



Message from the Dean

The Faculty of Science of Chiang Mai University was one of the first 3 faculties established at the same time as the inception of Chiang Mai University (CMU) in 1964. At present, it comprises the Office of the Dean, 8 academic departments, namely: Mathematics, Chemistry, Industrial Chemistry, Biology, Geological Sciences, Physics and Materials Science, Computer Science, and Statistics, and 4 Centers comprising the Science and Technology Service Center, Materials Science Research Center, Multidisciplinary Science Research Center and Doi Suthep Nature Study Center, Chiang Mai University.

Based on its vision, the Faculty of Science “shall be a place to produce graduates aiming at high quality research at the international level with a sound management system and provision of resources for development which leads to self-reliance”. The Faculty administration during the past year has therefore strived to carry out its mission and conduct its operational plans in accordance with this vision, which is also in accordance with the vision of Chiang Mai University.

This Annual Report for 2010 now describes the main activities completed within the past fiscal year (October 2009-September 2010). In particular, it highlights the Faculty’s achievements in terms of graduate production, educational quality development, research, academic services to the general public, promotion of arts and culture, conservation of natural resources and the environment, academic cooperation with other institutions both within the country and abroad, as well as the various supporting activities carried out by the various departments in the Faculty of Science and the CMU Faculty of Science Fund.

The successful implementation of all of these tasks during this past year can be attributed to the close cooperation of the academic staff, supporting personnel of all categories, students at both undergraduate and graduate levels, and administrators at all levels. On behalf of the Faculty of Science, may I take this opportunity to express my sincere thanks to all of these people who have played their part in making the past year such a successful year for all of us.

A handwritten signature in black ink, appearing to read 'S. Singharajwarapan'.

Sampan Singharajwarapan, Ph.D.
Dean, Faculty of Science
Chiang Mai University

Mission of Chiang Mai University

The Faculty of Science is committed to working towards the achievement of its objectives according to the guidelines laid down by Chiang Mai University as follows:

“Chiang Mai University was established as the first provincial university in Thailand according to the then Royal Thai Government’s policy and to meet the wishes of the people of the Northern Region. It is intended to be a center of higher academic learning and professional development for the benefit of the Northern Region in particular and for the country in general.

The University will be a place which gathers, researches and transfers knowledge with respect to the guiding principles of academic freedom, honesty and integrity for the purposes of academic excellence, application, dissemination and the preservation of arts and culture.

Chiang Mai University graduates will be recognized for their intellectual ability, creativity, practical skills and well-rounded personality which will enable them to take their place in society and to work for the benefit of the country.”

Philosophy of the Faculty of Science

“The Faculty of Science will continue to teach and conduct research in order to generate new knowledge and understanding which can be passed on from generation to generation. As an integral part of an academic institution, the Faculty of Science is committed to researching existing knowledge and exploring areas of new knowledge that can be beneficial for the nation’s sustainable development.”

Vision of the Faculty of Science

“The Faculty of Science aims to be recognized at both national and international levels for its excellence in teaching and research in science and technology and for the provision of high quality academic services to society as a whole as it moves towards a sufficiency economy.”

Targets of the Faculty of Science

1. To provide higher-level education in science and technology for students both inside and outside the Faculty with the emphasis on achieving academic excellence to international standards
2. To produce high quality research in both basic and applied science and technology that can be useful in developing the country
3. To provide academic services for the communities in the Northern Region and the country as a whole
4. To promote Thai arts and culture, the sustainable use of natural resources and environmental conservation
5. To improve the quality of administration and management in all aspects in accordance with good governance and self-sufficiency economy philosophies
6. To find resources and sources of income sufficient for the development of the Faculty of Science and to enable it to become self-supporting

Core Values

The Faculty of Science, Chiang Mai University, defines its core values as:

S	= Success	= work to succeed in achieving objectives
C	= Competitiveness	= expand our skills to be competitive
I	= Innovativeness	= create an environment for innovation
C	= Collaboration	= emphasize working together as a team
M	= Morality	= maintain high moral standards
U	= Unity	= unity and friendship in the workplace

General Information

History of the Faculty of Science

The Faculty of Science, as well as Chiang Mai University, was established in 1964 as one of the 3 original faculties. The Faculty currently consists of 33 separate buildings which occupy a total area of 36 rai. Our mission is to produce high quality graduates in both pure and applied science disciplines that the nation as a whole and the local community need. Although the Faculty continues to grow and develop, we still focus on our 4 main tasks of teaching, conducting research, academic services for the community, and natural resources and environmental conservation. During its first decade, the Faculty of Science offered 5 Bachelor's degree courses in Mathematics, Chemistry, Physics, Biology, and Geological Sciences. In 1974, 8 Master's Degree Programs were opened in Chemistry, Biology, Geological Sciences, Physics, Teaching Chemistry, Teaching Physics, Teaching Biology and Teaching Mathematics. Then, in 1989, the Faculty of Science was the first faculty in the University to offer Doctoral Degree Programs starting with 3 PhD Programs in Physics, Biology and Geological Sciences.

Deans of the Faculty of Science

Since 1964, the Faculty of Science has had 9 Deans whose names and terms of office are listed in the following table.

Dean of the Faculty of Science	Term of Office
Professor Dr. Buarej Kamthong	1964-1970
Associate Professor Sompong Cheuntragool	1970-1978
Associate Professor Dr. Udom Sriyotha	1978-1982
Professor Dr. Tavisakdi Ramingwong	1982-1990
Associate Professor Dr. Garune Klunklin	1990-1994
Professor Dr. Kittichai Wattananikorn	1994-2000
Associate Professor Boonrucksar Soonthornthum	2000-2005
Associate Professor Dr. Mongkon Rayanakorn	2005-2010
Associate Professor Dr. Sampan Singharajwarapan	2010-Present

Work Sections in the Faculty of Science

The Faculty of Science reorganized its various sections in the Office of the Dean according to the announcement made by the University on 19 August 2010 as follows:

Previous Section	Present Section
Administrative and Clerical Section	General Administration Section
Finance and Commodities Section	Accounts, Finance and Commodities Section
Policy and Planning Section	Policy, Planning and Educational Quality Assurance Section
Academic Service Section	Educational Services and Student Quality Development Section
Research and International Relations Section	Research Administration, Academic Services and International Relations Section



Department of Biology



Department of Chemistry



Department of Industrial Chemistry



Department of Geological Sciences



Department of Physics and
Materials Science



Department of Mathematics



Department of Statistics



Department of Computer Science



Office of the Dean



Science and Technology Service Center



Materials Science Research Center



Multidisciplinary Science Research Center



Doi Suthep Nature Study Center
Chiang Mai University
in honour of His Majesty the King

Achievements

Graduate Production

In the academic year 2010, the Faculty of Science offered the following academic and interdisciplinary programs:

Bachelor of Science (B.S.) level 13 programs; Mathematics, Computer Science, Statistics, Physics, Materials Science, Industrial Chemistry, Chemistry, Biochemistry and Biochemical Technology, Biology, Zoology, Microbiology, Geology and Gemology

Diploma level 1 program; Integrated Science (in the process of closing)

Master of Science (M.S.) level 23 programs; Mathematics, Teaching Mathematics, Applied Mathematics, Computer Science^{***}, Applied Statistics, Physics, Teaching Physics, Applied Physics, Materials Science, Industrial Chemistry, Chemistry, Teaching Chemistry, Biochemistry and Biochemical Technology[@], Biology, Teaching Biology, Applied Microbiology, Geology, Applied Geophysics^{**}, Petroleum Geoscience^{*} (in the process of closing), Environmental Science^{**}, Bioinformatics, Integrated Science and Mathematics, Forensic Science[@]

Doctorate (PhD) level 13 programs; Mathematics, Computer Science (English Program), Physics^{**}, Materials Science^{**}, Applied Physics, Chemistry^{**}, Biology, Biodiversity and Ethnobiology, Applied Microbiology, Geology^{**}, Environmental Science, Biotechnology[@], Nanoscience and Nanotechnology[@]

* International Program

** International Program also offered

*** Special Program also offered

@ Joint Program with the Graduate School

In addition, various academic programs and course syllabuses at both undergraduate and graduate levels were revised in 2010.

Curriculum and Course Development (Undergraduate and Postgraduate)

New and revised courses

- Undergraduate
 - Mathematics 1 revised course
 - Zoology 5 new courses
 - Physics 7 new courses
 - Materials Science 4 new courses
 - 19 revised courses
 - Chemistry 12 revised courses
 - Industrial Chemistry 3 revised courses
 - General Education 1 course closed

Revised Academic Programs

In the academic year 2010, the Faculty of Science revised all of its academic programs at graduate level according to the standards set by the Commission of Higher Education. Five academic programs: General Chemistry (PhD), Chemistry (International) (PhD), Mathematics (PhD), Applied Physics (PhD) and Chemistry (M.S.) were approved.

Educational Services

Student Admission

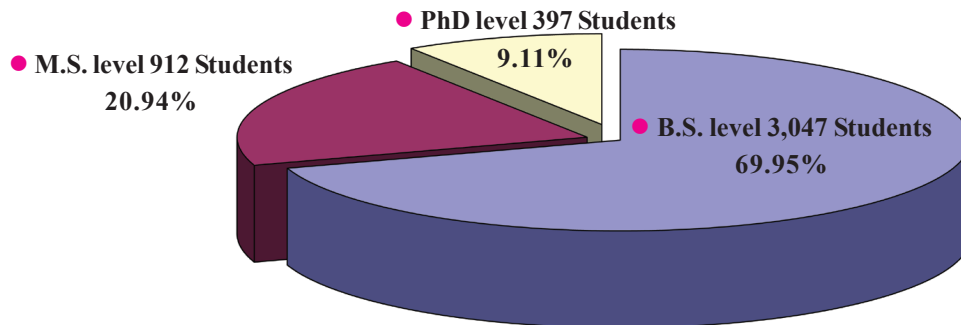
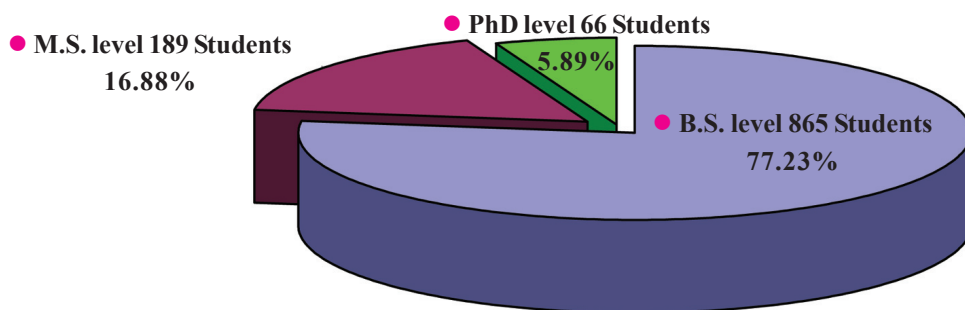
The Faculty of Science has various admission systems for its undergraduate programs including:

- National Entrance Examination through the Central University Admissions System (CUAS) organized by the Commission of Higher Education
- Quota Examination organized by Chiang Mai University
- Special Admission Examination arranged by the Faculty of Science to fulfill the requirements of various academic projects such as:
 - Development and Promotion of Science and Technology Talents (DPST) Project
 - Promotion of Science and Mathematics Talents Project
 - Development of Human Resources in Science Project
 - Outstanding Student Admission Project, Chiang Mai University
 - Development and Promotion of Sport Talents Project
 - Computer Science Talents Student Admission Project
 - Development of Science for Talented Children and Youth Students Project
 - Academic Olympic Camp Student Admission Project
 - Science in Schools Project
 - Science and Mathematics in Community Foundation Project
 - Special Student Admission Project
 - Petch Thong Kwow Project
 - Mathematics Talents Student Admission Project
 - Groundwater Guardian Network Students Admission Project, Department of Groundwater Resources
 - Geology and Mining Students from the Greater Mekong Sub-Region Admission Project

For its graduate programs, applications are made directly to the Graduate School, Chiang Mai University. Admission examinations for the individual degree programs are taken at the Faculty of Science. Applications are invited twice per year during the first and second semesters of each academic year.

Current Students

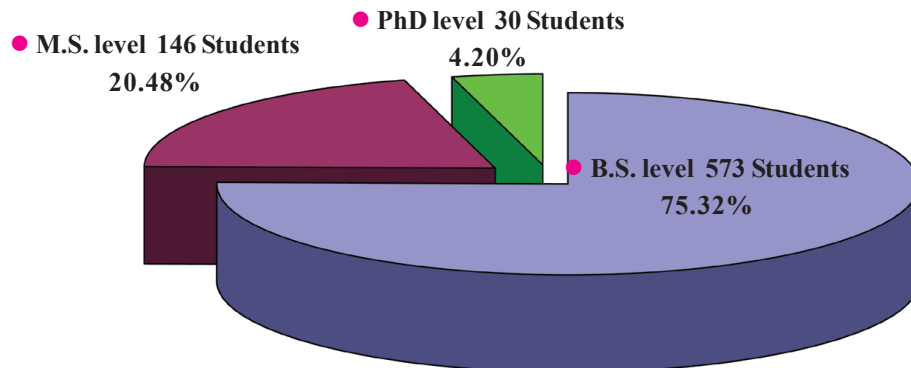
In the academic year 2010, the total number of new students admitted to the Faculty of Science was 1,120. This total number comprised 865 at B.S. level, 189 at M.S. level, and 66 at PhD level. At present, the total number of current students is 4356 comprising 3047 at B.S. level, 912 at M.S. level and 397 at PhD level.



Graduate Employment or Further Study

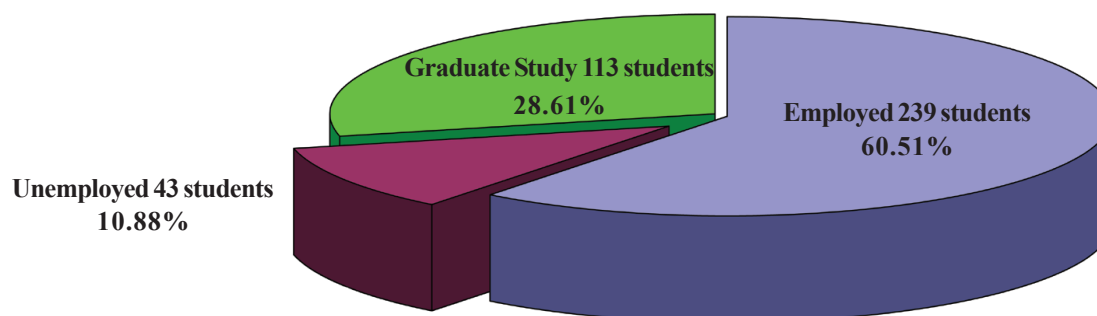
The total number of students who graduated in the year 2010 was 749. Of these, 573 were at B.S. level, 146 at M.S. level and 30 at PhD level. Among the 2010 graduates surveyed, 239 are in employment, 43 are furthering their studies in graduate programs, and 113 are unemployed.

Students Graduated in 2010



Employment and Graduate Study

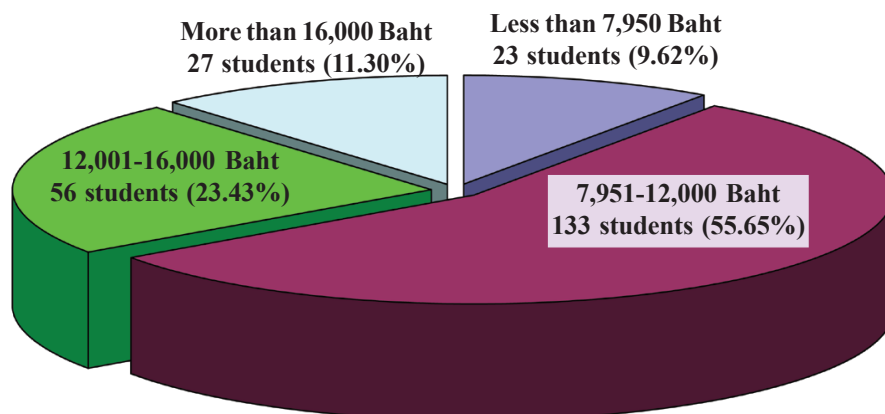
Of the students who graduated from the Faculty of Science in 2010, 60.51% are employed, 10.88% are graduate students and 28.61% are unemployed.



Employment and Further Study Status of 2010 Graduates

Program	Status						Total	
	Employed		Unemployed		Graduate Study		Number	%
	Number	%	Number	%	Number	%		
Chemistry	14	41.18	5	14.71	15	44.11	34	8.61
Biochemistry and Biochemical Technology	6	40.00	2	13.33	7	46.67	15	3.80
Industrial Chemistry	33	84.62	1	2.56	5	12.82	39	9.87
Biology	11	36.67	3	10.00	16	53.33	30	7.59
Microbiology	25	62.50	3	7.50	12	30.00	40	10.13
Zoology	8	40.00	1	5.00	11	55.00	20	5.06
Geology	33	91.67	2	5.55	1	2.78	36	9.11
Gemology	15	71.42	3	14.29	3	14.29	21	5.32
Mathematics	8	44.44	2	11.12	8	44.44	18	4.56
Computer Science	32	74.42	6	13.95	5	11.63	43	10.89
Statistics	25	73.53	4	11.76	5	14.71	34	8.61
Physics	4	30.77	-	-	9	69.23	13	3.29
Materials Science	25	48.08	11	21.15	16	30.77	52	13.16
Total	239	60.51	43	10.88	113	28.61	395	100.00

Monthly salaries of students who graduated in 2010



Employment Salaries of 2010 Graduates (Baht/Month)

Program	Less than 7,950	7,951-12,000	12,001-16,000	More than 16,000	Total
Chemistry	-	11	3	-	14
Biochemistry and Biochemical Technology	-	5	-	1	6
Industrial Chemistry	2	17	12	2	33
Biology	1	9	-	1	11
Microbiology	4	16	2	3	25
Zoology	2	4	2	-	8
Geology	2	15	9	7	33
Gemology	4	10	-	1	15
Mathematics	-	8	-	-	8
Computer Science	-	10	15	7	32
Statistics	6	14	3	2	25
Physics	-	2	-	2	4
Materials Science	2	12	10	1	25
Total	23	133	56	27	239
%	9.62	55.65	23.43	11.30	100

Outstanding Students in 2010

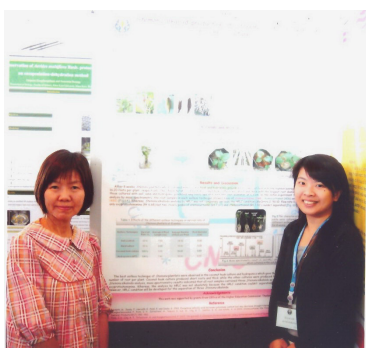


1. PhD Student in the Department of Biology “Best Oral Presentation”

Mr. Pakawin Dankittipakul, a PhD student in the Department of Biology under the 11th Royal Golden Jubilee PhD Scholarship Program, was awarded the prize for the Best Oral Presentation at the RGJ-PhD Congress held on 1-3 April 2010 at the Jomtien Palm Beach Hotel and Resort, Pattaya, Chonburi.

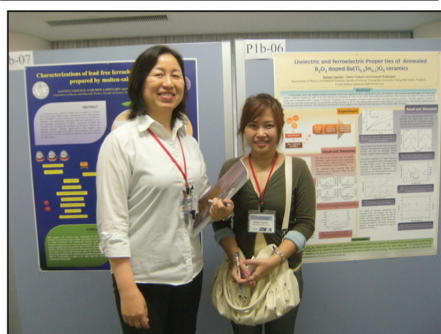
2. PhD Student in the Department of Biology “Best Poster Presentation”

Ms. Jiraporn Palee, a PhD student in the Department of Biology, was awarded the prize for the Best Poster Presentation on her research entitled: “*Stemona* Alkaloid Production of *Stemona curtisii* in Soilless Culture” at the Commission on Higher Education Congress III. Ms. Palee’s thesis advisor is **Asst. Prof. Dr. Srisulak Dheeranupatana**. The Congress was held on 11 September 2010 at the Royal Cliff Beach Resort, Pattaya, Chonburi.



3. PhD Student in Materials Science “RJYS Award”

Ms. Nattaya Tawichai, a PhD student in Materials Science from the Department of Physics and Materials Science, won the RCBJSF Young Scientist Award (RJYS Award) for her presentation on “Characterizations of Lead-Free Ferroelectric ($K_{0.5}Na_{0.5}$)NbO₃ Prepared by Molten-Salt Process” at the 10th Russia/CIS/Baltic/Japan Symposium on Ferroelectricity (RCBJSF-10) held on 20-24 June 2010 at the Tokyo Institute of Technology, Japan. Ms. Tawichai’s thesis advisors are **Assoc. Prof. Dr. Gobwute Rujijanagul** and **Professor Dr. Tawee Tunkasiri**.





