
Faculty of Science
University of Malaya**

The formation of the Institute of Biological Sciences dates back to the beginning of the formation of the University of Malaya, Kuala Lumpur in 1959. Today, the Institute of Biological Sciences is one of the largest institutes within the Faculty of Science.

Currently, ISB has a workforce of 82 academic staff, including 27 professors, and 150 administrative and technical support staff. Currently, there are 2500 undergraduates and 400 postgraduate students enrolled, including numerous international students.

The institute has various facilities for teaching and research located in and outside the campus. The academic staff members in the institute are involved in a diverse range of biological research: from basic studies such as taxonomy, biology and ecology of plants, animals, parasites and other micro-organisms to applied sciences (biotechnology) ranging from plant and animal breeding, screening for novel products and diagnostic kits, using molecular biology.

Research projects in IBS are funded mainly by the Research and Development Funds from the Government of Malaysia and special votes from the university. Research funds from various international sources (DANCED, CICHE, Welcome, French Embassy, Japanese Int. Research Centre for Agricultural Sciences, CIDA and JIRCAS) could also be attracted.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	8
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
• PulseNet Asia Pacific, a 12 month project with the National Institute of Infectious Disease, Japan, and CDC, Taiwan	
Expected role in future international cooperation projects:	consortium member

Prof. Dr. Thong Kwai Lin
Malaysia

Dr. Thong Kwai Lin earned her PhD in Molecular Microbiology from University of Malaya and now serves as professor at the university's Institute of Biological Sciences. Within the Microbiology Division, she heads the Biomedical Science and Molecular Typing Laboratory.

Prof. Thong is performing research on the development of MLVA for subtyping *Salmonella enterica* and *Vibrio cholerae*, the construction of pulsotypes of *Salmonella* in Malaysia as well as the genotypic and phenotypic characterisation of drug resistant bacteria.

She has published extensively in national and international journals and her work has earned her a number of prestigious awards, among others the Malaysian Toray Science Award of the year 2007, the Gold Medal of the Universiti Malaya Research and Innovation Expo in 2009 and the 19th ITEX Gold Medal Award in 2008.

Recent publications

- Chien-Shun Chiou, Haruo Watanabe, You-Wun Wang, Wan-Ling Wang, Jun Terajima, Kwai-Lin Thong, Phung Dac Cam, Sheng Kai Tung (2009, in press): **The Utility of Multilocus Variable-Number Tandem Repeat Analysis as a Molecular Tool for Phylogenetic Analysis of *Shigella Sonnei***, *Journal of Clinical Microbiol.*
- Khakvar R., Sijam K., Radu S., Jones J., Thong K. L., Wong M. Y. (2009, in press): **Study on Intraspecific Diversity of *Ralstonia Solanacearum* Strains in West Malaysia Using Whole Cell Fatty Acid Analysis**, *Archives of Phytopathology and Plant Protection*, 42(2).
- Khakvar R., Kamaruzaman S., Thong K. L., Son R. Wong, MU J. Jones (2008): **Genomic Diversity of *Ralstonia Solanacearum* Strains Isolated from Banana Farms in West Malaysia**, *Plant Pathology Journal*, 7(2): 162–167.
- Lim K. T., Yeo C. Y., S. D. Puthuchear, R. Kwai Lin Thong (2009, in press): **Genetic Fingerprinting and Antimicrobial Susceptibility Profiles of *Pseudomonas Aeruginosa* Hospital Isolates in Malaysia**, *Journal of Microbiology, Immunology and Infection.*
- Yuen Hawk Leong, Shamala Devi, Kwai Lin Thong (2008): **Mimotopes of Heat Shock Proteins of *Salmonella Enterica* Serovar Typhi Identified from Phage-Displayed Peptide Library**, *The Journal of Infection in Developing Countries*, 2(4): 263–273.



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Institute of Agricultural Science for Southern Vietnam Department of Plant Genetics and Breeding

The Institute of Agricultural Science for Southern Vietnam is one of the oldest research institutes in Vietnam. It was established on the basis of the "Institut des Recherches Agronomiques de l'Indochine", which had been founded in 1925. IAS is a government institution under the jurisdiction of the Ministry of Agriculture and Rural Development, responsible for the research and application of new technologies in agriculture and rural development in Southern Vietnam. It is a multi-disciplinary research institution on crops, livestock and agricultural economics.

Presently, IAS has 450 staff, with more than 250 graduates and post-graduates. The institute is organized into ten research departments, seven applied research centers, and three supporting offices.

