Wen-Long Hsu Encourages the NCKU Freshmen to Be Joyful People

“I failed to be admitted to Tainan First Senior High School three times, so my dad called me ‘dummy’, but I still worked hard and resolved to be a happy worker,” said Wen-Long Hsu, the founder of Chi Mei Corporation. Hsu attended the orientation session on the 17th and he took himself as an example to encourage the NCKU freshmen to be joyful people.

That afternoon, Hsu was invited by NCKU president Michael M.C. Lai to give a talk to the freshmen at the orientation session. Hsu said that neither his family nor education background was impressive. He failed to get in Tainan First Senior High School three times, so his father rebuked him and called him “dummy”. He felt that life was hopeless then.

He believed that diligence could make up for his disadvantages, so he resolved to work hard, pursue a wonderful life and stay happy even as a worker. While he was not at work, he liked to spend time reading, listening to music, painting, and fishing. These habits have become part of his life now and they make him happy.

Maybe this kind of lifestyle was only the reflection of the needs of his heart, he said, and not everyone would like that, because everyone had their own gifts and talents. “As long as you go with your talents, good or bad, you will find your way,” said Hsu.

However, he said that it did not mean that scores mattered no more. It meant that whatever we do, do not be affected by any exterior factors. Every job is unique job. We have to treat ourselves delightfully and be happy people. Like himself, he could not even get into a good high school. Regardless of his great success now, he was at least a joyful person back then.

Hsu told all the freshmen that “happiness is determined by our mind and conceptions, come what may. We have to stay optimistic and look on the bright side of life.” He also invited those freshmen to join Chi Mei Corporation after they graduate and work together for the prosperity of Taiwan.
In fairly short 8 years, the annual revenues have currently one of the world's four largest TFT-LCD class high-tech multinational company. CMO is Mr. Ho has taken Chi Mei from its traditional premier status on the global market eight years developed entirely with in-house technology, rose to the Department of Public Finance at National Chengchi University, and master’s of Tax Laws from Northrop University. Wei is now the China Airlines chairman. His outstanding leadership has deepened the foundation of the company. He was brought up in a poor family, but that kind of situation motivated him to work harder to acquire more skills in order to make himself an indispensable member in the job market where personal backgrounds and connections are emphasized. “Poverty is a drive, not an obstacle,” he said.

Wei has served in China Airlines for more than 36 years. He highlighted “Trustworthy and Excellent” as a vision for China Airline, and developed effective strategies for a solid foundation of the company to grow in Taiwan and the global aviation market. Wei actively develops network of the airlines and promotes the economy of Taiwan. He also collaborates with the Council of Agriculture and explores the business opportunities for Taiwan agricultural industry. Besides, he actively participates in charity activities. For example, in 2003 when SARS plagued Taiwan, China Airlines offered free freight of anti-SARS donations from overseas Taiwanese and charities such as Tzu Chi.

Mr. Tzu-Chiang Chen, born in 1952, B.A. from the Department of Physics in 1974 and M.A. of Physics in 1976. He got his MA and Ph.D. from the Department of Engineering Science at Yale University. He later entered IBM. Due to his outstanding performance, he was promoted for important positions and is now the Vice CEO of the Center of Technology Development at IBM - the highest position in IBM for Chinese employee.

Dr. Dr. Chen is the technology consultant in Executive Yuan and an internationally recognized specialist of semiconductor. He plays a crucial role in the development of semiconductor technology in the Industrial Technology Research Institute. He not only has significant contribution to IBM, but also actively promoted international collaboration for IBM including Taiwan. Through this collaboration, many Hi-tech companies in Taiwan received support from IBM and thus greatly improved their manufacturing capability and quality, especially in DRAM.

Wei-Hsiang Huang, born in 1955, graduated from the Department of Electrical Engineering in 1977 is known for high service quality and security, and device in Asia-Pacific region. They are well known for high service quality and security, and thus successfully developed

Mr. Ho has taken Chi Mei from its traditional industry origins and transformed it into a world-class high-tech multinational company. CMO is currently one of the world's four largest TFT-LCD panel manufacturers and has pioneered in the vertical integration of the TFT-LCD industry. There are about 30 thousand employees in CMO. In fairly short 8 years, the annual revenues have excelled 200 billion NTD.

China Airline’s Chairman Philip Wei, born in 1942, graduated from the Department of Transportation and Communication Management in 1967. He got his master’s from the Department of Public Finance at National Chengchi University, and master’s of Tax Laws from Northrop University. Wei is now the China Airlines chairman. His outstanding leadership has deepened the foundation of the company. He was brought up in a poor family, but that kind of situation motivated him to work harder to acquire more skills in order to make himself an indispensable member in the job market where personal backgrounds and connections are emphasized. “Poverty is a drive, not an obstacle,” he said.

Mr. Jau-Yang Ho, born in 1955, graduated from the Department of Chemical Engineering in 1971. He is currently the president of Chi Mei Optoelectronics; Mr. Philip Wei, China Airlines Chairman; Dr. Tzu-Chiang Chen, Vice President of the Center of Technology Development, IBM; Chairman and President Wei-Hsiang Huang, WPG Holdings Limited, and Mr. Hsue-Kun Ma, the founder of Forchem International Corp. The five winners will return to NCKU on November 11th, the birthday of NCKU, to receive this award from the University president Michael M.C. Lai and congratulations from the whole school.

Mr. Jau-Yang Ho, born in 1955, graduated from the Department of Chemical Engineering in 1971. He is currently the president of Chi Mei Optoelectronics and Chi Mei Corporation. Mr. Ho is generally recognized as the mastermind behind the unprecedented success of Chi Mei Corporation' ABS products line. Those products, developed entirely with in-house technology, rose to premier status on the global market eight years after launch, and that success became the foundation for the Chi Mei Group’s vast expansion.

Mr. Ho has taken Chi Mei from its traditional industry origins and transformed it into a world-class high-tech multinational company. CMO is currently one of the world's four largest TFT-LCD panel manufacturers and has pioneered in the vertical integration of the TFT-LCD industry. There are about 30 thousand employees in CMO. In fairly short 8 years, the annual revenues have...
The school year opened Sunday, and had I been in the education minister's place (of Israel), I would have stepped down.

It's not because of the education system's failure, which for the main part cannot be attributed to the Education Minister, but rather, because of the certainty that succeeding in such a position is impossible. The ills of the system are multiple and any physician would have pronounced it deathly ill.

One ailment derives from the fact that the person in charge of the education system is frequently changed, and this is a system in which implementing reforms and evaluating their success takes many years. An even graver ailment perhaps is the lack of consensus regarding the curriculum – i.e what is required to prepare the next generation of leaders.

In a country torn between ethnic groups, religions and worst of all between sectors with vastly opposing views, which more often than not seems like a shaky confederation than a country facing an existential threat for whom unity is a an existential necessity – consensus regarding the curriculum cannot be reached. There are even differences of opinions regarding the significance of the State of Israel being a democratic state.