4. M.S. student in the Department of Statistics “Best Research Article in Development Administration”

Ms. Chularat Choomnuan, a Master’s degree (M.S.) student in the Department of Statistics, won the Best Research Article in Development Administration for M.S. students for her article entitled: “New Interval Estimation Method for the Mean of a Log-Normal Distribution Based on Likelihood Ratio”. The article was presented as part of the Academic Results Contest Project 2010 for graduate students in the field of Development Administration held on 1 April 2010 at the National Institute of Development Administration (NIDA) in Bangkok. This event also marked the 44th Anniversary of NIDA.

5. Graduate Student in the Department of Computer Science – Honourable Mention



Ms. Yupawadee Inthakrua, a graduate student in the Department of Computer Science, supervised by **Asst. Prof. Dr. Rattasit Sukhahuta**, was awarded an Honourable Mention Prize for her presentation entitled: “Image Feature Extraction using Sobel for Braille Picture Representation” in the Design Innovation Contest for Disabled People as part of Technology Street 2010. This Contest was organized by the MCOT Public Company Limited and held on 12-13 June 2010 at the IMPACT Exhibition and Convention Center, Bangkok. The main aim of this Contest was to provide a forum for the advancement and support for students and the general

public to demonstrate their scientific and technological ability in the creative design of products and devices for the benefit of disabled people. There were a total of 25 projects entered into the “Innovation for the Disabled” contest of which only 12 were selected for the final round.



6. Undergraduate Student in the Department of Chemistry – Outstanding Student Poster Award

Mr. Pongwasilp Fukhud, an undergraduate student in the Department of Chemistry, won the Outstanding Student Poster Award in the 16th International Conference on Flow Injection Analysis Including Related Techniques (16th ICFIA) held on 25-30 April 2010 at the Garden Sea View Resort Hotel, Pattaya, Choburi. Pongwasilp carried out his undergraduate project in the Chemistry Department’s Flow-based Research Group under the supervision of **Dr. Tinakorn Kanyanee**. His poster presentation was entitled: “Micro Coulometric Titration in Moving Liquid Drop”.



7. Undergraduate Student in the Department of Physics and Materials Science – Research in Germany

Mr. Supachai Awiphan, a 4th year undergraduate student in the Department of Physics and Materials Science, was chosen by the H.R.H. Princess Maha Chakri Sirindhorn to be a representative from Thailand to participate in research activities at the Deutsches Elektronen Synchrotron (DESY) Research Laboratory, Hamburg, Germany, from July-September 2010.

8. Undergraduate Student from the Department of Physics and Materials Science – Research in Germany

Miss Nithiwadee Thaicharoen, a 4th year undergraduate student in the Department of Physics and Materials Science was chosen by the H.R.H. Princess Maha Chakri Sirindhorn as a representative from Thailand to participate in the 2010 Meeting of Nobel Laureates at Lindau, Germany, in the field of physics, chemistry and physiology from June-July 2010.



Outstanding Alumni in 2010



1. Achievement Award from Ministry of Education 2010

Emeritus Professor **Dr. Kittichai Wattananikorn**, an alumnus and former Dean of the Faculty of Science, was the recipient of an annual Achievement Award 2010 from the Ministry of Education. The award was made on 12 March 2010 on the occasion of the Ministry's 118th Anniversary.

2. Young Scientist of the Year Award 2010

Dr. Kruawan Chankaew, an alumnus of the Department of Geological Sciences and a former student under the Development and Promotion of Science and Technology Talents Project (DPST), received a Young Scientist of the Year Award 2010 from the Foundation for the Promotion of Science and Technology under the Patronage of H.M. The King on 16 August 2010.



Academic Development

The Faculty of Science provides funding for various academic activities in support of both undergraduate and graduate programs as follows:

Undergraduate Level

□ Teaching and Learning Development Project

Support for teaching and learning development activities are divided into 4 categories.

- **Activities for enhancement of student quality:** These activities are carried out through workshops and seminars to enhance the knowledge of students in the areas of:
 - 1) subjects that are directly related to their major programs of study
 - 2) career-related practical knowledge for their future work
 - 3) special skills for higher education and work, especially skills in English and information technology
- **Activities for development of teaching materials:** These activities are for providing/developing teaching and learning materials such as textbooks, teaching aids, and information technology systems
- **Activities for promoting cultural and human relation values:** These activities are for the promotion of ethics, morality, and enhancement of relationships among students, such as Buddhist ceremonies, orphanage visits, Sports Day, ethics camp, and departmental cleaning days.
- **Activities related to teaching and learning development:** During the past year, the Faculty of Science allotted a total of 422,320 Baht for the following activities:
 - Multidisciplinary Science Camp for 1st year students
 - Research training for 2nd year students in special programs (e.g., Talented Students in Science and Technology Project)
 - Job training and site visits
 - Academic majors open house
 - Undergraduate Students Research Presentation Day
 - Social/Academic Charity Camp
 - Support for Special Problem and Independent Studies courses
 - Parents Day (administrators meet with parents of 1st year students)
 - Orientation/Pre-graduation meeting
 - Annual visits to students' homes
 - Graduation preparation for 3rd year students
 - Annual Meeting of 1st year students' academic advisors
 - Student Committees Seminar
 - Workshops/seminars to prepare 1st and 2nd year students to conduct their own academic development activities

Scholarships

• Graduate Level

➤ Financial Support for Research Presentations and Exchange Programs

In 2010, the Faculty of Science provided travel grants totalling 884,484.50 Baht for 116 graduate students to present their research work in both national conferences (72 students, 273,784.50 Baht) and international conferences (44 students, 610,700 Baht). In addition, the Faculty of Science provided 70,000 Baht to support 3 graduate students to conduct research abroad through collaborative exchange programs at the University of Wollongong (Australia), Niigata University (Japan) and the University of Arkansas Fort Smith (USA).

➤ Academic Development Project

The Faculty of Science provided 538,764 Baht to support 46 academic development projects arranged by various departments.

➤ Teaching Assistant (TA) Project

The Faculty of Science supported the Teaching Assistant (TA) Program for graduate students to help in lecture and laboratory courses in two ways, either as TAs hired by the hour or as TAs supported by scholarships. In 2010, the total funding provided was 2,414,160 Baht of which 1,136,160 Baht was for hourly-hired TAs and 1,278,000 Baht was for TA scholarships.

• Scholarships and Financial Support for Undergraduate Students

➤ Student Scholarships

Students in the Faculty of Science received 561 scholarships (totalling 14,166,906 Baht) which comprised 523 scholarships for undergraduate students (7,150,666 Baht) and 38 scholarships for graduate students (7,016,240 Baht). These scholarships were obtained from the following sources:

Financial Support: Faculty's own general income budget, Faculty of Science Fund, Faculty of Science Alumni Association, Union Science Co., Ltd., Kinetics Corporation Co., Ltd., Aurnporn Ngarmariyakul Foundation, Manoch-Duangjan Kaneeyao Foundation, JCC 21st Century Education Fund Scholarship, American Chamber of Commerce in Thailand Foundation, Thai Northerner Association of Illinois, Takahashi Foundation, Chiang Mai University Development Foundation, Siam Cement Foundation, Sri Wisarn Waja Foundation, Kingfisher, Yonok Foundation, Boonrawd Student Development Foundation, TISCO Charitable Foundation, Chiang Mai University Promotion Fund, SMBC Global Foundation, Shell Co., Ltd., Lamphun Shindengen Co., Ltd., Field Marshal P. Phibul Songkhram Foundation, Ruamjit Nomklao Youth Foundation, Foundation for the Better Life of Children, Chiang Mai University Savings and Credit Cooperative Ltd., Dr. Mahmoud Kazim, Siam Commercial Bank Public Co., Ltd., Tang Sek Kim (Nan Mee) Foundation, Fiscal Budget (Outstanding Performers), H.R.H. Princess Maha Chakri Sirindhorn Foundation, Scholarships for Leader Development from the Church of Christ in Thailand Foundation, Krung Thai "Sanfansu Bundit" Project, Higher Education Scholarships for Southern Thailand Development, Scholarships from

the Projects of H.R.H. Princess Maha Chakri Sirindhorn, Thai Parkerizing Co., Ltd., GE Foundation, Foundation for the Social Welfare, Karel Vinck-Padaeng, Charoen Pokapan Group, Krung Thai Electric Co., Ltd., Chumbhot-Pantip Foundation, Kao Industrial Co., Ltd. (Thailand), Foundation for the Welfare of Needy Schoolchildren under the Royal Patronage of Her Majesty the Queen, Ruamjit Nomkloa Youth Foundation, PTT Exploration and Production Plc. Co., Ltd., Wicha-Sujiga Sethabutr Educational Fund and Klong Yang Co., Ltd.

Scholarships: Jiraporn Pidnoi, Chaiwat Kaewla, Prof. Dr. Parinya Nutalai, Geol' 24, Somsak Tantachon, Kanoksin Export-Import Co. Ltd., Wanda Wangtongkum, Entomology, Thai Life Insurance Association, Juree Ittijeerajaras - Assoc. Prof. Nuan-anong Ittijeerajaras, Science and Technology Council of Thailand Foundation, Cluster Program Management Office (CPMO), National Science and Technology Development Agency (NSTDA), Mitsui Oil Exploration Co., Ltd., and Chevron Thailand Exploration and Production Co., Ltd.