The IAS' Department of Plant Genetics and Breeding has the mandate

- to conserve plant gene sources
- to perform plant genetics and breeding towards sustainable development
- to offer short- and long-term training on plant genetics and breeding
- for local and international cooperation in the field of R&D in plant genetics and breeding

Its research targets are food crops, ornamental plants and tropical flowers, vegetable crops and industrial crops.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	22
Researchers from abroad currently working in your subunit:	1
International scientists to visit your subunit in 2008 staying for at least one week for research:	2
National researchers in your subunit having spent at least one study semester abroad :	2
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	4
Approximate proportion (in %) of internationally funded research projects in your subunit:	10

Participation in **international cooperation** projects:

- Application of Nuclear Techniques to Improve Rice Varieties for Saline Land (VIE 05/14, since 1998) and, since 2005, Enhancement of the Quality and Yield of Rice Mutants Using Nuclear and Related Techniques (VIE 05/15), with the International Atomic Energy Agency (<http://cra.iaea.org/>); partners within Vietnam: Vietnam Atomic Energy Commission (VAEC), Institute of Agricultural Genetics (IAG) & Cuu Long Rice Research Institute (CRRRI)
- Trial and Development of New Varieties in the Central Highlands of Vietnam, a 24 month research contract (No: 14819) with the International Atomic Energy Agency (<http://cra.iaea.org/>)

Expected role in future international cooperation projects: **project partner**

Dr. Do Khac Thinh

Vietnam

Dr. Do Khac Thinh is head of the Institute of Agricultural Science at the Southern Vietnam's Department of Plant Genetics and Breeding. In his scientific capacity, he works mainly in the field of rice research in relation to climate change, yield and food quality and, in addition, studies nuclear techniques and biotechnology for the breeding of new orchid varieties. In 2005, he has received the National Prize on Science & Technology for his work on "Breeding & development of mutant rice variety VND 95-20 with short duration", the National Prize of Labor Medal in 2008 for "Breeding & development of new rice varieties for production" and the Ton Duc Thang Prize in 2007 for "Rice research & transferring new techniques for production".

Through international research activities, Dr. Do Khac Thinh states that he would like to share experiences with other scientists. In the future, research particularly needs to pay attention to problems of climate change.

Recent publications

- Do Khac Thinh et al. (2008) **Mutation Rice Breeding and Socio-Economic Impacts of Mutant Rice Varieties in Southern Vietnam**, Proceedings in FNCA 2008 Workshop on Mutation Breeding, October 27–31, Dalat, Vietnam.
- Do Khac Thinh et al. (2008): **Socio-Economic Impacts of Mutant Rice Varieties in Southern Vietnam**, FAO/IAEA International Symposium on Induced Mutation in Plants, 12–15 August 2008, Vienna, Austria.
- Do Khac Thinh, Dao Minh So, et al. (2007): **Rice Mutation Improvement for Short Duration, High Yield and Tolerance to Adverse Conditions for Southern Vietnam**, reported at the International Scientific Conference organized by IRRI & Vietnam, 8th September 2007, Can Tho City, Vietnam.
- Thinh Do Khac et al. (2004): **Rice Mutation Improvement for Short Growth Duration, High Yield and Tolerance to Adverse Conditions in Mekong River Delta of Vietnam**, Proceedings of the FAO/IAEA/RCA Strategic Meeting on Nuclear Techniques for Rice Improvement in Asia, 4–7 November 2004, Tokyo & Tsukuba, Japan.
- Thinh Do Khac, Hung Phi Oanh, Nguyen Thi Cuc, et al. (1999): **Improvement of Rice Varieties Through Radiation Induced Mutation for Cultivation in Southern Vietnam**, reported at FAO/IAEA seminar on Mutation Techniques and Molecular Genetics for Tropical & Subtropical Plant Improvement in the Asia / Pacific region, Philippines, 11–15 Oct. 1999.



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**Department of Food Science and Technology
Faculty of Agricultural Technology
Bogor Agricultural University**

The vision of the Faculty of Agricultural Technology is to "be an excellent institution of higher education, which is internationally recognized in agricultural technology with a core competence in bio-system engineering and information technology for our local specific tropical agriculture."

Established in 1964 as a Faculty of Technology and Agricultural Mechanization with only 59 students, it was then divided into a Department of Agricultural Mechanization and a Department of Agricultural Products Technology. In 1981, the faculty comprised 3 departments, the Departments of Agricultural Engineering, Food Science and Technology and Agroindustrial Technology. In 2008, the Department of Civil and Environmental Engineering was added to the Faculty of Agricultural Technology.

Since 1987 the faculty has been located in the IPB Darmaga Campus inside a 22 000 m² building.

The mission of the faculty is to conduct a multi-strata higher education through an academic and a professional scheme, basic and applied research, as well as community services in agricultural engineering, food science, agroindustrial technology, civil and environmental engineering.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	8
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
• Identification and Characterization of Endogenous Ni-Hyperaccumulating Species from Sulawesi, Indonesia, in cooperation with Dr. Mark Aarts, Laboratory of Genetics, Wageningen University, The Netherlands	
Expected role in future international cooperation projects:	project partner

Prof. Maggy Thenawidjaja Suhartono, PhD

Indonesia

Prof. Thenawidjaja Suhartono is professor at the Faculty of Agricultural Technology at Bogor Agricultural University and visiting professor at the Faculty of Biotechnology at the Catholic University of Atmadjaja. She received her PhD at the Department of Biochemistry and Biophysics of the University of Hawaii, USA, and has had international cooperation activities with colleagues in The Netherlands, Australia, England and South Korea. Her current professional interest lies in research about microbial enzymes, fibrynolytic enzymes (lumbrokinase) as well as silicatein and similar proteins.