Every proposal for change made by a fleetingly appointed minister is perceived by the opposing sectors as an attempt to enforce political power and rewrite history. Entire sectors decide for themselves what's good or bad and they proceed to set up subsidiary educational systems for their children, thus making the entire system's leadership impossible.

Added to this fatigued and divided system is the deterioration in the status of teachers, who are supposed to be its main axis. The teaching profession has almost become a profession that bears a mark of disgrace. The responsibility for some of the deterioration also falls on the shoulders of parents and students, who have become a threat to teachers, who in turn are afraid to confront them and to enforce their agendas and discipline in classrooms.

This is not about individual behavior of parents and students, but rather, about the development of a culture of verbal and physical violence that has spilled into every aspect of our lives (just look at the doctors who have become defenseless against the families of patients) and which is rooted in the loss of leadership.

Look at China and Singapore

Occasionally the question of whether a future Nobel Prize laureate is being bred in today's educational system is asked – this is an irrelevant question. Perhaps such a laureate is being cultivated and perhaps he isn't. When talking about a Nobel Prize, even as a metaphor, we are talking about personal achievements in limited areas that only provide partial testimony to the required background needed for their development.

The Jewish people throughout the generations have cultivated great scientists, religious scholars and humanists while sitting in exile and being persecuted. The personal acumen exists and its light has not been extinguished.

The purpose of a state-run education system is not the cultivation of Nobel Prize laureates, but rather, a generation of leaders in all areas who in addition to their talents - because of the unique history of the Jewish people and Israel - have a deep-set awareness of the place in which they create and of their vocation.

Such people will not be nurtured because today's educational system is not built to equip them adequately, and the State lacks a leadership that would outline their paths and objectives. These people have no one to emulate, nor anyone to spark their imagination.

Is there any hope of a cure to this ailment? There must be, because if there isn't Israel's fate is doomed. We have no quarries for export or for self sustenance, and our only resource is our ability to create. Our advantage vis-à-vis our neighbors and in the international arena in general is being eroded.

Countries such as China and Singapore, and even Muslim Malaysia, realized that the key to their success lies in an advanced educational system, and they are investing in it heavily. Western countries, whose magnificent educational systems are receding, are spearheading in-depth reforms to revive them.

In Israel's current state, it's no longer about establishing another committee – the Shohat or Dovrat commissions in another edition – whose conclusions are designed for partial and sectorial implementation anyway. It's about revolutionizing the educational system – from nursery school to university – and...
making it the foremost objective on the State’s national list of priorities.

The Israeli cabinet has not presented the public with any social topic on the national level that it plans to promote. Its affairs today, even those which are supposed to be crucial to our existence, such as an agreement with the Palestinians, are perceived as survival and intimidation exercises and are of no interest to the majority of the people. The sense of the government’s detachment from the people is at all-time high.

Had the prime minister announced a revolution in the educational system, had he lead it seriously and shown his sincerity, he would have placed an existential goal - which transcends borders and sectors and is the most important of all - at the top of our national list of priorities. Perhaps then his popularity would have taken a turn for the better as well.

The writer is a member of the teaching staff at the Technion’s medical faculty, an Israel Prize laureate in biology (2003) and a Nobel Prize laureate in chemistry (2004)

Many people envy Wang, who earned the chance to go undergraduate study at Case Western Reserve University. He was born in a family of diplomat. He is not going abroad for the first time and is able to speak English fluently, so he often comes across as invincible to many people. However, behind this stunning impression, he also got his own story of survival to tell.

Because of his parents’ work, he has spent a long time in foreign countries, said Wang. He can thus speak English fluently, but he added that he also worked very hard at it and the hard work is usually invisible. “My classmates often see that I appear impressive, my English is good and I have been to other countries, but what they fail to see is the great price I have paid. No matter it is about my overseas experience, or culture re-immersion, I was changed dramatically, which has caused great confusion to many of my classmates about my behaviors and my teachers about my poor scores. That is what I feel most sorry about,” said Wang.

Recalling his life experience overseas, Wang has many memories that he cannot forget. Here is what he told us. “I was born in Jeddah, a coastal city in Saudi Arabia. I was born there due to my parents’ jobs, and I seemed destined to be traveling around. Two years after I had lived in Jeddah, I came back to Taiwan and later went to the Affiliated Experimental Elementary School of Taipei Municipal University of Education (台北市立師範實小) until 4th grade. Then I went to America because my mom got US Fulbright scholarship (美國博爾布萊特獎學金) and went to Harvard University. I went to an elementary school nearby and spent six months in Boston.”

Speaking of his English learning experience, Wang said it was also a painful memory. He said that it is very popular with many parents to send their children to English schools to learn English when they are still young. Contrarily, he had never learnt any English before he went to the US. For a 4th grade kid, it was very overwhelming and dreadful to enter an English-only environment suddenly. He recalled the day when he first stepped into the classroom at Martin Luther King Elementary School near the dorm of Harvard. “I looked around and all I could see was Asian people, African American and white people taking in a language which I could not comprehend. They all looked back at me. I could not understand what my classmates and teachers said. I only knew that I should clap or raise my
hands when others did. Mom borrowed books from the library for me. Those were the books with one line in each page, and the pictures were bigger than the words thereof; she taught me with great patience. I often spent much time reading, but found myself unable to memorize words and speak well. Sometimes I even cried and wanted to tear the book into pieces. For a 10 year old, it was pretty cruel, but it was also the necessary process of getting used to a new environment.”

“Due to my parents’ jobs, once again, my whole family moved to Canberra, the capital city of Australia when I was a 5th grader. I saw the different races I could not have seen in America. There were people from various countries like Russia, Thailand, Vietnam, and Turkey. I entered a local elementary near my house for the 6th grade and entered Canberra Boys Grammar High School after that. It was a private church school and the best one in Canberra and a very important place in my life, because my experience there helped me build my character.”

As for the chance to study abroad again at Case Western Reserve University because of the Dual-Degree International Study Program, he still felt it was a surprise when he first learnt about the program from the announcement from the Office of Academic Affairs, he gasped. He thought that it was challenging enough. After you finish your studies in the first two years, you get to continue and finish the rest at Case Western Reserve University. You will get two degrees from two different schools. Sounds awesome.

Wang also has deeper understanding of the importance of the international perspective to the future careers. He said that the innovative program initiated at NCKU for students to connect with the world and get two degrees at the same time, which is unprecedented. The program not only could help a student to develop the international perspective, but also would make it easier to fit into the job markets in Taiwan, American and even many more countries in the world because the student will get two degrees from two excellent universities in Taiwan and America. I then and there determined to seize the chance and actively take part in the program that would make every NCKU fellow proud.