• Graduate Scholarships Received in 2010

Scholarships	Amount (Baht)	Number of Scholarships	Total Amount (Baht)
1. Scholarships from the Faculty of Science Alumni Association	50,000	2	100,000
2. Thailand Graduate Institute of Science and Technology (TGIST) Scholarships from the National Science and Technology Development Agency (NSTDA)	585,000	1	585,000
3. Thailand Graduate Institute of Science and Technology (TGIST) Scholarships from the National Science and Technology Development Agency (NSTDA)	250,000	1	250,000
4. Teacher Development Scholarship 2005 from the Commission on Higher Education	1,437,200	1	1,437,200
5. Grant from the TRF MAG WINDOW I	290,000	1	290,000
6. Grant from the Thailand International Development Cooperation Agency (TICA)	831,000	1	831,000
7. Grant from the Padaeng Industry Public Company Limited	480,000	1	480,000
8. Grant from the Research, Development and Engineering Project	620,000	1	620,000
9. Scholarship from the Royal Bangkok Sports Club	24,000	1	24,000
10. Grant for Graduate Research Support from the Graduate School, Chiang Mai University	10,000	1	10,000
11. TRF-MAG Grant from the CPU Concrete Wall Company Limited	105,000	1	105,000
12. Grant from the TRF MAG WINDOW I	105,000	1	105,000
13. Grant from the Industrial Technology Assistant Program (ITAP)	5,000	1	5,000
14. Grant for Research, Development and Engineering from the NSTDA Northern Network	11,000	1	11,000
15. Grants from the Algae Project	191,520	2	383,040
16. Grant from the Steam and Dilute-base Pretreatment of Rice Straw for Ethanol Production Project	25,000	1	25,000
17. TGIST Scholarships*	135,000	4	540,000
18. TGIST Scholarships*	108,000	4	432,000
19. TGIST Scholarships*	60,000	2	120,000
20. TGIST Scholarships*	48,000	9	432,000
21. Scholarship from TGIST, NSTDA	231,000	1	231,000
Total		38	7,016,240

* received via the Research Administration, Academic Services and International Relations Section

➤ Science Classroom Project in Schools under the Supervision of the University

This project was initiated according to the policy announced by the Ministry of Science and Technology. The objective is to build a strong foundation and increase the potential of researchers in science and technology through academic curriculum support for talented high school level students. Chiang Mai University, led by the Faculty of Science, together with the CMU Demonstration School, set up a Science Classroom in the academic year 2010 to accommodate 2nd and 3rd year high school students, 30 from each level. The Ministry of Science and Technology has provided 9,000,000 Baht in support of this project.

Student Activities

The Faculty of Science realizes the importance of promoting knowledge and developing skills for living in the modern society. Hence, students are encouraged to organize and participate in extracurricular activities including academic activities, sports and recreation, cultural arts and traditions, and community services.

In 2010, student activities were organised throughout the year totaling 75 events at a budget cost of 756,778 Baht. The activities included:

- Freshy Sports Day
- Table tennis 2010
- Training for basic swimming practice
- Astronomy youth leader camp
- Community astronomy
- Huay Kaew Waterfall Bird Watching Project
- Music teaching, Lanna shows and Lanna-style crafts
- Teacher's Day
- Refrain from alcohol project
- "Bai Sri" and "Khan Toke Dinner"
- Social charity and community service camp in October
- Rural plantation and environmental development project

The Faculty of Science Alumni Association, Chiang Mai University

The Faculty of Science Alumni Association, Chiang Mai University, organized an Opening Ceremony for the Coordination Center for the Faculty of Science Alumni Association on 1 September 2010 at the Faculty of Science Alumni Association (Room SCB-2008), Floor B, 40-year Building, Faculty of Science. The ceremony was presided over by **Prof. Dr. Pongsak Angkasith**, President of Chiang Mai University. In addition, **Mr. Chalee Tangjeerawong** (President of the Faculty of Science Alumni Association), **Assoc. Prof. Theera Visitpanich** (President of the Chiang Mai University Alumni Association and Dean of the Faculty of Agriculture), **Assoc. Prof. Dr. Sampan Singharajwarapan** (Dean of the Faculty of Science), **Mr. Preecha Kovitaya** (President of the Faculty of Science Fund) and **Assoc. Prof. Dr. Mongkon Rayanakorn** (Secretary of the Faculty of Science Retiree's Association) were in attendance together with about 100 participants. The ceremony also included a "Boom Science" show by current students which was greatly appreciated by all of the alumni present.

Following this Opening Ceremony, the Association's Administrative Committee arranged its first meeting with the Faculty of Science and the Faculty of Science Fund at the Coordination Center with the aim of proposing ways in which the 3 parties could work together in the future to help in the development of the Faculty of Science. This was followed in the evening by a social gathering at the Doi Suthep Room, Kantary Hills Hotel, Chiang Mai.



Educational Quality Assurance

In 2010, the Faculty of Science was evaluated in terms of its overall performance during the academic year 2009 (June 1, 2009 - May 31, 2010). The Evaluation Committee examined and evaluated the educational quality assurance system in the Faculty of Science over 2 days during June 24-25, 2010 and gave their evaluation scores for a total of 9 designated categories. The final average score of 2.57 (out of a maximum of 3) was in the “Good” ranking level. The details are as follows:

Category	Average Score according to each indicator			
	Imported Factors	Process	Product	Evaluation Outcome (Average)
1. Philosophy, ambitions, objectives and performance plan	-	3.00	1.00	2.00
2. Learning and teaching	2.08	2.40	2.32	2.27
3. Student development activities	-	2.50	3.00	2.67
4. Research	2.50	3.00	3.00	2.79
5. Academic community services	3.00	3.00	2.00	2.67
6. Preservation of culture and arts	2.50	3.00	3.00	2.75
7. Administration and management	3.00	3.00	2.40	2.75
8. Finance and budgeting	-	3.00	-	3.00
9. System and mechanism of educational quality control	-	3.00	3.00	3.00
Evaluation outcome	2.47	2.82	2.40	2.57

As part of this evaluation, the Evaluation Committee also provided several useful suggestions concerning the administrative management of educational quality assurance which the Faculty of Science could use for further improvement and development.

The Evaluation Committee consisted of the following persons:

- | | |
|---|-------------|
| 1. Assoc. Prof. Gp. Capt. Yutana Tra-Ngarn (Mae Fah Luang University) | Chairperson |
| 2. Assoc. Prof. Wirat Pattanaporn | Member |
| 3. Assoc. Prof. Dr. Soraya Ruamrungsri | Member |
| 4. Asst. Prof. Dr. Acharaporn Sripusanapan | Member |

In addition, a workshop entitled: “Systems for Information Storage and e-SAR Educational Quality Assurance Reporting” was organized in conjunction with Maejo University and Chiang Mai Rajabhat University. This was a networking collaboration in Educational Quality Assurance between the Faculty of Science; Maejo University’s Faculties of Science, Business Administration, Architecture and Environmental Design, Agricultural Production, Economics, Liberal Arts, Tourism Development, and Fisheries Technology and Aquatic Resources; and Chiang Mai Rajabhat University’s Faculty of Science and Technology. The feedback received following the workshop indicated that it was considered to have been a highly satisfactory joint activity.

Research Publications and Presentations

In 2010, the Faculty of Science encouraged researchers to publish their research articles in refereed journals or present research papers in international and national conferences.






- | | |
|--|--------------|
| 1) Research articles published in journals listed in the ISI database or Web of Science | 132 articles |
| 2) Research articles cited in refereed journals listed in the ISI database or Web of Science | 16 articles |
| 3) Research articles published in journals listed in the Scopus database | 246 articles |
| 4) Research papers presented in international conferences | 58 papers |
| 5) Research papers presented in the 34 th Annual Congress on Science and Technology of Thailand (STT34) | 40 papers |

Academic Collaborations

Chiang Mai University has MOU academic collaborations with 15 institutions in Thailand and 30 institutions around the world. The University also currently hosts research fellows from 23 different countries worldwide.







Academic MOUs in 2010

Total of 45 institutions: 30 institutions worldwide and 15 institutions in Thailand
The 8 most recently signed MOUs are listed below






No.	National Flag	Country	Institution	Level/Duration/Department
1		Thailand	13 th Junior Science Talent Projects (JSTP) of the National Science and Technology Development Agency (NSTDA)	University 1 January 2010-30 June 2011 Development and Promotion of Science and Technology for middle school students
2		Thailand	PTT Exploration and Production Plc. Co., Ltd.	University 1 February 2010-30 February 2015 Geological Sciences
3		Thailand	The Gem and Jewelry Institute of Thailand (Public Organization)	University 15 March 2010-14 March 2015 Gemological Sciences
4		Germany	Fakultät für Maschinenbau, Verfahrens- and Energietechnik, Technische Universität Bergakademie Freiberg	Faculty 7 April 2010-6 April 2013 Glass and Ceramics
5		Thailand	Faculties of Engineering, Agriculture, Science and Agro-industry, and College of Arts, Media and Technology, Chiang Mai University	Faculty 3 June 2010-2 June 2013 All of mutual interest fields

No.	National Flag	Country	Institution	Level/Duration/Department
6		USA	Oregon State University	University 4 June 2010-3 June 2015 All of mutual interest fields
7		Thailand	The Botanical Garden Organization	University 16 June 2010-15 June 2015 All of mutual interest fields
8		Republic of Korea	Korean Society of Limnology	Faculty 30 June 2010-29 June 2013 Limnology

Visiting research staff during 2010 (Oct 2009-Sept 2010)

No.	National Flag	Country	Institution	Visitors
1		Taiwan	National Yang-Ming University	1
2		England	1) University of Kent 2) School of Chemistry, University of Southampton	11
3		Greece	Nano/MEGAS	1
4		Singapore	OCTALAB	1
5		Japan	1) Shiga University 2) Kyoto Institute of Technology (KIT) 3) Advanced Research Center for Beam Science, Institute for Chemical Research (ICR), Kyoto University 4) Hitachi Scholarship Foundation 5) Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University 6) Kagawa University, Faculty of Agriculture 7) National Institute for Environmental Studies 8) Toyota Technological Institute 9) National Astronomical Observatory 10) Niigata University	2 1 1 1 1 1 1 1 1 1
6		Australia	1) The University of New South Wales, Faculty of Science 2) University of Wollongong	1 1

Visiting research staff during 2010 (Oct 2009-Sept 2010) (continued)

No.	National Flag	Country	Institution	Visitors
7		USA	California State University (CSU), Fullerton	1
8		Republic of Korea	Korean Society of Limnology (KSL)	1
9		Socialist People's Libyan Arab Great Jamahiriya	Administrative Staff from Higher Education Commission	1
10		Netherlands	Erasmus University, Rotterdam	1
11		France	University of Montpellier 2	1
			Total	23

Academic Services

Public Relations

Outstanding academic services in the academic year 2010

The Faculty of Science, Chiang Mai University, classifies public relations into 2 different categories.