She has received the National Research Award in 2008 from RISTEK Kalbe and has been selected as one of 100 Indonesian Inventors by the Indonesian Ministry of Research and Technology in 2008 to receive a research patent on "Recombinant protease of Indonesian bacteria".

Furthermore, she acts as an Indonesian Supervisor of Post-Doc grantees from KNAW (Royal Netherlands Academy of Arts and Science).

Recent publications

• Manurung, A. Imelda, Alberta Rika Pratiwi, Dahrul Syah, Maggy Thenawidjaja Suhartono (2007): **Isolation and Characterization of Silafin That Catalyze Biosilica Formation From Marine Diatom Chaetoceros Gracilis**, Journal of Biosciences, 14(3): 119–122. • Chasanah, E. Arif. B. Witarto, Purwiyatno H., J. K. Hwang and Maggy T. Suhartono (2006): **Characteristics of Chitosanase From the Indonesian Bacillus Licheniformis MB-2**, Molecular Biotechnology, 33(2): 93–102. • Aris Toharisman, Maggy Thenawidjaja Suhartono, Margarethe Spindler-Barth, Jae-Kwan Hwang and Yu-Ryang Pyun (2005): **Purification and Characterization of a Thermostable Chitinase From Bacillus Licheniformis Mb-2**, World J. Microbiol. Biotechnol, 21 (5): 730–738. • Purwani, E. Y., Maggy T. Suhartono, Y. Rukayuadi, Jae Kwan Hwang and Yu Ryang Pyun (2004): **Characteristics of Thermostable Chitinase Enzymes From the Indonesian Bacillus Sp. 13.26**, Enzyme and Microbiol. Technol, 35: 147–153. • Gae, W. Nam, Lee, D. Woo, Lee, H. Seoung, Lee, N. Ju, Kim, B. Chan., Eun, A. Choe, Hwang, J. K., Suhartono, Maggy T., Pyun, Y. Ryang (2002): **Native Feather Degradation by Fervidobacterium Islandicum AW-1, a Newly Isolated Keratinase-Producing Thermophilic Anaerobe**, Arch. Microbiol., 178: 538–547.



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College of Veterinary Medicine (CVM) University of the Philippines Los Baños

At the time of its establishment in 1908, CVM was the first veterinary school in the country, and from 1910 to 1960, it was the sole source of the country's veterinary manpower. CVM aims to strengthen its leadership in veterinary medicine education, research and extension, and to become one of Asia's leading institutions in the field. It participates in multidisciplinary activities for promotion and enhancement of biomedical and agricultural concerns. CVM undertakes research in various fields of veterinary medicine, including animal production and veterinary public health, and provides client-oriented veterinary services in urban and rural areas. In 2000, CVM-UPLB was designated a Center of Excellence (COE) by the Commission on Higher Education (CHED) in the Philippines.

CVM has evolved into a research-based institution of academic distinction. It embraces the university's purpose, that is, to continually build strong capabilities to meet the expanding needs of the country for veterinary manpower, and also to generate technologies that can benefit the nation especially at the grassroots level.

At present, CVM employs 101 people consisting of 42 faculty members, 52 administrative staff and 7 research and extension personnel. CVM is the only veterinary school in the country offering an MSc degree in Veterinary Medicine.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	30
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	4
National researchers in your subunit having spent at least one study semester abroad:	1
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	1
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	
<ul style="list-style-type: none"> Environmental Animal Health and Production in Laguna Province, Philippines, a 12 month project with the School of Environmental Science and Management (SESAM); the College of Agriculture, UPLB; the Bureau of Animal Industry (BAI), Philippines; and the Food and Agriculture Organization (FAO) 	
Expected role in future international cooperation projects:	project partner

Prof. Conrado A. Valdez, PhD

Philippines

Prof. Dr. Conrado A. Valdez is Dean of the College of Veterinary Medicine of the University of the Philippines at Los Baños. After obtaining a Doctor of Veterinary Medicine from the University of the Philippines at Diliman, he earned graduate degrees at Hokkaido University in Sapporo, Japan. During his career, he was a visiting fellow at the Institute of Animal Husbandry and Genetics of the University of Göttingen in Germany and an exchange professor at the Faculty of Veterinary Science of University of Queensland in Australia.

Prof. Valdez is performing research on the cryopreservation of semen of domestic animals, external body measurements of domestic animals and environmental animal health and production. His work has earned him the University of the Philippines Scientist I Award in 2009 and the National Research Council of the Philippines' Achievement Award in 2008.