It is not easy to get admissions to Case Western Reserve University from the application stage to passing the interview with professors of that school. He passed with the TOEFL score of 106 (about 630 in the old TOEFL). The perfect score is 120 and the University’s requirement is 80. After many tests, he finally got admitted officially as the first one. Wang said he felt that NCKU had helped him very much and the school wanted to give all the best to its students. From the first moment he learnt about this program, submitted his application, till the admissions, the school president Michael M.C. Lai had given me great encouragement and the school also gave me necessary support, I was very touched.

For many people who do not have a chance to study abroad, Wang exemplified with his own experience the differences between the education system in Taiwan and other countries. In Australia, for example, high school education emphasizes independent thinking, basic concepts, asking questions and variety. Take math class for example, the teacher usually explains one concept only once in class and spends the rest of the class practicing it. The questions are usually so simple that 50 of them can be done in half of the class. That not only strengthens the confidence of students, but is very inspiring because the main purpose of the practice is to encourage the students to think with the simple yet conceptual questions. Even the questions in midterms are of basic concepts. Any tricky and difficult questions cannot be found. Humanities subjects are also taught in a different way. They pay attention to the broad pictures, instead of details. Besides, the teacher in history class cares more about the comparison and connection with other countries in the same period of them. Teachers there would help students integrate the knowledge they learn in class, so students do not have to spend too much time going through their textbooks, making their own notes, memorizing years and other trivial details. The notes they take in class would suffice.

Even though the Australian education system can help students develop the independent and creative thinking, the counting ability alone and the emphasis on test scores are far behind that in Taiwan. The summer when he was turning a senior, he decided to come back to Taiwan first in order to be ready for the tough transition in a senior high school in Taiwan. He first went to Taichung First Senior High School and then transferred to the Affiliated Senior High School of National Taiwan Normal University in Taipei.

It was pretty problematic for Wang because he had spent too much time in other countries. When he came back, he ran into every problem that every child of a diplomat would run into, the adoptions of school and culture. Concepts and understanding is emphasized in a foreign education system while counting and scores are emphasized in Taiwan. When someone from the foreign system comes to Taiwan, it is like listening to an alien and every textbook is some ancient transcripts. Failing tests was just to be expected and he was ranked in the bottom every time.

He said, “It’s not that I didn’t work hard. The gap was simply too big. The math level in Australia is 2-3 years behind compared with that in Taiwan. I had left Taiwan for some years. When I first came back, I went to Taichung First Senior High school and the Affiliated Senior High School.” The results were “like a elementary student going to senior high school and it’s one of the best. One can only imagine,” he described. “No matter how hard I tried,” he said, “I just could not keep up, especially when I had to compete with the elite of the students in Taipei. Plus, I was three years behind them. I truly understood how it felt to be like completely helpless.”

The experience of studying Chinese was also unforgettable. He said, “Staying in another country for four years. I could even hardly remember Chinese characters. When I came back to Taiwan, I had to cope with the classic Chinese in tests. It’s another thing that I could do nothing about.”

In addition to Chinese, learning math was incredible hard for him as well. He said, “What really got me when I returned to Taiwan was actually math. In my first math class, I could not even understand curly braces, so I asked my teacher. He then looked at me with surprise and asked how I got in this school if I hadn’t known about it. The first midterm was even worse. I only scored less than 20 points. However, he became intrigued about math. At first, he could not understand and did not like math. Then he changed and loved it. Finally he got in the Department of Statistics because of math.

How did he overcome the fear math? Wang said, “No matter how urgent the tests were, I always insisted I understand a question before I answer it. However, my level was too much behind any Taiwanese senior high school student, so I hired a private teacher in my junior year. She was Ms. Yu-Chih Tsai (蔡育智) from the Department of Math at Taiwan Normal University. She was young, but she was patient and had a way to help me understand. After a while, my math improved and I became more interested in it. My scores also got better. Finally, with a lot of hard work, I passed the Joint Entrance Examination without adding any premium point (because I had returned to Taiwan for more than three years), and got admitted to the Department of Statistics at NCKU. I am still very thankful for that math teacher.

NCKU not only cultivates the young that have the ability to think and an international perspective, we also work closely with other foreign universities in academic fields and great promote the international study program. The program set up with Case Western Reserve University is a dream come true for those who want to study abroad. Chun-Jung Wang and Chin-Hao Hsu (a junior from the Dept. of Chemical Engineering) were the first two students qualified for the program. They left in mid August. They will receive two degrees from NCKU and Case Western Reserve University in two years if they meet all the requirements.
A New Page of Higher Education in Taiwan

- NCKU Dual-Degree International Study Program Is Initiated. President Lai Encourages the Qualified Students to Be Examples

A new page of higher education in Taiwan has been opened up. The first two students qualified for the Dual-Degree International Study Program left for Case Western Reserve University (CWRU) this August. President Lai especially arranged a meeting with them. He cared very much about their accommodations, life and study plans in the US and encouraged them to participate in class more actively and set up a good example for the school fellows. He expected their example would be great encouragement for those who also wanted to study abroad in the future. To help them finish their degrees, NCKU offered each of them with a scholarship of 650 thousand NTD.

The Dual-Degree International Study Program was established with Case Western Reserve University at the end of last year in order to build a boundary-free world of knowledge. Students from the two schools, if qualified, may go to the other school but receive two degrees at the same time. The program not only makes it easy for students of the two schools to study abroad, but would cultivate more students with the multi-cultural background. This kind of program is unprecedented in Taiwan. According to the regulations of the program, students qualified for it will receive the degrees from the two schools after they have completed the required credits. Which means an undergraduate student from can go and finish his school courses at Case Western Reserve University, and vice versa. CWRU is an internationally renowned research university at the Lake Erie, Ohio. It is ranked 50 in the world university ranking. There have been 20 Nobel Prize Laureates from the school, including Albert A. Michelson (1970), the first American winner who invented the interferometer which could accurately measure the light speed, and also proved the “etherless”. The experiment design is still actively applied for the precision optical screening. The recent winners include Polykarp Kuschm and Donald A. Glaser in Atomic Physics, Paul Berg in Gene Engineering, Alfred Gilman in Cell Signaling, and Freid Murad in Nitric Oxide signaling. The last two have contributed very much to the development of medicine.

CWRU is the first school that constructed optical fiber network that covered the entire school in the world. According to the latest statistics, Weatherhead School of Management is ranked 25th in the world; the Department of Biomedical Engineering is ranked among the top 4 in the US and the funding from the NIH is also among the top 4. The Department of Nursing, the Department of Library and Information Science and the Department of Operations used to be ranked number one in America. Every college of the school has excellent performance. In recent years, its Departments of Materials Science, Department of Macromolecular and Accounting are also very outstanding. Its School of Medicine has always been among the top 20 in America. The Department of Biomedical Engineering that integrated the already renowned Case School of Engineering and School of Medicine was once ranked top 3 in America. It is also one of the key graduate schools for CWRU. The students of CWRU are also the elite of American students, according to the SAT scores posted in the US News and World Reports. As a research university, CWRU works closely with the industry. There is an incubation center in the school to promote mutual collaboration projects for the school teachers. Their collaborative institutes include National Institutes of Health, the AMES under NASA. The latter one has carried out many projects with the Department of Materials and the Department of Engineering of CWRU. Moreover, the Department of Macromolecular Science and Engineering, because of its collaboration with Bridge Stone and BP, was once ranked on the very top in the US. Last but not least, many outstanding professors at CWRU are often recruited by some prestigious schools such as Harvard and Princeton University.