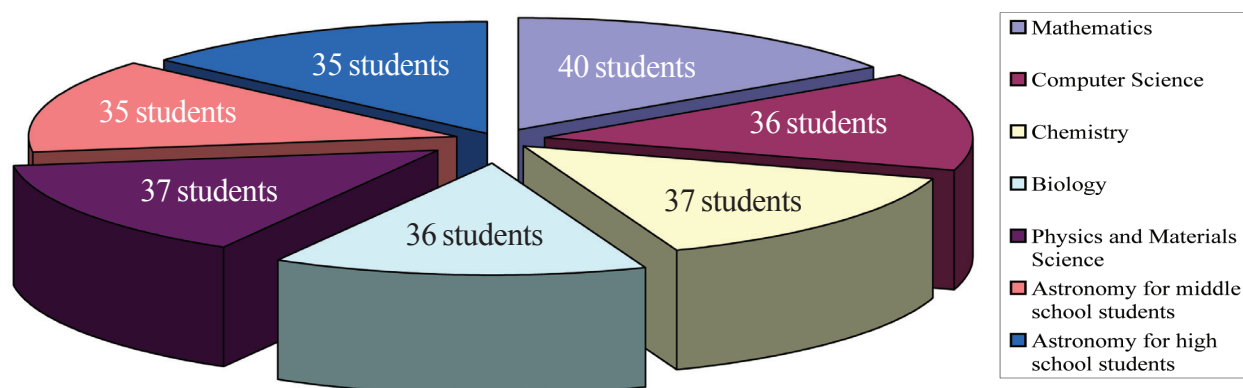
1. Academic Services for Schools

1.1 Academic Olympia

The Faculty of Science organized Science and Mathematics Olympia Camps, under the Patronage of her Royal Highness Princess Galyani Vadhana Krom Luang Naradhawas Rajanagarindra (POSN), for the 11th year. There were 6 subject areas: mathematics, computer science, chemistry, biology, physics and astronomy. In 2010, the first Round exam was held in

September 2010 for 5,946 students. The first Camp of 2010 was held during October 10-24. An Astronomy Olympia Camp for middle school students was held from October 10-19, 2010, and one for high school students from October 14-24, 2010, for which there were 256 students accompanied by 31 high school teachers.

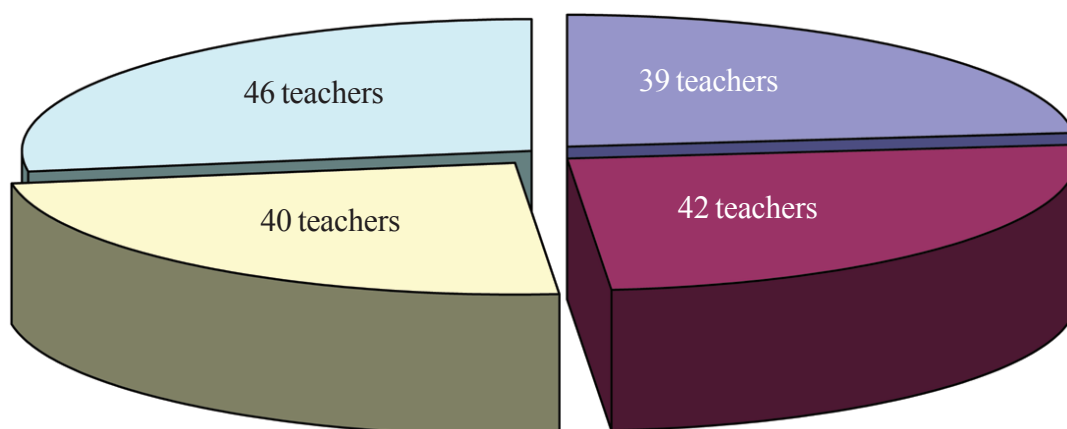
Subject Area	Total
Mathematics	40
Computer Science	36
Chemistry	37
Biology	36
Physics and Materials Science	37
Astronomy for middle school students	35
Astronomy for high school students	35
Total	256



1.2 Training Program for High School Teachers in Science, Mathematics and World Technology

The Faculty of Science, Chiang Mai University, organized a training program during May 3-12, 2010. The number of trainees are listed below.

Subject Area	Total
Chemistry	39
Physics and Materials Science	42
Mathematics	40
World, Astronomy and Space	46
Total	167



■ Chemistry ■ Physics and Materials Science ■ Mathematics ■ World, Astronomy and Space

2. Basic Knowledge and Technology for Society

2.1 The Faculty of Science provides basic knowledge and technology for society in various ways such as:

- Organizing conferences
- Organizing seminars
- Organizing practical training in different areas of science
- Providing guest speakers for private and public institutions
- Giving useful academic suggestions

2.2 Multidisciplinary Projects for Society

In 2010, the Faculty of Science received funding for 4 multi-disciplinary projects for society.

1) Nanotechnology Research Project

With support funding of 3,000,000 Baht, this project is a collaboration between various units both inside and outside the Faculty of Science such as the Faculty of Agriculture, Research Unit to Develop Medicine, Cosmetics and Natural Products, and the Institute for Research and Development in Science and Technology. The main purpose of this project is to develop knowledge in nanotechnology. So far, the output from the project is as follows:

- Support in nanoscience and nanotechnology
- Public relations
 - Analysis and/or preparation
 - Organizational meetings
 - Analysis of drinking water quality in schools
 - Nanotechnology project for in-house clean air
 - Bee disease and bee products in Northern Thailand at Bee Protection Center
 - Nanotechnology in agriculture
 - Starting a database for nanoscience and nanotechnology

2) Conservation and Utilization of Biodiversity

With funding of 3,000,000 Baht, this project involves the collaboration of various faculties within the University and the Research Unit in Agricultural Product Development. During 2010, the output from this project has included:

- Training for the upper northern part of Thailand
- Producing graduate students at Master's and PhD degree levels

3) Research Projects and Services Genome Crops

With funding of 2,000,000 Baht, this project is a collaboration between the Biology Department and the Faculty of Science. The output of the project has so far comprised:

- Analyzing plant DNA
- Analyzing GMOs
- Research publications
- Protein testing
- Plant tissue culture
- Laboratory training
- Academic consultancy for plant Genome

- Student training
- Analyzing chemical reactions of parasites and cells
- Separation and transfer of genetic material to targets

4) Forensic Science Center Project, Chiang Mai University

With funding of 2,000,000 Baht, the project is led by the Faculty of Science in collaboration with the Faculty of Medicine, Faculty of Social Sciences, Faculty of Dentistry, Faculty of Pharmacy, Faculty of Medicine, Faculty of Fine Arts, Faculty of Engineering and the Faculty of Agriculture. Thus far, this project has produced the following output:

- Support for forensic science research projects
- Development of trained forensic science personnel
- Community services to inform and improve the understanding of forensic science
- Special lectures
- Study visits

2.3 Science and Technology Service Center, Faculty of Science, Chiang Mai University (STSC-CMU)

The Science and Technology Service Center, Faculty of Science, Chiang Mai University, (STSC-CMU) was first established on 1 May 2000 as the Science and Technology Service Institute and was originally an autonomous organization under the administration of Chiang Mai University and the management of the Institute Director. In 2008, the status of the STSC-CMU changed to be a Center under the management of the Faculty of Science since when the present name has been adopted according to the administrative structure announcement by Chiang Mai University (Issue 1) on 30 December, 2008. Under its present name as the Science and Technology Service Center, Faculty of Science, Chiang Mai University, STSC-CMU currently provides the following services:

- Analysis and testing services in the fields of chemistry, microbiology, biology, instrumentation and liquor quality
- Research and development (R&D): Research and Innovation Clinic
- Research and Service Center on Electron Microscopy
- STSC-CMU Book Center and Printing Unit
- Organization of seminars in areas of science and technology
- Production and distribution services
- Testing laboratory for RoHS and ELV standards

2.4 Research and Service Center on Electron Microscopy

The Research and Service Center on Electron Microscopy has been in operation under the supervision of the Science and Technology Service Center, Chiang Mai University, since 2002. The Center supports the development of knowledge which can increase academic support for teaching and research programs at both undergraduate and graduate levels together with research projects in the Faculty of Science. The Center also provides technical services to government agencies both inside and outside the university as well as the private sector. The Center's advanced instrumentation can both support education and at the same time generate income from agencies that use its services. In addition, the Center also organizes workshops on microscopy and welcomes those who are interested in studying the use of the microscopes in an organization on a regular basis. In 2010, the Center provided services on LV-SEM, FE-SEM, TEM (Jeol) and TEM (Zeiss) for students, staff and industrial users on 750 separate occasions.

Cultural Activities, Natural Resources and Environmental Conservation

Organized by Faculty

Decorative arch/krathong-making contest, Buddhist Lent cast candle presentation, Merit-making and alms-giving ceremony for the New Year 2010, Annual “Tord Pa Ba” Ceremony, Dam Hua Ceremony for the Dean and senior staff, 100-Year Anniversary of the death of Emeritus Prof. Dr. Buarej Kamthong, Buddhist Lent cast candle ceremony, Annual employee retirement ceremony

Organized by Students

Tree planting for 45th anniversary celebrations, Music teaching, Lanna Cultural Show, Bird watching at Mae Hia Reservoir, Astronomy, Bird watching expedition, Refrain from alcohol pledge and visits to religious centers for CMU students, Re-forestation and environmental development, Annual Wai Kru Ceremony for the Academic Year 2010, Doi Suthep ascent for new students, “Bai Sri Soo Kwan” Ceremony and Khan Toke Dinner, Merit-making for buildings

Organized by Departments

Girl Guides IC Camp, Yi Peng Festival Cultural Promotion 2010, Yi Peng (Department of Statistics), Benefaction for 45th Anniversary, Yi Peng (Department of Computer Science), Buddhist Teachings Audio, Ethics Camp, Self-improvement to develop oneself, Improvements to landscape and environment, Study visits to places of historical interest, Annual Pa Ba Ceremony 2010 (Department of Geological Sciences), Development and merit-making (Department of Statistics), Merit-making (Department of Mathematics), Dam Hua Ceremony, Dam Hua Ceremony for the Dean and senior staff, Water distribution for people walking up Doi Suthep on Visakha Bucha Day, Wai Kru Ceremony, Annual merit-making (Department of Computer Science), Buddhist Lent candle decoration, Buddhist Lent candle presentation and social service, Knowledge management for organizational unity and environmental awareness, 2nd Unification Camp for academic year 2009, Annual employee retirement ceremony, Department area development work (Department of Biology), Landscaping and environmental improvements, Department development and Dam Hua Ceremony (Department of Chemistry), Buddhism for life, Set up vegetarian food shelter for charity, Youth Camp for bird and nature conservation

Jointly Organized with the University

Merit-making “Tord Pa Ba” ceremony with Faculty of Medicine at Wat Pan Sao, Annual “Tord Pa Ba” ceremony, Ceremony to celebrate CMU Buddha images, Annual “Tord Kathin” ceremony for CMU at Wat Fai Hin 2010, Merit-making ceremony for Makha Bucha Day at Sai Watanathum Road, Merit-making ceremony with 108 monks for New Year’s Day at Sala Tham, Ceremony to cast and celebrate candle-making for Buddhist Lent at Sala Tham, CMU, Chiang Mai University foundation celebrations at Sala Tham, Songkran Festival parade in Chiang Mai City, Merit-making “Tord Pa Ba” ceremony at Wat Toong Poon, Chomtong District, Chiang Mai province, Merit-making ceremony with 79 Monks for H.M. The Queen’s Birthday, Merit-making ceremony with 108 Monks for Visakha Bucha Day at Sai Watanathum Road, Annual Dam Hua procession and ceremony for the CMU President and senior officials, Mahidol Day Commemoration Ceremony at the monument to H.R.H. Prince Mahidol Adulyadej, 8th CMU Founders Thanksgiving Day, Thanksgiving Day for Phrathat Doi Suthep Temple, Merit-making ceremony for Chiang Mai City, Merit-making ceremony with 108 Monks for Asalaha Bucha Day, Merit-making ceremony with 500 Monks at Sai Watanathum Road

Other Activities

Clearing Day “5 Sor”, Traditional northern-style dressing on Friday



Songkran Festival





Outstanding Personnel of the Year

Outstanding Achievements of Faculty Personnel Honours and Awards



1. Outstanding Research Group Award 2007

Emeritus Professor Dr. Tawee Tunkasiri, Head of the Biocomposite Materials for Medical Applications Project, received an Outstanding Research Group Award 2007 from the Commission on Higher Education Congress III held on 9-10 September 2010 in Cholburi.