Recent publications

- Rubico, JEC, Madamba, AMT, Marte, BRG and Valdez, CA (2007): **Successful Pregnancies in Philippine Native Bitches Artificially Inseminated Once or Twice Using Frozen-Thawed Rottweiler Semen**, Philippine Journal of Veterinary Medicine, 44: 51–56.
- Marante, RP, Torres, EB and Valdez, CA (2007): **Body Weight Estimation of Local Born Thoroughbred Horses (Equus Caballus) Using External Body Measurements**, Philippine Journal of Veterinary Medicine, 44: 114–122.
- De Ramos, MS, Torres, EB, Rayos, AA, Acorda, JA and Valdez, CA (2008): **Ovarian Changes from Days 20 to 90 of Gestation Through Ultrasonography in Locally Raised Holstein Sahiwal Dairy Cows**, Philippine Journal of Veterinary Medicine, 45: 67–74.
- Marañan, RFR, Paraso, MG, Alcantara, AJ, Espaldon, MVO, Alaira, SA, Sevilla, CC and Valdez, CA (2008): **Operations and Waste Management of Slaughterhouses in the Province of Laguna**, Journal of Environmental Science and Management, 11(2): 32–41.
- Alcantara, AJ, Sobremisana, MJ, Espaldon, MVO, Alaira, SA, Sevilla, CC, dela Cruz, AE and Valdez, CA (2008): **GIS-Aided Animal Production Impacts Analysis on the Environment in Laguna Province**, Journal of Environmental Science and Management, 11(2): 42–57.



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Polyco Group and Omega Institute

The Polyco Group – Polytechnical, mechanical, thermal, electrical and refrigeration company – specializes in designing, manufacturing, installing, technological consulting and technological transferring in the following fields:

- Equipment for agricultural and foodstuff industries, especially for brewery, alcohol and dairy plants etc.
- Pressure vessels
- Steam boilers
- Refrigeration
- Air-Conditioning system
- Electrical, measuring and automation systems

Polyco has consulted, manufactured, installed and modernized many factories with a lot of capacity in Vietnam, especially breweries, milk, fruit and drinking factories.

The Institute of Science, Technology and Training (Omega Institute) has been established with the aim of national and international S&T cooperation and training for highly-technological labour sources. The main fields of research are mechanical techniques, measurement, heat technique, automation techniques and energy saving.

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	750
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	40
National researchers in your subunit having spent at least one study semester abroad:	5
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	15
Approximate proportion (in %) of internationally funded research projects in your subunit:	40
Participation in international cooperation projects:	
• Forming a Micro Electro Mechanical System (MEMS) R&D Center to Promote Advanced Technology Industry in Vietnam, with Ritsumeikan University, Kyoto/Japan	
• Cooperation with GPDM, Rockwell Automation, and KHS AG	
Expected role in future international cooperation projects:	project partner

Prof. Dr. Dinh Van Nha

Vietnam

Dr. Nha received an Engineering degree in Moscow in 1972 and his PhD in 1975 from the Moscow Civil Constructional University in Russia. He worked as a post-doc at Delft University of Technology in Holland in 1985.

His main research interest is in the field of automation and production engineering, especially regarding agricultural product and food processing. Dr. Nha is the director of the Research Center of Automation at Hanoi University of Technology, the director of the Institute of Science Technology & Training OMEGA, vice chairman of the Vietnam Automation Association, and the vice general director of the POLYCO GROUP.

He received the Ho Chi Minh Award of Technology and Science in 2005 and, in the same year, won the Gold Medal of The World Intellectual Property Organization WIPO AWARD CERTIFICATE of The United Nations. He furthermore received two times the high-ranking Vietnam National VIFOTEC AWARD in 2000 and 2004.

Recent publications

- Dinh Van Nha, Vu Quang Dinh, Nguyen Huu Thung (2008): **Researching, and Using of Automatic Control Methods for Processing Environments and Plantations**, International Workshop for Environmental Protection, Ho Chi Minh City, 6/2008.
- Dinh Van Nha, Dinh Thi Lan Anh, Tran Thanh Ha (2004): **Building the Automatic Measure and Control for the Dosimat Concentration SCADA System**, The Young with Automation Award – Automatic Magazine, 50–53.)
- Dinh Van Nha (2003): **Some Problems in the Application of Automation on Training Labor Source for Industrialization and Modernization**, Viet Nam Technology and Science.
- Dinh Van Nha, Dinh Thi Lan Anh, Tran Thanh Ha (2002): **Researching, Integrating and Applying for a Measurement-Automatic Control System for Paper Powder Consistency**, Proceedings of the Fifth Vietnam Conference on Automation (VICA-5), 10.2002. (in Vietnamese)
- Dinh Van Nha, Dinh Thi Lan Anh, Tran Thanh Ha (2001): **The Mass Compensation Algorithm for Aggregates in Automatic Control System for an Industrial Concrete Factory**, Proceedings of the 19th Scientific Conference of Hanoi University of Technology, 10.2001. (in Vietnamese)



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<http://www.Omega.org.vn/> (forthcoming)