CWRU comprises 9 colleges, including the College of Arts and Sciences, School of Dental Medicine, Case School of Engineering, School of Law, Weatherhead School of Management, School of Medicine, Frances Payne Bolton School of Nursing, Mandel Center for Non-Profit Organizations, and Mandel School of Applied Social Sciences.
Vascular diseases have become one of the most important diseases in the developing or developed countries worldwide. In 2002, National Cheng Kung University (NCKU) successfully obtained the “Program for Promoting University Academic Excellence” coordinated by both Ministry of Education and National Science Council and established a “Vascular Biology Group” under this program. With the full support from the Program as well as from NCKU, researchers from different universities and Academia Sinica were brought together to study the physiological, biochemical, and pharmacological aspects of vascular research. Our group from NCKU focuses on the study of biological functions of the vascular endothelial proteins. Under the financial support from the “Program for Promoting Academic Excellence of Universities”, we united physicians from the NCKU Cardiovascular Center and Division of Cardiology and Cardiovascular Surgery of NCKU Hospital to establish the Cardiovascular Research Center (CRD). The research focus of the CRC is divided into 4 major areas:

1. Cardiovascular Basic Medical Science Research
2. Stem Cell for Cardiovascular Regeneration Research
4. Heart Assist Device Research

Part of the “Program for Promoting University Academic Excellence” resource was devoted to the research of endothelial membrane proteins, especially on the thrombomodulin (TM), a critical transmembrane protein in charge of regulating blood coagulation function. TM is a transmembrane protein whose N-terminal is located outside the membrane while the C-terminal is located inside the membrane. The head of the N-terminal is a carbohydrate-binding protein which connects to 6 epidermal growth factor-like structures (EGF) as well as a O-glycosylation site-rich domain. The O-glycosylation site-rich domain is followed by a transmembrane domain that ends with a short structure sequence inside the cell (as illustrated by Fig. 1).

The epidermal growth factor-like structures of the TM are capable of binding to thrombin. When thrombin is released in the blood vessels, it will bind to the TM on the surface of the normal vascular endothelial cells and form a complex that will change the specificity of thrombin, the blood coagulant enzyme. This complex will not only inhibit the coagulation activity of thrombin but will also promote its protein C activation capacity. As a result, protein C (APC) will be activated and in turn interfere with the important coagulation factors, Va and VIIIa which further inhibit the coagulation response. The anti-coagulant function and mechanism of TM is a well-established research (as illustrated by Fig. 2).

During our research, two novel functions were identified for TM. First we discovered the anticoagulant activity of TM. The activated protein C (Anti-inflammatory) will inhibit the coagulation activity of thrombin and promote its protein C activation capacity. As a result, protein C (APC) will be activated and in turn interfere with the important coagulation factors, Va and VIIIa which further inhibit the coagulation response. The anticoagulant function and mechanism of TM is a well-established research (as illustrated by Fig. 2).
that TM is involved in the cell-cell adhesion process in that it promotes the binding of two cells and changes the morphology of the cells (see Fig. 3).

Through genetic engineering manipulation, a recombinant protein was produced and tested. Result showed that peptide fragment consisting of the epidermal growth factor-like structures and the O-glycosylation site-rich domain of the TM (TMD23) can promote the growth and migration of cells. A further study revealed that TMD23 can enhance angiogenesis (see Fig. 4).

Due to the fact that angiogenesis is closely connected to many different diseases and treatments, angiogenic drugs have many practical applications in these areas. For example, angiogenesis is often observed in the formation of tumour cells. If we could block the formation of new blood vessels, we might be able to inhibit tumour growth. On the other hand, a blockade in the blood circulation will lead to cell tissue damage. With an angiogenic drug, we could repair the tissue damage by increasing blood circulation.

The TM protein developed by our research center is capable of promoting cell growth and angiogenesis and therefore has many valuable applications. Our discovery can be applied to further investigate whether TM plays an enhancing role in cancer growth or whether it is formed during angiogenesis to promote vascular formation among cancer tissues. To expand, we’d like to know whether antibodies can inhibit angiogenesis.

TM recombinant proteins and other relevant genes can be utilized to promote angiogenesis and therefore serve as angiogenic growth factors to help patients with vascular occlusion, myocardial infarction, stroke or other wound healing problems. Based on the potential of these applications, our research center filed the patent for the recombinant TM proteins and at the same time seeking for technical transfer opportunities. We were able to transfer our knowledge to Blue Blood Biotech Corp. who takes over the drug discovery responsibilities. This successful technical transfer project earned our research team a Technical Transfer Award from the National Science Council

The R&D of a protein drug is not an easy task. There are many difficulties to overcome. First step is to understand the characteristic of the protein, including its applications, its dosage and potentiality. It is important to know what other products are already on the market and also what are the advantages of the product we are going to develop. Not until the assessment conducted yields satisfactory results will the R&D process begin. Once entered the R&D process, more tasks will surface. Not only do we need to find out the qualified mass production method, purification method and criteria. We also need to know if these proteins are stable, how to formulate these proteins into drugs, and how to store and preserve these protein drugs. Every single step has to be tested and validated. In an academic research institution, it is impossible to handle a R&D project which requires a huge amount of manpower and resources. Only a well experienced company from the industry will have the ability to complete this task. We are lucky to find Blue Blood Biotech Corp. who is willing to devote its resources in developing this protein drug. Most importantly, this R&D process is fully supported by the Ministry of Economic Affairs Industrial Development Bureau. So far Blue Blood Biotech Corp. has established a well-trained basic research foundation. They have been aggressively training their personnel. We are very confident in the collaboration between our research center and Blue Blood Biotech Corp.

What we completed so far is only a small portion of the collaboration project. What has been done is only the preparation for what lies before us. What we need to do next is to mass produce the product in a GMP regulated facility, apply for new drug R&D license, and conduct clinical trials. These are the real challenges we need to face. The costs are enormous and every step should be well planned and thought through before taken. The major reason behind this is the lack of new drug R&D experience in Taiwan where exporters are short in supply and regulations are incomplete. Because approved cases are minimal, it is highly unlikely to find any GMP facilities who will take up the job. This is the difficult situation of biotechnological drugs development commonly seen in Taiwan as well as the bottleneck of the development of biotechnological drugs. If our research results successfully enter Taiwan or US clinical trials, it should be considered an event worth celebrating for the domestic biotechnology industry.