2. CUFST National Outstanding Award 2009 for Science and Technology

Professor Dr. Suthep Suantai of the Department of Mathematics received a plaque for the CUFST National Outstanding Award 2010 in the field of Science and Technology from the Prime Minister **Abhisit Vejjajiva** at the 2010 Annual Meeting of the Council of University Faculty Senate of Thailand (CUFST) held on 2 September 2010 at the Rama Gardens Hotel, Bangkok.



3. Best Oral Presentation

Ms. Pattama Jaksurat, a staff member in the Department of Mathematics, received a plaque for the Best Oral Presentation Award for her work entitled: “The Study on the Cause of Receiving a F in Calculus for Engineering I” from **Professor Pirom Kamol-Ratanakul**, President of Chulalongkorn University, at the 1st Institutional Research Meeting held on 30 March-1 April 2010 at the Tawana Hotel, Bangkok.

4. Best Paper Award in the NCCIT 2010 Conference



Makkasan Hotel, Bangkok.

Mr. Sittha Kaewpangchan, a computer technician in the Department of Statistics, received the Best Paper Award for his work entitled: “Electricity Consumption Forecasting Model Using Hybrid Holt-Winters Exponential Smoothing and Artificial Bee Colony Algorithm”. This research work was carried out in conjunction with **Asst. Prof. Lampang Saenchan** from the Department of Statistics and **Asst. Prof. Dr. Samerkae Somhom** from the Department of Computer Science and was presented at the 6th National Conference on Computing and Information Technology (NCCIT 2010) organized by King Mongkut’s University of Technology North Bangkok from 3-5 June 2010 at the Eastin

Outstanding Personnel

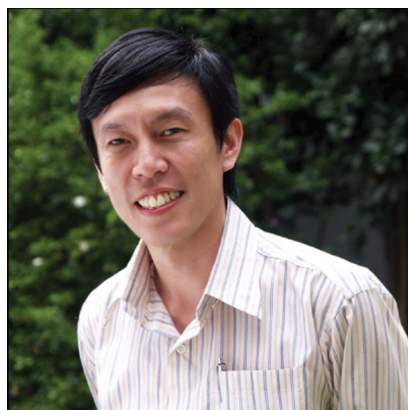
The outstanding personnel awards in the Faculty of Science for the year 2010 in the various categories were as follows:

- **Government Official Ranks 6-8**



Lecturer Chommanad Sawadeemit
Lecturer Rank 7
in the Department of Chemistry

- **Government Official Ranks 1-5**



Mr. Suluk Wutheerapol
Agricultural Operations Officer (Teacher) Rank 5
in the Department of Biology

- **Full-time University Personnel (Academic)**



Associate Professor Dr. Apinpus Rujiwatra
Associate Professor
in the Department of Chemistry

- **Full-time University Personnel (Support)**



Mrs. Rosalin Wongchai
Policy and Planning Analyst (Professional)
in the Faculty Office

Knowledge Management

In 2010, the Faculty of Science introduced a system of knowledge management (KM) to its organization and encouraged the establishment of communities for which 6 separate groups were set up. These 6 groups were:

1. Community Financing
2. Commodity Practice – not as difficult as might be thought
3. Knowledge Management for Planning and Budgeting
4. Living Library
5. Administrative Management at the Department of Industrial Chemistry
6. Network for Departmental Office Staff in the Faculty of Science

The members within each group exchanged knowledge based on experience. Some groups were able to apply this to solving work-related problems, reducing duplication of effort, creating understanding and reducing mistakes. It was considered that the overall results from these groups in terms of knowledge management were very good.

In addition, a knowledge management workshop entitled: “Knowledge Management in the Faculty of Science, Chiang Mai University” was organized on 15 September 2010 in the Seminar Room, 2nd Floor, 40-Year Building, Faculty of Science. As part of this workshop, **Dr. Noppasit Chakpitak**, Dean of the College of Arts, Media and Technology, was invited to give a special talk on knowledge management for the Faculty staff. The workshop was well attended by a total of 110 Faculty staff members.

Risk Management

The Faculty’s Risk Management Committee, consisting of administrative staff, Unit Heads and Department Heads, participated in a training seminar entitled: “Internal Control and Risk Management” organized by Chiang Mai University on 11 February 2010 at the Chiangmai Grand View Hotel, Chiang Mai. The purpose of the seminar was to provide knowledge and understanding about the practice and care involved in internal controls and risk management consistent with the guidelines laid down by the Budget Bureau. Another aim was to be able to disseminate knowledge gained from the seminar to staff in the Faculty of Science and to be able to monitor the Faculty’s internal controls and risk management in 2010.

News and Public Relations

- Activities and news from within the Faculty were placed on the website, broadcasted on radio (FM100) and reported in local newspapers such as Thai News and Chiang Mai News
- Year activities were placed on the website and also on display boards
- Activities and news from outside the Faculty involved visits, posters on display boards at the Faculty and at each department, and leaflets at the Faculty reception desk

Information Technology System Development for Management Administration

1. Installation of a HP Server 1 wireless network system
2. Installation of a new “Sci-Mail” mail server system
3. Installation of VMWare ESXi 4 to create a “virtual platform” in order to perform multi-tasking on one computer server system and also transfer of the DNS system from the old server to run on the new VMWare ESXi 4
4. Installation and modification of SharePoint program

5. Development of various programs for systems such as:
 - 5.1 project administration
 - 5.2 e-budget
 - 5.3 e-vehicle
 - 5.4 information management
 - 5.5 research database
 - 5.6 personnel management
6. Information technology risk management

Buildings and Infrastructure Investment

- **Construction of the Science and Technology Service Center (STSC-CMU) Building, Faculty of Science, Chiang Mai University**

The Faculty of Science contributed 1,580,000 Baht from its own annual income budget for 2010 towards the construction of the Science and Technology Service Center (STSC-CMU) Building (SCB 5), Faculty of Science, Chiang Mai University, Phase 2. This contribution helped to enable the new building to be completed within the time schedule and to fulfill the objectives for which it was intended. The building was officially completed and handed over by the constructor on 17 July 2010. The Faculty of Science subsequently transferred responsibility for the building to STSC-CMU on 24 September 2010.

- **Advanced Scientific Instrumentation**

The Thai Industrial Standards Institute (TISI) gave some financial support to Chiang Mai University in order for the Faculty of Science and the Science and Technology Service Center to set up and take responsibility for a project to help strengthen the competitiveness of Thai industry in accordance with the relevant EU White Paper. This project was entitled: “Development of Testing Laboratory Facilities for Supporting RoHs and ELV”.

In 2010, the Faculty of Science received a budget of 9,144,000 Baht from the Thai Industrial Standards Institute (TISI), Ministry of Industry, to support the acquisition of instruments and equipment which, in turn, supported the project to strengthen laboratory testing methods and set up a Lanna Industry Network to support RoHs and ELV as follows:

1. 1,230,000 Baht was used to acquire and/or develop 9 items of scientific equipment for use in practical laboratories to improve efficiency. These equipment items included, for example, mobile fume cupboards, mobile air purifiers, computers, audio-visual aids, and office equipment.
2. 7,914,000 Baht was used to develop laboratory facilities, testing methods, staff training, and the setting up of a network to test RoHs and ELV. This budget was allocated to the following activities:

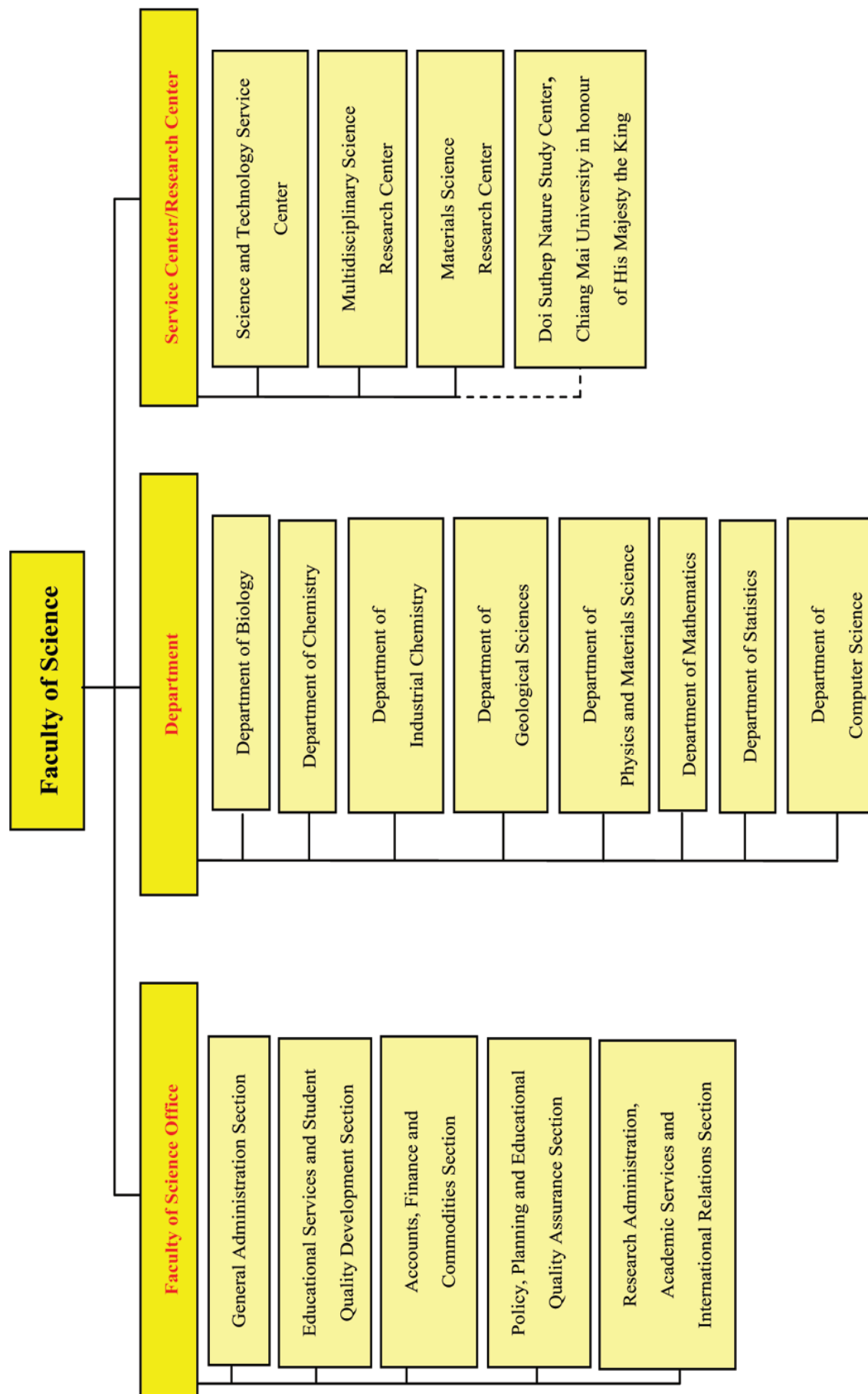
Activity 1 : Increase the number of standard test methods for contaminants or find substitute compounds including developing efficient techniques relevant to RoH and ELV regulations. Develop and prepare to implement an ISO/IEC 17025 system to cover cadmium and lead.

Activity 2 : Develop the institution and its staff to have knowledge and expertise in the use of a range of instruments and techniques for providing efficient service and dependable advice to the private sector according to RoHs and ELV regulations up to international standard.

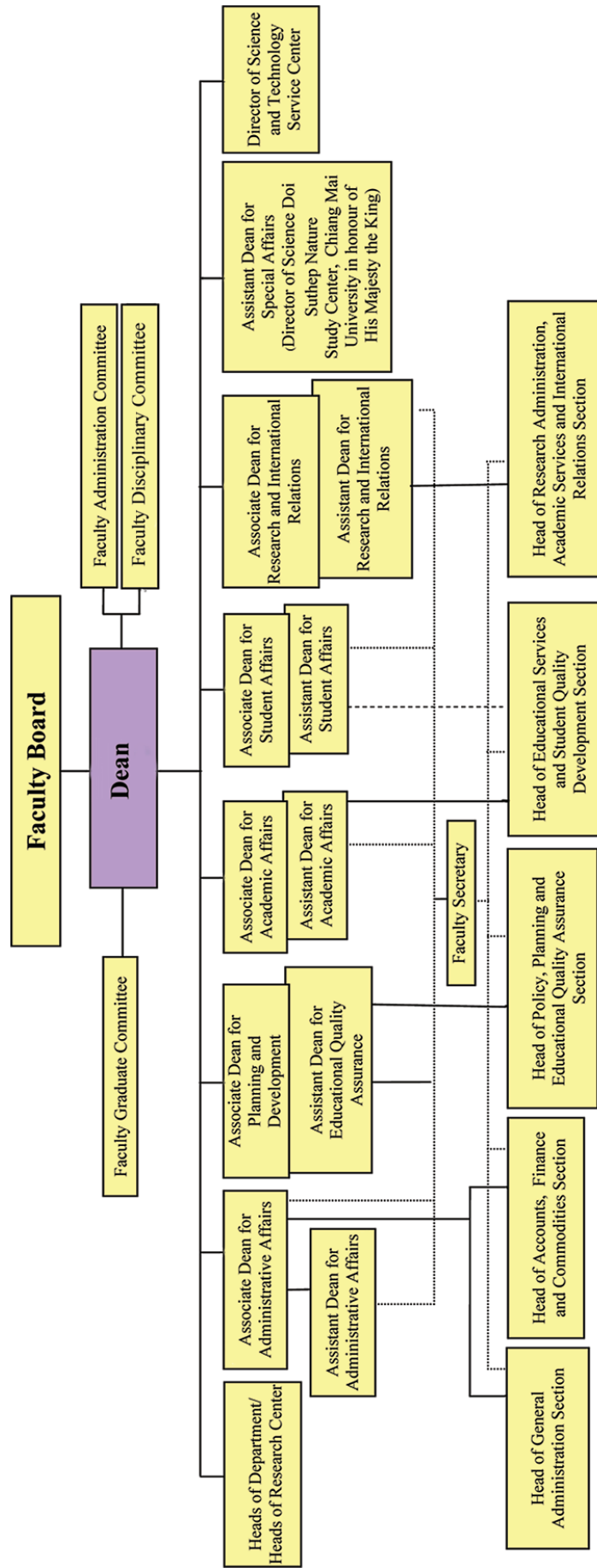
Activity 3 : Produce newsletters and practical manuals according to RoHs and ELV regulations for dissemination and public relations in order to provide accurate and reliable information to the relevant agencies in the Northern Region.

Appendix

Organization of the Faculty of Science, Chiang Mai University

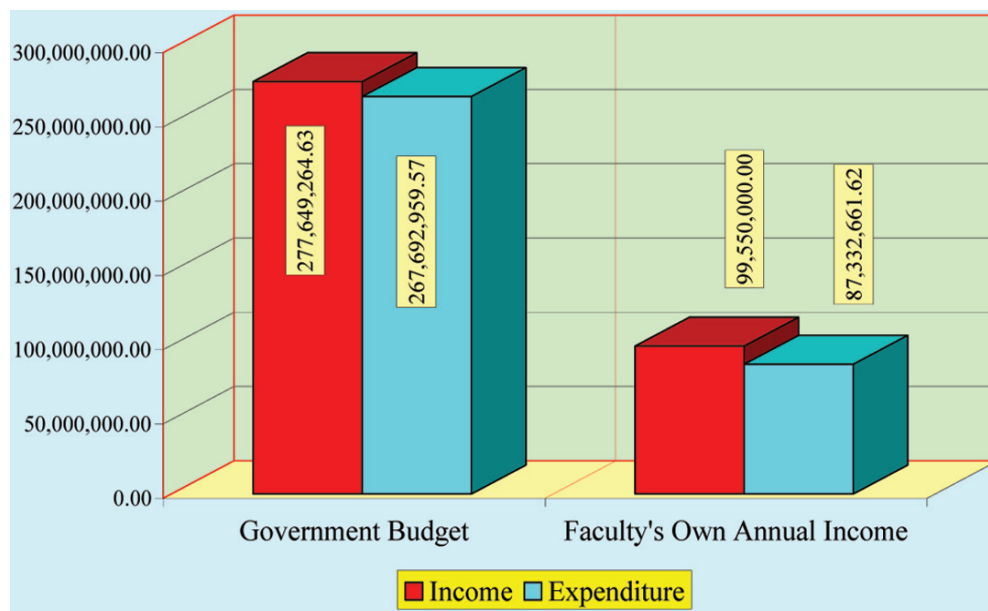


Administrative Structure of the Faculty of Science, Chiang Mai University



Budgets for Fiscal Year 2010

Total Expenditure 2010



• Income from Government Budget

Category	Income (Baht)	Expenditure (Baht)
Personnel	98,109,300.00	69,375,852.15
Operations	27,573,900.00	28,350,087.78
Investments	2,587,000.00	2,052,595.66
Supporting Budgets	149,379,064.63	167,914,423.98
Total	277,649,264.63	267,692,959.57

• Faculty's Own Annual Income

Category	Income (Baht)	Expenditure (Baht)
Personnel	11,755,100.00	10,168,060.00
Operations	29,911,600.00	29,223,024.13
Investments	9,377,100.00	13,055,487.08
Supporting Budgets	34,913,200.00	28,607,661.21
Other	13,543,000.00	6,278,429.20
Total	99,550,000.00	87,332,661.62

The Faculty of Science Fund

In 2010, the Faculty of Science Fund was involved in the following financial and fund-raising activities:

Part 1: Joint investment with the University in the building of Dormitory 4 for 6 million Baht which generated 500,722.23 Baht in interest.

Part 2: Buying Government bonds to the value of 17.5 million Baht from which interest was received twice during the year to the amount of 414,826.02 Baht.

These bonds comprised:

- | | |
|--|----------------|
| - Government bonds 2002 (10 years) | 4,500,000 Baht |
| - Bank of Thailand bonds 2009 (7 years) | 5,000,000 Baht |
| - 'Strong Thailand' bonds 2010 (6 years) | 8,000,000 Baht |

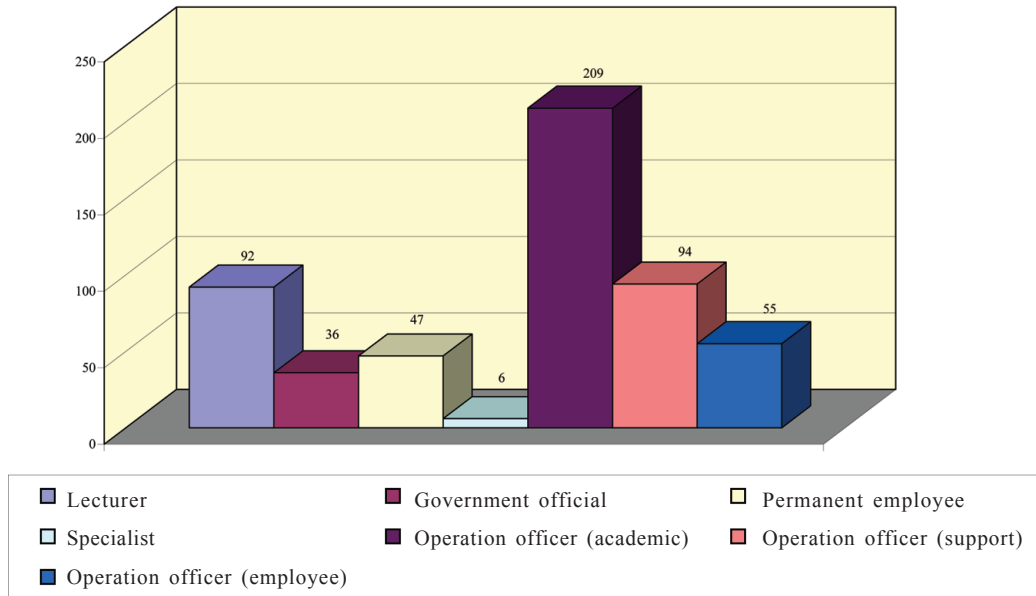
Part 3: Organized fund-raising events for the Faculty of Science Fund to provide student scholarships and to support various activities in the Faculty of Science.