**Department of Mathematics
School of Science and Engineering
Ateneo de Manila University**

The Department of Mathematics aims to

- Provide excellent mathematics education to both science and non-science students that will enable them to make significant contributions to the advancement of the country
- Cultivate a culture of research and professionalism that will contribute to the country's progress as well as to personal growth and development of department members
- Develop outstanding mathematicians, mathematics educators, and mathematics professionals who will become leaders in shaping the country's future
- Strengthen collaboration in the area of mathematics education as well as with other disciplines
- Encourage and advance links with business and industry
- Increase interest and commitment among students to pursue careers in mathematics

The Department's research areas are:

- Algebraic Combinations: Design, Coding, Graph and Group Theory
- Computing / Mathematical Modeling: Cellular Automata and Nonlinear Dynamics, Modeling and Simulation of Complex Systems, Network and High-Performance Scientific Computing
- Financial Mathematics: Forecasting Models, Actuarial Science, Options, Risk Management, Valuations of Financial Derivative
- Mathematics Education: Mathematics Teaching Education, Cognition, Cultural Studies in Mathematics, Students Achievement in Mathematics

Facts of relevance for international research cooperation

Number of R&D personnel in your subunit as headcount:	21
Researchers from abroad currently working in your subunit:	-
International scientists to visit your subunit in 2008 staying for at least one week for research:	-
National researchers in your subunit having spent at least one study semester abroad :	5
Researchers in your subunit currently involved in research projects with intl. cooperation partners:	6
Approximate proportion (in %) of internationally funded research projects in your subunit:	10
Participation in international cooperation projects:	-
Expected role in future international cooperation projects:	project partner

Prof. Dr. Catherine Vistro-Yu
Philippines

After obtaining a B.S. in Mathematics from the Ateneo de Manila University, Dr. Vistro-Yu earned M.Ed. and Ed.D. degrees in Mathematics Education from the University of Georgia in the US. In 1991, she returned to Ateneo de Manila University's Mathematics Department as an assistant professor and holds a full position as a professor since 2005.

Her research focuses on the education of mathematics teachers, children's learning and understanding of mathematics, mathematics pedagogy, and social aspects of mathematics education. Her findings were published in several international books and journals.

Prof. Vistro-Yu's research and scholarly work was honoured with the 2008 Achievement Award from the National Research Council of the Philippines and with the 2007 Outstanding Women in the Nation's Service Award.

Recent publications

- Vistro-Yu, C. P. (2009): **Using Innovation Techniques to Generate 'New' Problems**, in: B. Kaur, B Yeap, & M. Kapur (eds.): *Mathematical Problem Solving Yearbook 2009*, Singapore: World Scientific, 185–207.
- Vistro-Yu, C. P. & Villena-Diaz, R. (2009): **Teachers' Beliefs, Instructional Practices, and Culture: Understanding Effective Mathematics in the Philippines**, in: J. Cai, G. Kaiser, B. Perry & N. Wong (eds.): *Effective Mathematics Teaching from Teachers' Perspectives: National and Cross-National Studies*, Netherlands: Sense Publishers, 183–202.
- Vistro-Yu, C. P. & Irwin, K. C. (2007): **The Benefits and Challenges for Social Justice in International Exchanges in Mathematics and Science Education**, in: B. Atweh, A. Calabrese Barton, M. Borba, N. Gough, C. Keitel, C. Vistro-Yu, R. Vithal (eds.): *Internationalisation and Globalisation in Mathematics and Science Education*, Netherlands: Springer, 321–342.
- Irwin, K. C., Vistro-Yu, C. P., & Ell, F. R. (2004): **Understanding Linear Measurement: A Comparison of Filipino and New Zealand Children**, *Mathematics Education Research Journal*, 16(2): 3–24.
- Vistro-Yu, C. P. (2004): **An Exploratory Study of Filipino Children's Concepts of Division and Their Strategies in Solving Division Problems**, *The Asia-Pacific Education Researcher*, 13(1): 1–27.



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Indonesia

Name	Institution	Award	Research focus	Year
Dr. Nurul Taufiqu Rochman, M. Eng.	Research Centre for Physics, Indonesian Institute of Sciences	Science and Technology Award	Development of Nano-materials Based on Local Resources Prepared by New HEM	2009
Dr. Tri Ari Penia Kresnowati	Bandung Institute of Technology (ITB)	L'ORÉAL-UNESCO for Women in Science	Health/stem cells for therapeutic treatment	2008
Dr. Indrayanto Gunawan	Airlangga State University	Comstech Award	Pharmacy	
Dr. Muhilal	Food and Nutrition Research Institute, Ministry of Health		Nutrition	
Dr. Terry Mart	University of Indonesia		Physics	
Dr. Effendi	University of Malang		Chemistry	
Dr. Tjia May On	Bandung Institute of Technology (ITB)		Physics	
Dr. Koo Hendrik Kurniawan	University of Trisakti		Applied Physics	
Khie Khiong, S.Si., M. Pharm. Sc., Ph.D.	Immunology Division of Health (PPIK), FK Health Faculty, University of Maranatha		RISTEK-KALBE Science Award	
Sunu Budhi Raharjo, MD, PhD	Yayasan Harapan Kita Hospital	Role Of Endothelin-Converting Enzyme-1 And Bradykinin In Hypoxia-Induced Pulmonary Hypertension		
Prof. Maggy Thenawidjaja Suhartono	Bogor Institute of Agriculture (IPB)	Chitosanase from Indonesian Bacillus licheniformis MB-2: Enzyme characteristics and application in the production of bioactive Chitoooligosaccharides		
Dr. Sri Yudawati	Indonesia Institute of Science (LIPI)	Japanese-funded Indonesia Toray Science Foundation (ITSF)	Physics/The Indian Ocean Role to the Indonesian Regional Climate Paleo Perspective	2007
Dr. Budi Setiadi Daryono, M.Agr.Sc.	University of Gajah Mada		Biology/Biotechnology: Developing pest resistance Melons	
Dr. Julisasi Tri Hadiyah	Indonesia Institute of Science (LIPI)	International Basic Sciences Programme – UNESCO	Diversity and Phylogeny of Elatostema	2005