During the progress of this project, we have gained a lot of experience on drug development and understood that new drug development is a complex process that requires a huge amount of effort and resources. In the future if Taiwanese government were to direct its industrial development towards the biotechnological medicine industry, other than building a firm basic research foundation, it is also necessary to educate and train more researchers and invest more funding or grants for R&D process. Only when a fully established integration between different resources will we be able to succeed in biotech industry.
Innovation

A Chang’s needle is innovated and designed to facilitate hepatic resections. Our needle consists of a straight, inner needle with a hook near its top to catch the thread and a 15 cm-long, 18-gauge stainless steel sheath (Figure 1).

Background

The liver is an organ fulfilled with blood. Hepatic resections always carry high risks of hepatic ischemic injury induced hepatic failure and intractable bleeding during the operation. Currently used methods for hepatic resection are either difficult in technique to control bleeding or very expensive for the sophisticated machines.

Purpose

We try to simplify the technique, to reduce bleeding, to shorten the training time, and to enable a general surgeon, not the specialist of liver surgery, performing hepatic resections. Chang’s needle is cheaper, simpler, more compact, non-disposable, and easier to use, therefore, more surgeons, more patients in the whole world can have the benefits of this innovation.

Method

When performing a hepatic resection, e.g., right hepatic lobectomy, the Chang’s needle is applied repeatedly along both sides of the division line. The needle is inserted at the surface through the whole thickness of liver parenchyma, where it catches one end of the No.1 thread from below and pulls this end of the thread out of the liver surface. The maneuver is repeated once again 3~5 cm away from the previous insertion to catch the other end of the same thread out of the liver surface (Figure 2).

These two ends of the thread are then tied securely to make a knot and to control the blood flow within this area (Figure 3).

To repeat the above maneuver, two rows of interlocking mattress sutures are eventually made. Then, without using Pringle’s maneuver or any other procedures to block the hepatic inflow and backflow, the liver parenchyma can be divided between these two rows of interlocking sutures by a division and clamping method with forceps or electrocautery (Figure 4).

Results

Since September 1997, 88 cases of hepatic resections have been performed without procedure-related mortality or morbidity. There were 53 hepatocellular carcinomas, 4 cholangiocarcinomas, 10 colon metastases, 1 angiomylipoma, 2 hemangioma, 1 liver trauma and 15 intrahepatic duct stones. Hepatic resections included 12 right lobectomies, 3 tri-segmentectomy, 20 bisegmentectomies, and 27 segmentectomies.
mies, 14 segmentectomies, 13 subsegmentectomies, 5 partial hepatectomies, 18 left lateral segmentectomies and one hepatorrhaphy. Blood loss and operation time are about one third to one half of the conventional methods. This maneuver requires neither inflow nor backflow controls, thus it obviates hilar dissection, spares the complex procedures and management of hepatic vascular exclusion, and avoids the ischemia and reperfusion injury to the remnant liver. In most cases, bleeding during the division of the liver parenchyma was minimal, thus blood transfusion was avoided.

**Conclusion**

The advantages of this maneuver can be summarized as follows; 1) the use of cheap, simple, and reusable instrument, 2) no need for the use of Rummel tape in Pringle’s maneuver, 3) shortened operation time, 4) reduction or avoidance of blood transfusion in most cases, 5) no need for haemostatic fibrin glue, 6) fewer ischemic and reperfusion injury of the remnant liver, thus simpler postoperative care, 7) lower level of stress for the surgeon during parenchyma transection due to lack of bleeding, 8) shortened training time for surgeons, and 9) an easier maneuver that allows more surgeons to perform hepatic resections.
Integrated Reverse Transcription Polymerase Chain Reaction Systems for Virus Detection

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This study reports on an integrated micro reverse transcription polymerase chain reaction (RT-PCR) system for molecular diagnosis of microorganisms automatically. The experimental process of the integrated micro RT-PCR diagnosis system is shown in Figure 1. The magnetic beads have been conjugated with a specific antibody of the interested target antigen (Fig. 1a), followed by mixing viruses with the beads (Fig. 1b). The antibodies on the beads with a high selectivity will bind to the specific antigens on the target virus so that the viruses will adhere to the surface of the magnetic beads (Fig. 1c). In order to wash out the unstable substances in the biological medium which may easily interfere with RNA amplification, the microcoils were turned on to attract the magnetic beads while the fluids still flew through the pretreatment chamber (Fig. 1d). The washing process can be completed in five minutes to utilize the micropumps continuously and the purification of the virus sample was completed by the specific antibody conjugated on the magnetic bead. Then the magnetic beads with target viruses were transported into the subsequent PR-PCR chamber while the magnetic field was turned off (Fig. 1e). Meanwhile, the RT-PCR reagents were pumped into the detection chamber to perform cell lysis, reverse transcription, and polymerase chain reaction (Fig. 1f-1g).

Nucleic acid amplification techniques, including PCR and RT-PCR, are popular methods used for many applications including genetic identification and disease diagnosis of a DNA or RNA molecule. PCR is a popular procedure in molecular biology for generic analysis. During the PCR procedure, the concentration of a certain segment of double-stranded DNA is doubled through a thermal cycling process involving three different temperatures. Typically, PCR utilizes temperatures in the ranges of 90-95°C for denaturation of the double-stranded DNA, 50-65°C for the hybridization of the primers, and 70-75°C for DNA extension. In vitro DNA amplification using PCR provides a rapid and sensitive means of detecting pathogens in clinical specimens, and hence has considerable implications for the diagnostic microbiology field. Similarly, RNA is employed as the template to synthesize a complimentary DNA (cDNA) using a reverse transcriptase process during the RT-PCR process.

To realize the experimental process described above, Figure 2 shows the photograph of the integrated RT-PCR system. The integrated microsystem comprises three major components, a purification module, a microfluidic module, and a micro temperature control module. The purification module consisting of the microcoils can perform col-

Figure 1
lection and enrichment of virus samples by capturing specific target viruses on the superparamagnetic beads, and then collecting these beads by microcoils within the pretreatment chamber. The microfluidic module can perform the mixing, incubation and transportation of the bio-samples in the microchannels which connected to all chambers by utilizing the novel pneumatic micropump. The pneumatic micropump comprised of three individual polydimethylsiloxane (PDMS) membranes that can be driven by only one electromagnetic valve. The compressed air fills up the cavities formed from PDMS membranes subsequently such that the solutions can be pushed forward in a specific direction. The micro temperature control module, which is made of two micro heaters, a micro temperature sensor and an application specific integrated circuit (ASIC) controller, can perform the cell lysis and the RT-PCR process in an automatic fashion.