- 650,000 Baht from the Charity Golf Competition between the Faculty of Science and the Faculty of Science Alumni Association
- 77,470.84 Baht from the mini-marathon organized as part of the Faculty's 45th Anniversary celebrations
- 55,050 Baht from activities held on 13 April 2010 to attract donations to the Comfort for Senior Citizens Project to buy related souvenirs
- 110,230 Baht from donations for student scholarships to mark the 100th Anniversary on 10 September 2010 of the passing away of Emeritus Professor Dr. Buarej Kamthong
- 37,740 Baht from souvenir sales during the 45th Anniversary celebrations
- 125,230 Baht from miscellaneous personal donations for student scholarships
- 330,546.02 Baht from the Buarej Kamthong Foundation for student scholarships

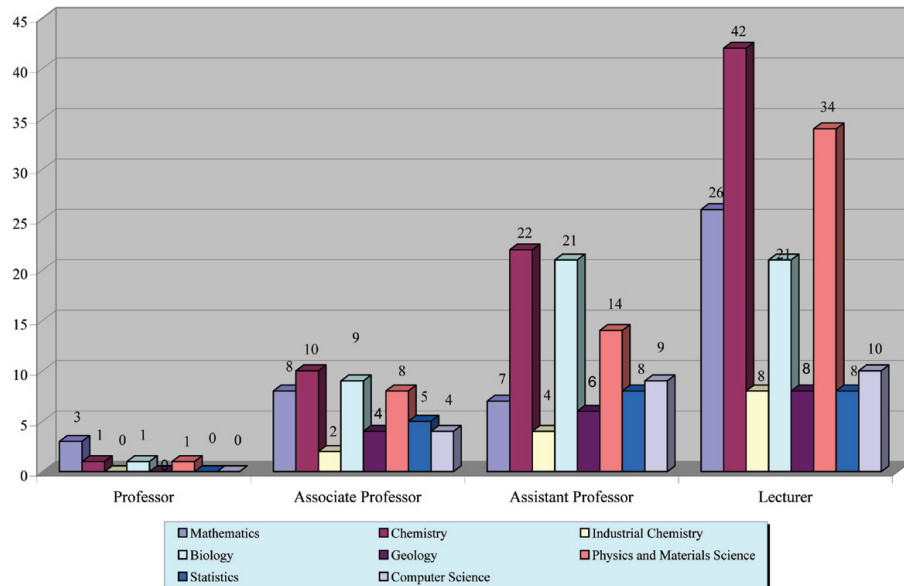
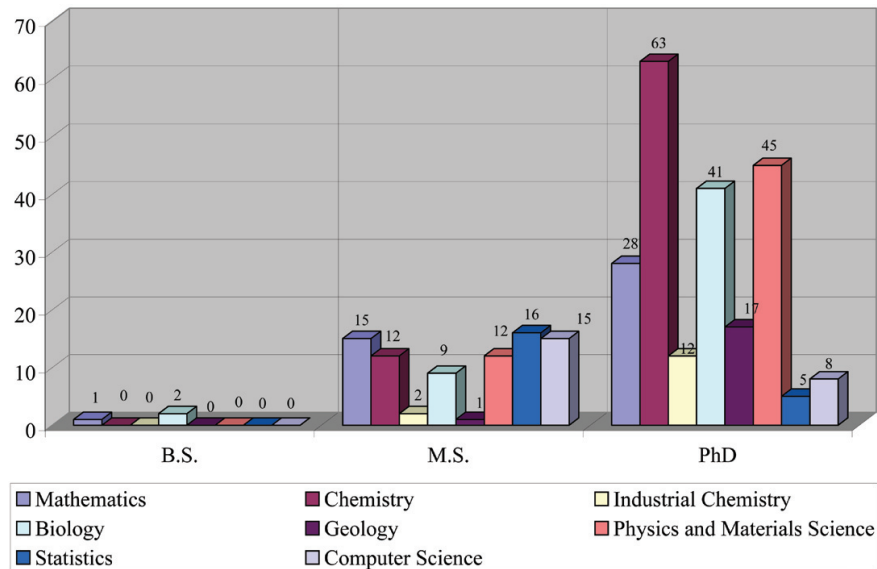
Interest generated by the Faculty of Science Fund was used to support the following activities:

- 480,000 Baht for student scholarships in the Faculty of Science
- 50,000 Baht for personnel development (2 persons)
- 120,000 Baht for scientific research grants
- 200,000 Baht for the 20th Atom Games Sports Week held on 20-25 March 2010 and hosted by the Faculty of Science

Personnel (by Category)



Academic Staff (by Highest Degree Qualifications and Departments)



Academic Staff (by Academic Positions and Departments)

Buildings and Vehicles

List of Buildings in the Faculty of Science

No.	Building	Area (sqm)	Department
1.	Mathematics Building	3,051.35	Mathematics
2.	Biochemistry Building	119.30	Chemistry
3.	Chemistry Building 1	5,471.34	Chemistry
4.	Chemistry Building 2	6,456.00	Chemistry
5.	Glassblowing Building	191.50	Chemistry
6.	Chemicals Storage Building	24.00	Chemistry
7.	Biology Building 1	4,118.50	Biology
8.	Biology Building 2	2,078.58	Biology
9.	Fresh Plant Samples Building	432.00	Biology
10.	Biological Substances Collection Building	531.76	Biology
11.	Rat Culture Building	60.00	Biology
12.	Glass Building	175.50	Biology
13.	Animal Experiments Building	648.00	Biology
14.	Plant Building	813.45	Biology
15.	Biological Research Building	551.80	Biology
16.	Geology Building	3,387.32	Geology
17.	Physics Building 1	5,902.00	Physics and Materials Science
18.	Engineering Building	287.50	Physics and Materials Science
19.	Fast Neutron Building	1,168.34	Physics and Materials Science
20.	Physics Building 2	5,578.01	Physics and Materials Science
21.	Astronomy Observatory	179.25	Physics and Materials Science
22.	Ion Beam Technology Building	805.05	Physics and Materials Science
23.	Statistics Building	2,017.56	Statistics
24.	Computer Science Building	3,516.00	Computer Science
25.	Silicate Building	360.00	Industrial Chemistry

No.	Building	Area (sqm)	Department
26.	Ceramics Building	1,089.00	Industrial Chemistry
27.	Industrial Chemistry Building	5,558.90	Industrial Chemistry
28.	Siam Cement Building 1	630.00	Industrial Chemistry
29.	Siam Cement Building 2	468.00	Industrial Chemistry
30.	30 years Anniversary Building (SCB 1)	12,367.87	Central Physics and Materials Science Biology Chemistry
	- Floors 1-2 and 7	3,776.81	
	- Floors 3-4	2,369.02	
	- Floors 5-6	3,800.02	
31.	40 years Anniversary Building (SCB 2)	22,930.88	Central Chemistry Central Physics and Materials Science Biology
	- Floors B, 1, 2	9,632.58	
	- Floors 3-4	3,635.91	
	- Research, Floor 4	717.19	
	- Floors 5-6	4,281.67	
	- Floors 7-8-9	4,484.38	
32.	Gemology Building (SCB 3)	5,002.23	Geology
	- SCB 3100	312.80	Central
33.	Genome Building	1,476.00	Biology
34.	Science and Technology Service Center Building	825.00	Central
35.	Statistics-Mathematics Building	2,438.00	Statistics-Mathematics
36.	Parking Area	141.00	Central

Vehicles: One 38-seat bus, 4 minibuses and one 6-wheel truck

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Assoc. Prof. Dr. Torranin Chairuangstri
Head of Industrial Chemistry Dept.



Assoc. Prof. Dr. Araya Jatisatiern
Head of Biology Dept.



Assoc. Prof. Dr. Pisanu Wongpornchai
Head of Geological Sciences Dept.



Asst. Prof. Dr. Banchob Yotsombat
Head of Physics and Materials Science Dept.



Assoc. Prof. Dr. Ekkarat Boonchieng
Head of Computer Science Dept.



Assoc. Prof. Surin Khanabsakdi
Head of Statistics Dept.



Assoc. Prof. Dr. Nuansri Rakariyatham
Director of Science and Technology Service Center



Assoc. Prof. Dr. Pisit Singjai
Head of Materials Science
Research Center



Prof. Dr. Kate Krudpan
Head of Multidisciplinary Science Research
Center

Annual Report Working Group

1. Assoc. Prof. Dr. Jeerayut Chaijaruwanich	Associate Dean for Planning and Development	Chairman
2. Assoc. Prof. Preecha Lamchang	Associate Dean for Administrative Affairs	Vice-chairman
3. Assoc. Prof. Dr. Supon Ananta	Assistant Dean for Educational Quality Assurance	Member
4. Dr. Pensiri Sriburi	Assistant Dean for Research and International Relations	Member
5. Dr. Robert Molloy	Expert, Materials Science Research Center	Member
6. Mr. Tongsook Tiyachaipanich	Faculty Secretary and Head of General Administration Section	Member
7. Mrs. Amporn Tabburee	Head of Accounts, Finance and Commodities Section	Member
8. Mr. Phorn Prommaharaj	Head of Educational Services and Student Quality Development Section	Member
9. Ms. Jirawan Upanunt	Head of Research Administration, Academic Services and International Relations Section	Member
10. Ms. Somprasong Srikaew	Head of Printing Unit	Member
11. Mrs. Rosalin Wongchai	Head of Policy, Planning and Educational Quality Assurance Section	Member and Secretary
12. Mr. Prayuth Khunluang	Operations Officer	Member and Assistant Secretary
13. Mr. Somjit Pangrang	Operations Officer	Member and Assistant Secretary
14. Ms. Autcharaporn Jandang	Operations Officer	Member and Assistant Secretary
15. Ms. Siriluk Chaiwong	Operations Officer	Member and Assistant Secretary

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