Malaysia

Name	Institution	Award	Research focus	Year	
Prof. Dr. Suresh Kumar	Universiti Malaya	MTSF Science and Technology Award	Medical parasitology	2008	
Prof. Dr. Abdul Latif Ahmad	Universiti Sains Malaysia		Membrane Separation Technology, Wastewater Treatment, Separation Technology		
Prof. Dr. Harith Bin Ahmad	Akademi Sains Malaysia, Universiti Malaya		Photonics and Laser Technologies	2007	
Prof. Dr. Thong Kwai Lin	Universiti Malaya		Molecular Microbiology of Foodborne and Nosocomial Bacterial Pathogens		
Prof. Dr. Chua Kaw Bing	Kementerian Kesihatan Malaysia		Clinical and Molecular Virology	2006	
Prof. Dr. Roslan Abd Shukor	Universiti Kebangsaan Malaysia		Condensed Matter Physics – High Temperature Superconductivity		
Prof. Dr. Wong Chiow San	Universiti Malaya		Plasma technology, pulse power and gas discharge physics	2005	
Prof. Dr. Noraieni Haji Mokhtar	MOSTI		listed on Pusat Sains Negara's website on inventiveness	Fluid Flow Modelling, Floating Breakwater Facilities	2004
Dr. Kaida Bin Khalid	Universiti Putra Malaysia (UPM), Physics Department			Microwave Physics	
Assoc. Prof. Husaini Omar				Soil Testing Equipment	
Assoc. Prof. Rahmah Noordin	Universiti Sains Malaysia	Biotechnology, Medical Parasitology			
Dr. Ravigadevi Sambathamurthi	Malaysian Palm Oil Board	Palm Oil Mill Effluent			

Philippines

Name	Institution	Award	Research focus	Year
Dr. Catherine Vistro-Yu	Mathematics Department, Ateneo de Manila University	National Research Council of the Philippines (NRCP) 2008 Achievement Awards	Mathematics Education	2008
Dr. Agnes T. Parajas			Mathematics	
Dr. Myrna T. Mendoza	College of Medicine, University of the Philippines		Medicine	
Dr. Raquel Jadulco-Koch			Marine Science	
Dr. Cleofas R. Cervancia	Institute of Biological Sciences, University of the Philippines at Los Baños		Bee Biology	
Dr. Conrado A. Valdez	College of Veterinary Medicine, University of the Philippines at Los Baños		Theriogenology, Zootechnics	
Dr. Epictetus E. Patalinghug	College of Business Administration, University of the Philippines		Economics/Finance	
Dr. Christopher P. Monterola	National Institute of Physics, University of the Philippines, Diliman		Physics/Mathematics	
Dr. Elsie C. Jimenez	University of the Philippines, Baguio		Biochemistry	
Assoc. Prof. Dr. Marietta M. De Leon	Geology, University of the Philippines, Diliman		Paleontology/Stratigraphy	
Dr. Caesar S. Saloma	National Institute of Physics, University of the Philippines, Diliman	National Academy of Science and Technology	Photonics, information processing, complex adaptive systems	2005
Dr. Bienvenido O. Juliano	Philippine Rice Research Institute Los Baños		Chemistry	2000