This study successfully performs the specific detection of two different types of viruses, Dengue virus serotype 2 and Enterovirus 71 (EV 71) using this developed integrated system (Figure 3). Dengue virus and EV71 were mixed in the virus sample chamber, and then pumped into the pretreatment chamber. Lanes 1 and 2 are the results from the virus captured by anti-Dengue antibody-conjugated magnetic beads and amplified by the Dengue-specific and EV71-specific primers, respectively. Lanes 3 and 4 are the results from the virus captured by the anti-EV71 antibody-conjugated beads and amplified by the dengue-specific and EV71-specific primers, respectively. The results show that anti-Dengue antibody-conjugated magnetic beads only specifically captured the Dengue virus and amplified the Dengue-specific detection gene, while the anti-EV71 antibody-conjugated beads only captured and amplified the EV71. The results demonstrate the specificity of the antibody-conjugated magnetic beads. Comparable to a large-scale apparatus, the new microsystem integrates the microfluidic module, the purification module, and the micro temperature control module, and can pretreat the bio-samples and perform genetic diagnosis automatically in a short period of time and can become a crucial platform in biological and medical applications for rapid clinical diagnosis of viruses.
Sign language is a visual/gestural language that serves as the primary means of communication for deaf individuals, just as spoken languages are used among the hearing. Deaf individuals encounter the difficulty that most hearing individuals communicate with spoken language. To improve the communication abilities of deaf people, Alternative and Augmentative Communication technology has been adopted to develop the assistant systems for the group. Machine translation provides an ideal solution to reduce the communication barrier between these two populations. In this paper, a machine translation system is proposed to translate Chinese to Taiwanese Sign Language (TSL) and the translated TSL sequence is further synthesized by the TSL video clips to generate a Chinese text to TSL video output. Figure 1 shows the interface of the Chinese text to TSL video output system.

To develop a machine translation system, a bilingual corpus is required for training the translation models. In this paper, the teaching material of Chinese used in elementary school for the deaf children is collected for TSL sequence annotation. The annotation is completed and verified by the TSL linguists from National Chung Cheng University. A video corpus of the TSL signs is designed and filmed by considering the transitions of hand positions.

Table 1 Classification of primary and secondary units

<table>
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<th>Primary Units (PUs)</th>
<th>Examples</th>
<th>Secondary Units (SUs)</th>
<th>Examples</th>
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<tr>
<td>Syntactic Cluster</td>
<td></td>
<td>Syntactic Cluster</td>
<td></td>
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<tr>
<td>V</td>
<td>有ngoing</td>
<td>Agent</td>
<td>功(father)</td>
</tr>
<tr>
<td>Negative, Positive</td>
<td>無法/不行</td>
<td>V(adverb)</td>
<td>便宜(cheap)</td>
</tr>
<tr>
<td>Conjunctions</td>
<td>或者(or)</td>
<td>Vg</td>
<td>很非常(very)</td>
</tr>
<tr>
<td>Nouns [Time proper, Np, Nud]</td>
<td>明天(morn)</td>
<td>大家(yesterday)</td>
<td>一(one)</td>
</tr>
</tbody>
</table>

To reduce the complexity of the statistical machine translation model, a two pass translation strategy is proposed. First, the input Chinese sentence is analyzed into the primary and secondary units. Each primary fragment is composed of several secondary units. The first pass of translation is to align the primary fragments between Chinese and TSL. The second pass is to align the secondary units in the primary segments. Figure 2 shows an example of the proposed two-pass alignment model.

The translated TSL sequence is further synthesized into video output for visual communication. The video displays the translated result signed by a real human. To smooth the boundaries of video clips, the synthesis cost is defined as the difference of hand positions and hand shapes. Figure 3 illustrates the selection of suitable clips in the video corpus, and the synthesis costs are computed by the differences on hand position and moving direction of the synthesis points between the succeeding and the preceding video clips.

For performance evaluation of the proposed MT systems, several experiments were conducted. The TOP-N translation results are adopted to evaluate the quality of translation. Figure 4 shows the correct rates for the
proposed MT system and the IBM MODEL 2 system. For evaluating the video synthesis results, mean opinion score (MOS) is adopted. Ten synthesized videos with different synthesis criteria are scored by subjects using a three-level grading policy: good, fair or poor. Case A considers the position and direction, Cases B and C consider direction and position, respectively, and Case D considers no criterion. The histogram of the rated opinions is shown in Figure 5.

From the above evaluation results, the translated sign outputs with synthesized videos are promising. The technology can be integrated with educational assistants such as Computer-Aided Instruction (CAI) or TSL e-Book. In public services, the interface can be used to access the information from TV or other public machines for the deaf people.

Figure 2 Search space of the alignment in translation

Figure 3 Selection and synthesis of video clips

Figure 4 TOP-N translation rates for IBM model 2 and the proposed approach

Figure 5 MOS evaluations on synthesized sign video
Electroluminescence emission of crystalline silicon nanoclusters embedded in silicon nitride matrices

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Because of the improvement of light emission efficiency due to quantum confinement and surface chemistry effects, monolithically integrated Si-based optoelectronic integrated circuits (OEICs) have become feasible. Recently, many efforts have been undertaken to study the optical emission mechanisms of low-dimensional Si nanostructures. Light emission under optical pumping in Si-based materials, such as porous silicon, erbium-doped silicon, and silicon nanoclusters embedded in silicon oxide and silicon nitride matrices, have been demonstrated. However, very low light emission efficiency severely limits the possibility of porous silicon and erbium-doped silicon in applications of light-emitting devices. Furthermore, silicon nanoclusters embedded in silicon oxide matrices hinder the attainability of stable and efficient electrically driven light-emitting devices owing to a huge barrier mismatch between Si and SiO₂. Therefore, silicon nanoclusters embedded in silicon nitride matrices are a promising material for use in Si-based optoelectronic devices and OEICs. Many techniques and methods have been developed to grow silicon nanoclusters embedded in silicon nitride matrices. However, the formation of crystalline silicon nanoclusters must be grown or post-annealed at a high temperature to precipitate the crystalline silicon nanoclusters (Applied Physics Letters, 86, 091908(2005)). The high temperature process degrades the optical and electronic performance of the resultant devices. A laser-assisted chemical vapor deposition (LACVD) method has been previously used to deposit thin films and nanoclusters (Physical Review B, 48, 4883(1993)). In the present study, a LACVD method was used to grow crystalline silicon nanoclusters embedded in silicon nitride matrices at a low temperature and without a post thermal annealing process. The feasibility of electroluminescence emission from these devices was demonstrated.

In the LACVD system, an external CO₂ laser beam was guided into the chamber of a conventional capacitively coupled plasma-enhanced chemical vapor deposition (PECVD) system through a ZnSe window. A He-Ne laser with a wavelength of 632.8 nm (visible red-light) was used to assist the alignment of the CO₂ laser. To prevent heating the substrate, the substrate was illuminated with the CO₂ laser beam at an incident angle of 80°. Argon-diluted SiH₄ (4%) and NH₃ reactant gases were used to deposit the silicon nitride films. The deposition conditions of the total working pressure, the radio frequency (RF, 13.56 MHz) power of the PECVD system, and the CO₂ laser power were kept at 500 mTorr, 100 W, and 3 W/cm², respectively.

