

**Bengkel : “UKM-SIT Capacity Program in Innovation, Technology Transfer
and University Start-up”**

Jadual Program

	Modul 1 & 2	Modul 3	Tempat
Group 1	7-8 th June 2010	26-28 th July 2010	Puri Pujangga, UKM Bangi
Group 2	8-9 th June 2010	29-31 st July 2010	
Group 3	9-10 th June 2010	2 nd -4 th Aug 2010	

Senarai Penyelidik yang dicadangan menyertai program

No.Siri.	Fakulti/Institut /Nama	Catatan	Grouping
	GSB		
1.	Prof M Dr Nur Inayah Yaakub	T/Dekan Penyelidikan dan Inovasi, GSB	1
2.	Encik Wan Mohd Hirwani Wan Hussain	Pensyarah / Penyelidik	2
3.	-Mohon cadangkan nama-	Siswazah GSB	3
4.	-Mohon cadangkan nama-	Siswazah GSB	1
5.	-Mohon cadangkan nama-	Siswazah GSB	2
	FTSM		
6.	Prof M Dr Juhana Salim	Penyelidik	3
	FUU		
7.	Prof M Dr Zinatul Ashiqin Zainol	Pensyarah	1
	FST		
8.	Prof Dr Musa Ahmad	Dekan / Penyelidik	2
9.	Prof Dr Azimahtol Hawariah Lope Pihie	Penyelidik	3
10.	Prof Dr Lee Yook Heng	Penyelidik	1
11.	Prof M Dr Khairiah Hj Badri	Penyelidik	2
12.	Prof M Dr Ishak Ahmad	Penyelidik	3
	FKAB		
13.	Prof Dr Marzuki Mustafa	Dekan, FKAB	1
14.	Prof Ir Dr Riza Atiq Abdullah OK. Rahmat	Penyelidik	2
15.	Prof Dr Muhamad Fauzi Mohd Zain	Penyelidik	3
16.	Prof M Dr Siti Kartom Kamarudin	Penyelidik	1
17.	Prof Dr Amiruddin Ismail	Penyelidik	2
18.	Encik Mohd Hanif Saad	Penyelidik	3

	FFarmasi		
19.	Prof M Dr Ahmad Fuad Shamsuddin	Penyelidik	1
			2
	Fuel Cell Institute		
20.	Prof Ir Dr Wan Ramli Wan Daud	Pengarah / Penyelidik	3
	SERI		
21.	-Mohon cadangkan nama-	Penyelidik	1
22.	-Mohon cadangkan nama-	Penyelidik	2
23.	Institut Sains Angkasa		
24.	Prof Dr Mohd Alauddin Mohd Ali	Pengarah / Penyelidik	3
	UMBI		
25.	Prof Dr Wan Zurina Wan Ngah	Felo Utama / Penyelidik	1
	IMEN		
26.	Prof Dato' Dr Burhanuddin Yeop Majlis	Pengarah	2
27.	Prof Dr Shahbudin Shaari	Felo Utama / Penyelidik	3
	INBIOSIS		
28.	Prof Dr Normah Mohd Noor	Pengarah	1
29.	-Mohon cadangkan nama-	Penyelidik	2
	PPUKM		
30.	Prof M Dr Ismail Mohd Saiboon	Penyelidik	3
	Syarikat Terbitan Universiti		
31.	Prof Dr A. Rahman A. Jamal	MyCRO Sdn Bhd	1
32.	Prof Dato' Dr Halimah Badioz Zaman	MINDS Technology Sdn Bhd	2
33.	Prof Dr. Ramelah Mohamed	BioDiagnostic Sdn Bhd	3
	Projek STU Program UKM-MTDC Symbiosis		
34.	Prof Emeritus Dato' Dr. Muhammad Yahya	Penyelidik / CTO	1
35.	Prof Dr Kamaruzzaman Sophian	Penyelidik / CTO	2
36.	Prof Dr. Mohamad Osman	Penyelidik / CTO	3
37.	Prof Dr Ruszymah Hj Idrus	Penyelidik / CTO	1
38.	Prof M Dr Nazaruddin Ramli	Penyelidik / CTO	2
39.	Prof M Dr Mohd Cairul Iqbal Mohd Amin	Penyelidik / CTO	3
40.	Dr Azimin Samsul Tazilan	Penyelidik / CTO	1
41.	Dr Nowshad Amin	Penyelidik / CTO	2
42.	Abang Annuar Ehsan	Penyelidik / CTO	3
43.	Cik Tan Ai Ai	Penyelidik / CTO	1