Singapore

Name	Institution	Award	Research focus	Year
Prof. Mohan Balasubramanian	Temasek Life Sciences Laboratory & Department of Biological Sciences, NUS	National Science Award	"For his outstanding contributions towards unraveling mechanisms that control cell division in eukaryotic cells"	2008
Associate Prof. Christian Kurtzliefer	Centre for Quantum Technologies, Department of Physics, NUS		"For their outstanding theoretical and experimental studies on quantum entanglement"	
Associate Prof. Valerio Scarani				
Assistant Prof. Antia Lamas-Linares				
Dr. Lo Guo-Qiang (Patrick)	Institute of Microelectronics	National Technology Award	"For their outstanding contributions in pioneering the novel transistor architectures and a new class of electronic bio-sensors based on Silicon-nanowires"	
Dr. Narayanan Balasubramanian				
Dr. John Yong Ming Shyan	Singapore Institute of Manufacturing Technology, A*STAR		"For their outstanding contributions to the development of liquid forging technology for the manufacturing of high strength components"	
Dr. Chua Beng Wah				
Dr. Ng Huck Hui	Genome Institute of Singapore, A*STAR & Department of Biological Sciences, NUS	National Science Award	"For his outstanding research in gene regulation in stem cell biology"	2007
Assoc. Prof. Uttam Surana	Institute of Molecular and Cell Biology, A*STAR			
Prof. A. J. (Jon) Berrick	Department of Mathematics, NUS			
Dr. Susanto Rahardja	Institute for Infocomm Research, A*STAR	National Technology Award	"For their outstanding contributions to advancement in digital audio coding technologies, adopted as an international standard for audio compression"	
Dr. Huang Haibin				

Thailand

Name	Institution	Award	Research focus	Year
Prof. Dr. Yongwimon Lenbury	Department of Mathematics, Faculty of Science, Mahidol University	Outstanding Scientist Award	Mathematics	2007
Prof. Dr. Sompong Dhompongsa	Department of Mathematics, Faculty of Science, Chiang Mai University			
Prof. Dr. Somchai Wongwises	Department of Mechanical Engineering, King Mongkut's University of Technology Thonburi		Mechanical Engineering	2006
Prof. Dr. Piyasan Praserttham	Department of Chemical Engineering, Chulalongkorn University		Chemical Engineering	
Prof. Dr. Rajata Rajatanavin	Mahidol University		Medical Science	2005
Prof. Dr. Boonsong Ongphiphadhanakul	Department of Medicine, Ramathibodi Hospital			
Prof. Dr. Thiravat Hemachudha	Division of Research and Department of Medicine, Faculty of Medicine, Chulalongkorn University Hospital			2004

Vietnam

Name	Institution	Award	Research focus	Year
Prof. Dr. Ngo Kieu Nhi	Institute of Agricultural Science for Southern Vietnam	Dharmawansa Senadhira Award	Development new breed Rice	2009
Prof. Dr. Bui Chi Buu	Southern Science and Technical Institute		Development of new rice varieties	2008
Dr. Nguyen Huu Ninh	Center for Environment Research Education and Development	Nobel Peace Prize	Climate change	2007
Dr. Truong Hu Chi	Industrial Machinery and Instruments Holding (IMI Holding)	Ho Chi Minh Award	Research, Design and Manufacturing of mechatronic equipments in Industrial use	2005
Ass. Prof. Dr. Dinh Van Nha	Automatic Research Centre, Hanoi University of Technology		Automation Engineering	
Prof. Dr. Dao The Tuan	Vietnam Academy of Agricultural Sciences		Scientific foundations of agricultural and rural development in the Red River Delta	
Ass. Prof. Dr. Nguyen Thi Noi	National Institute of Veterinary		Research and Development of mechanism – automation technologies in food processing industry	
Prof. Dr. Nguyen Chau	Hanoi University of Science, Vietnam National University		Research on magnetic materials: ferit, perovskit, armphis magnetic and nanostructured materials	
Ass. Prof. Dr. Mai Ngoc Chuc	Institute of Industrial Chemistry (VIIC)		Research and Application of Apatite Exploiting in Lao Cai Mine	
Prof. Dr. Nguyen Huu Nieu	Research Centre for Polymer Materials, Ho Chi Minh City University of Natural Sciences		Production of composite polymer materials	
Ass. Prof. Dr. Luu Minh Dai	Institute of Materials Science	Rare earth materials for application and environmental protection		
Ass. Prof. Dr. Nguyen Tri Hoan	Food Crops Research Institute	Research and development of the new rice varieties in Vietnam		
Dr. Do Khac Thinh	Institute of Agricultural Science for Southern Vietnam	Institute of Agricultural Science for Southern Vietnam	New rice variety VND 95-20 for exportation and domestic use	
Prof. Dr. Nguyen Nghi	Institute of Agricultural Science for Southern Vietnam		Research on feedstuff and animal nutrition at industrial scale	

Prof. Dr. Nguyen Dang Vang	National Institute of Animal Husbandry	State Award on Science and Technology	Selection and develop a new hybrid and breed chicken for husbandry at household scale	2005
Prof. Trinh Van Thinh	Institute of Veterinary		Research on medicines against two parasitic diseases in cattle	
Prof. Dr. Huynh Phuong Lien	National Institute of Hygiene and Epidemiology		Research on vaccine against Japanese encephalitis	
Prof. Dr. Ha Huy Khoi	National Institute of Nutrition		Solution for prevention of nutritional deficiency in community	
Dr. Nguyen Thi Ngoc Phuong	Tu Du Hospital		In-Vitro Fertilizing for infertile couples	
Prof. Dr. Dang Vu Minh	Committee on Science, Technology and Environment, National Assembly of Vietnam		Geochemistry	
Prof. Dr. Vo Quy	Centre for Natural Resources and Environmental Studies	Global Green Planet Prize	Research on the flora and fauna of Vietnam, particularly its bird life.	2003