For the argon-diluted SiH₄ (4%) flow rate of 250 sccm and deposition conditions mentioned above, Fig. 1(a) and (b) show the silicon nitride films deposited without and with laser assistance with various NH₃ flow rates. In Fig. 1(a), it can be seen that the PL peak positions located at 620 ± 540 and 516 nm correspond to defects (Journal of Applied Physics, 73, 5185(1993)). Therefore, the PL emission of the silicon nitride films deposited without laser assistance can be attributed to the defects. For the PL spectra shown in Fig. 1(b), not only is the PL intensity of the laser-assisted silicon nitride films much larger than that of those without laser assistance, but the PL peak positions are not always located at defect energy levels. It can be deduced that the PL emission is not attributed to the defects in the laser-assisted silicon nitride films. According to a previous report (Applied Physics Letters, 88, 183103(2006)), if light emission originates from the surface state of the nanoclusters, the associated energy gap is reduced by increasing nitrogen content on the surface of the nanoclusters. Therefore, the associated PL emission peak is red-shifted when the nitrogen content in the films is increased by increasing the flow rate of NH₃ reactant gas. However, the experimental results shown in Fig. 1(b) indicate a blue-shift of the PL emission peaks with an increase of NH₃ flow rate. Therefore, it can be deduced that the interface between a silicon nanocluster and the silicon nitride matrix is not a major mechanism of optical emission in the silicon nitride films.

High resolution transmission electron microscopy (HRTEM) was used to observe the silicon nanoclusters embedded in laser-assisted silicon nitride matrices. Figure 2(a) shows the HRTEM image of the laser-assisted silicon nitride films deposited with SiH₄ and NH₃ flow rates of 250 and 55 sccm, respectively. Silicon nanoclusters embedded in the silicon nitride matrices can be clearly seen. The diameter of the silicon nanoclusters is approximately 2.9 nm. However, silicon nanoclusters were not observed in the silicon nitride films deposited without laser assistance. Figs. 2(b) and (c) show the high-resolution lattice image and electron diffraction pattern of the silicon nanoclusters, respectively. It can be seen that crystalline silicon nanoclusters were formed in laser-assisted silicon nitride films deposited at a low temperature and without post thermal annealing. To our knowledge, this is the first observation of crystalline silicon nanoclusters embedded in silicon nitride films which were deposited at a low temperature and without post-annealing process.

Fig. 1 PL spectra of silicon nitride films deposited (a) without laser assistance and (b) with laser assistance by varying the NH₃ gas flow rate.
of the laser-assisted silicon nitride films. Fig. 2 (a) HRTEM image, (b) high-resolution lattice image and (c) Electron diffraction pattern of the laser-assisted silicon nitride films.

From the PL spectra shown in Fig. 1(b) and the HRTEM images, the PL peak energy and the diameter of silicon nanoclusters observed from HRTEM images as a function of NH₃ flow rate are shown in Fig. 3. The diameter of silicon nanoclusters decreases with the increase of NH₃ flow rate. According to the quantum confinement effect, the smaller diameter of nanoclusters would emit photons with a higher energy. Therefore, the PL peak position is shifted toward a higher energy by increasing the NH₃ flow rate. By fitting the PL peak energy as a function of the diameter of the silicon nanoclusters, the dependence of associated energy gap E (eV) on diameter d (nm) of silicon nanoclusters can be expressed as

\[ E (eV) = 1.17 + \frac{11.6}{d^2} \]  

(1)

From the HRTEM images of the laser-assisted silicon nitride films, the silicon nanocluster density of the nanocluster films deposited with NH₃ flow rates of 25 sccm, 35 sccm, and 55 sccm were approximately about \(8 \times 10^{11}\) cm⁻², \(2.1 \times 10^{12}\) cm⁻², and \(4.6 \times 10^{12}\) cm⁻², respectively. The error estimate for the silicon nanocluster density is approximately ± 5%. The silicon nanocluster density increased with the NH₃ flow rate. Since the PL intensity depends on the silicon nanocluster density, it can be deduced that the PL intensity increases with the NH₃ flow rate. This phenomenon is demonstrated in the PL spectra shown in Fig. 1(b).

A p-type (100)-oriented silicon wafer with a resistivity of 20 Ω·cm was polished to a thickness of 150 μm. A 100 nm-thick laser-assisted silicon nitride film was deposited on the silicon wafer using SiH₄ and NH₃ flow rates of 250 sccm and 55 sccm, respectively, under deposition conditions mentioned above. A 300 nm-thick transparent n-type indium tin oxide (ITO) film and a 200 nm-thick aluminum were deposited on the silicon nitride film and the bottom surface of the p-type silicon wafer, respectively. For the structure of the light-emitting devices using crystalline silicon nanoclusters embedded in silicon nitride matrices mentioned above, the current-voltage characteristics measured using an HP4145B semiconductor parameter analyzer are shown in Fig. 4. Figure 5 shows the electroluminescence (EL) spectrum of the light-emitting devices measured at room temperature and biased at a current of 50 mA. The PL spectrum of the device without an ITO layer is also shown in Fig. 5. It can be seen that the peak energy of 590 nm in the EL spectrum was red-shifted with respect to the 486 nm emission of the PL spectrum. The extended quantum confinement/luminescence center (QCLC) model (Solid State Communication, 94, 607(1995)) states that the light emission is from the competition between three different recombination processes. In our experimental results, electron-hole pairs were generated by photoexcitation and PL is mainly due to electron-hole recombination within silicon nanoclusters. However, under forward bias, the EL spectrum would be caused by the radiative recombination of charge carriers that tunnel into luminescence centers in the silicon nitride films, and the luminescence center being responsible for the light emission at 590 nm (Journal of Physics I, 1, 1335(1991)).