ASEAN

Name	Institution	Award	Research focus	Year
Ng Fong Poh Lisa, PhD	Singapore Immunology Network (SigN)	ASEAN Young Scientists and Technologist Award	Disease Preparedness	2008
Caesar A. Saloma, PhD	National Institute of Physics, University of the Philippines, Diliman	ASEAN Outstanding Scientists and Technologist Award	Photonics, information processing, complex adaptive systems	
Dr. Luis Francisco G. Sarmenta	Department of Information Systems and Computer Science, Ateneo de Manila University	ASEAN Young Scientists and Technologist Awards (co-winners)	Mobile Computing, Technologies for the Developing World, Medical Computing, Computer Security, Social Computing and Distributed Computing	2005
Prof. Dr. Sangkot Marzuki	Eijkman Institute for Molecular Biology in Jakarta	ASEAN Outstanding Scientists and Technologists Award (co-winners)	Biogenesis of Energy Transducing Membranes, and Human Genetic Disorders	
Prof. Dr. Ariff Bongso	Department of Obstetrics and Gynecology, National University of Singapore		Human Embryonic Stem Cell Research	
Prof. Dr. Tengku Sifzizul Tengku Muhammad	Deputy Director, Malaysian Institute of Pharmaceuticals and Nutraceuticals, USM	ASEAN Young Scientist and Technologist Award	Biotechnology (Cell and Molecular Biology)	

SEA-EU-NET

Facilitating the bi-regional EU-ASEAN Science and Technology Dialogue

Background

There are many examples of fruitful scientific collaborations and linkages between researchers in Europe and Southeast Asia (SEA). Such partnerships are beneficial to all parties involved, and the resulting advancements in research delivers improved quality of living, life saving medicines and economic returns to both regions.

The “SEA-EU-NET” project has been set up to expand scientific collaboration between Europe and Southeast Asia in a more strategic and coherent manner. The project was launched in January 2008 and involves 16 key institutions from the two regions. It will adopt an evidence-based approach to increase the quality, quantity, profile and impact of Science and Technology (S&T) cooperation between the member countries of the Association of Southeast Asian Nations (ASEAN) and the Member- and Associated States of the EU Seventh Framework Programme for Research and Technological Development (FP7). This is in support of the international strategy of the EU, and in particular the specific objectives of the FP7 – the EU’s primary funding opportunity for collaborative scientific research. The SEA-EU-NET project runs through to the end of 2011 although the outcomes will be designed so they are sustained beyond this point.

Description of work

Measures include the implementation of joint fora facilitating and strengthening the bi-regional and bi-lateral dialogue, activities to provide information on the EU FP7 in SEA, analysis of S&T structures and reporting to EU-presidencies in order to incorporate recent political developments and to generally highlight EU-ASEAN initiatives within the political decision making process. The SEA-EU-NET will not only lead to enhanced S&T cooperation but will also provide the S&T base to address global challenges through joint efforts in nurturing human and scientific resources for sustainable development.

Objectives

- **Dialogue:** To strengthen bi-regional and bi-lateral dialogues in scientific cooperation and to assist the joint identification of topics for collaboration under FP7 thematic programmes.
- **Decision-Making:** To report to the European Commission and the EU-presidencies in order to incorporate recent political developments and to generally highlight EU-ASEAN initiatives within the political decision making process.
- **Networking:** To network different stakeholders (such as universities, industry, government, civil society and donors) in order to strengthen research capacity.
- **Coherence:** To facilitate the development and implementation of a coherent European level approach towards international S&T cooperation.
- **Sustainability:** All activities will be underpinned by a focus on sustainability and designed to deliver impact beyond the lifespan of the four-year project in order to develop long-lasting partnership.

To increase the efficiency, to avoid redundancies, and to ensure the sustainability of successful activities of the past and to learn lessons, the SEA-EU-NET is considering all relevant previous and ongoing bi-regional and bi-lateral activities both inside and outside the EU Framework Programme for SEA. Moreover it will also function as a hub for the integration of upcoming FP7 projects and activities related to SEA, thus helping to incorporate them into the larger framework of the bi-regional dialogue.

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www.tubitak.gov.tr

National Science and Technology Development Agency (NSTDA), Thailand
www.nstda.or.th

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www.zsi.at

Ministry of State for Research and Technology (RISTEK), Indonesia
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www.royalsociety.org

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With the booklet "Spotlight on: Excellent Researchers from Southeast Asia" the SEA-EU-NET project is proud to present a number of outstanding Southeast Asian scientists in a broad range of research fields. All individuals featured here are among the recent winners of the most distinguished Southeast Asian research awards. They share a global perspective and their work is cutting-edge research. Though our selection is by no means meant to be comprehensive, it can give you a picture of the amount and variety of research excellence that Southeast Asia has to offer. We hope that this booklet will encourage you to consider scientists from Southeast Asia as partners for your future scientific cooperations.