Crystalline silicon nanoclusters embedded in laser-assisted silicon nitride matrices were deposited at a low temperature and without post-annealing using an LACVD system. The dimensions of the crystalline silicon nanoclusters and the associated PL peak position of the deposited silicon nitride films could be controlled by varying the NH₃ flow rate. According to the PL emission spectra, it can be concluded that the light emission from the laser-assisted silicon nitride films is attributed to the silicon nanoclusters embedded in silicon nitride matrices, which can be clearly seen in the HRTEM images. According to the electron diffraction pattern of the silicon nanoclusters, crystalline silicon nanoclusters are formed in the laser-assisted silicon nitride films. The silicon nanoclusters related electroluminescence shows that silicon nitride films deposited using an LACVD system can be applied in light emitting devices.
With the emergence and competition of both engravings and written copies in the printing business, the popularity of bibliographical information and the dissemination of knowledge had advanced and diversified greatly in the Song Dynasty. Moreover, it not only influenced the way people read, learn, write, and criticize, but also reshaped the aesthetic taste and the academic milieu. As a branch of discursive meta-poetry, poetic meta-poetry just exemplified such an influence. In the first thirty volumes of *The Oeuvre of Song Poetry*, comprising ninety-two different subjects and one-hundred-and-thirty-one poetry-oriented meta-poems in forty schools, they epitomized the reading acceptance, aesthetic taste, and poetry canon of Song Dynasty, and how the people in Song Dynasty turned the wisdom of the antiquity into their own. Regarding to the reading tendency, Bai Ju-Yi, Han Yu, and late Tang Dynasty poets were popular among the Northern Song poets. Consequently, the poetic style of Song is actually derived from the emulation of Tang’s poetry. Although there were a profusion of poets reading Lee Bai’s work, they were mostly reading with the intention of comparing Lee’s poems with that of Du Fu’s. Tao Yuan-Ming and Du Fu were renowned for their dignity and poetic beauty, which appealed to the expectation of Song people. Hence they were revered as the classic canon of Song’s poetry. So it is not a surprise that both Tao and Du’s engraving poetry collections flooded into the market during the end of the Song Dynasty. While examining Northern Song’s poetry-oriented meta-poetry, one can notice that the reading tendency and aesthetic acceptance of poets had great influence on those who wish to study the theory of Song poetry.

Key words: engraving print, meta-poetry, transformation of tradition, Tao Yuan-Ming, Du Fu Tao-Du cannon, Song Dynasty’s poetic.
Oppportunities

National Science Council

1. The Office of Bird Flu and Influenza calls for proposals for Bird Flu and Influenza Projects. The deadline for submissions is October 1st, 2007.
2. The reimbursement for holding international conferences in Taiwan is open to applications. The application period is from Sept. 1st to Sept. 30th.
4. The Department of Life Sciences calls for projects of the development of animal experiments and research models. The deadline is Sept. 30th.
5. National Science and Technology Program for e-Learning calls for projects. The deadline is Sept. 29th.
6. Users of expensive equipment should pay 10% of the user’s fee in cash by Sept. 30th. Starting from October 1st, if the payment is not yet deposited, ALL the projects the research investigator is running shall be locked and no expensive equipment in this system can be available for the investigator.
7. Sponsored by the EU, the 2008 HER-CULES (Higher European Research Course for Users of Large Experimental Systems) holds by France is open to signing up. For more information, please go to http://hercules.grenoble.cnrs.fr/.
8. Research Experience for Science Teachers (REST) Program is now open to public/private university teachers and public research institutes. We are calling for research projects covering one of the following subjects, neurology, nanotechnology, biotechnology, energy technology, microelectronic, photonics, communication technology, space, astronomy, marine technology. The deadline is Oct. 15th.
9. Multinational Researchers Exchange Program is to support the mutual visits between researchers from Taiwan and other countries. The traveling and living expenses will be reimbursed. You may send the graduate, doctoral students or postdoctoral researchers from your institute to participate in an overseas workshop. Applications are now being accepted.
10. Liberal Arts and Social Sciences Writing Program has now been accepting applications.
11. Overseas Research Program for postdoctoral and clinical medical researchers is now available from the following institutes, The Scripps Research Institute (La Jolla, CA), The Fred Hutchinson Cancer Research Center (Seattle, Washington), California Institute of Technology (Pasadena, CA), Baylor College of Medicine (Houston, TX), the University of Texas M.D. Anderson Cancer Center (Houston, TX), Georgia Centers for Advanced Telecommunications Technology (Atlanta, Georgia). Applications are now being accepted. Only three researchers every year from the aforementioned institutes can be sponsored.
12. Center for Bioscience & Technology Is Offering a Training Course for the Operation of Olympus FV1000 Confocal Microscope + Workstation of Data Analysis; Date: October 3-4, 2007 9:00-17:00; Sign up at http://www.ncku.edu.tw/~cbat/ by September 23rd. Contact: Ms. Li at 0953-072-648.

Events

1. The Taiwan Society Biochemistry and Molecular Biology is going to hold the 2007 Host-Microbes Interactions workshop on the 19th and 20th of October, 2007. Conference journals are now being accepted. For more information, please go to http://www.yym.edu.tw/tsbmb.
2. The Joint Meeting of Vascular Biology Organization in Asia Pacific Region. Date: Sat-Sun, October 20-21, 2007. Venue: Lecture Hall 2, 3, NCKU, Medical College. Topic: Vascular Biology/ Cardio vascular Diseases/ Endothelial Cell Biology/ Angiogenesis. Special Speakers: Dr. Shu Chien, Dr. Kenneth Kun-Yu Wu, Dr. Pan Chyr Yang, Masabumi Shibuya and many other famous scholars.
4. Workshop on Research and Academic Ethics Will Be Held by NCKU Medical College.
5. National Health Research Institutes Divison of Mental Health and Substance Abuse Research Seminar Announcement
   Topic : Multichannel single-unitrecording in conscious behaving animal. Speaker : Chen-Tung Yen, Professor, Institute of Zoology, National Taiwan University. Time : 10:00 ~ 11:30, Thursday, Sep. 27, 2007. Venue : R2-5042 Conference Room, Research Building Division of Mental Health and Substance Abuse Research Ms. Jia-Hui Lin. (037)246-166#26701
   Topic: Looking for a Taiwanese Einstein – Cram Schools, Tests, and Science Learning. Date: September 27th, 2007 7:30pm. Venue: Tainan Chi Mei Café [on the intersection of University Rd. and Changgrung Rd.]. There is a night-time-tea discount for the activity. For more information, visit http://blog.roodo.com/cafe_scientifique
8. The 2007 Joint Conference of Taiwan Plan-

For more information, refer to http://pubcal.nhri.org.tw/clinical_2007


11. Taiwan Mesotherapy Research Society Is Holding a Workshop on the Stem Cell for Facial Rejuvenation. Date: September 30th, 2007 (Sun) 8:30-17:00. Venue: Cheng Hsing Hall, NCKU Medical College. Tel: 02-2775-4540. Fax: 02-2775-5742. Contact: Ms. Chen, Ms. Wang. Email: beautyeasy@yahoo.com.tw. For more information, visit http://www.taiwanmeso.org.tw

Looking for the King of Ideas:

NCKU-Mektec Cup Originality Contest Is Been Accepting Projects. The First Prize 100,000 NTD Is Waiting for Your Originality. The deadline is October 5th. Every NCKU student is welcome to participate as an individual or a team. and each individual or team is allowed to submit at most two projects. For application form and more information, please go to:

http://www.ncku.edu.tw/~acadser/chines/e/mektek/homepage.html

or contact Ms. Chi-Jung Wu at 06-2757575 # 50177
## Calendar

<table>
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<th>Sunday</th>
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* activities

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**Attention:**