MAKLUMBALAS PENYERTAAN

Rujukan kami :
Tarikh :

Nama fakulti / Institut / Pusat:

Kepada:

Pengarah
Pusat Inovasi Kolaboratif
Universiti Kebangsaan Malaysia
43600 UKM Bangi
Selangor
Tel: 03-89214117 Faks: 03-89214114

Tuan,

**PROGRAM KURSUS "CAPACITY BUILDING IN INNOVATION, TECHNOLOGY TRANSFER AND UNIVERSITY START-UP"
ANJURAN UKM DAN SIT**

Sukacita saya ingin mendaftarkan penama berikut sebagai peserta program tersebut di atas:

Bil.	Nama	Jawatan	No. Tel / Mobile / e-mail	Kumpulan pilihan (Group 1, 2 atau 3 seperti di Jadual Program* di bawah) Sila nyatakan	Sila nyatakan produk yang telah dipatentkan dan berpotensi untuk dikomersilkan

Sekian, Terima kasih.

Yang benar,

(Nama: _____)

Jawatan :

Cop rasmi:



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Capacity Building Program in Innovation, Technology Transfer and University Start-up

Jointly organised by



Who should attend this program:

- Researchers with commercial potential inventions
- Policy makers in relevant government agencies
- Researchers who wants to commercialize their inventions via university start-up
- Technology Transfer Manager and Intellectual Property Professionals
- Graduates and Researchers who have the potential to become CEO or CTO in University start-up companies

	Module 1 & 2	Module 3	Venue
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“Developing start-ups and new enterprises for wealth creation from innovations and R&D outcomes”

We specially bring Technopreneurial and Start-up expertise from Stevens Institute of Technology USA to share with you its TECHNOGENESIS® model and success stories in creating university technology start-ups from R&D outcomes and new enterprises launched by graduates.



Introduction to Stevens Institute's Technogenesis®

- In 2008, **Stevens Institutes of Technology (SIT)** was ranked the 3rd in the USA for achieving highest return of investment in R&D (Forbes, 2008). The Business Week recognized that SIT is superior to Stanford and MIT in term of creation of new enterprises and start-ups by graduates.
- **Technogenesis®** refers to an “*educational environment, where students, faculty and industry jointly nurture new technologies from concept to marketplace realization*”. This was the beginning of a long term initiative bringing about a cultural shift within the academic community to (i) introduce the concept of entrepreneurship in undergraduate and graduate education and (ii) transform the traditional **technology transfer** process into a technology driven innovation exploitation process.
- SIT has been at the forefront of innovation and entrepreneurship since the late 1800s. Founder Edward A. Stevens was raised in a family of inventors and entrepreneurs who transformed their inventions into a number of successful enterprises, including the first steam-driven locomotive in the U.S. in 1826. By the mid 1990s, Stevens Institute of Technology implemented **Technogenesis®** with the objective of changing the traditional university **technology transfer** process. By creating an environment that recognizes and rewards innovation while promoting intellectual property, the Institute could exploit key faculty and student talent to foster technological innovation.
- SIT seeks to redefine the traditional university-industry **technology transfer** process by creating an unconventional entrepreneurial solution - the Academic-Innovation-Transfer process. The key to success is the establishment of an open system in which competent partners with diverse backgrounds combine their complementary expertise to create technological innovations that lead to successful **technology transfer** ventures. Such key partners include faculty, students, entrepreneurs, venture capitalists and investors, industry partners, and representatives of government entities and regulatory agencies. SIT's vision is to achieve a global recognition of SIT as a premier technological institute of academic entrepreneurs.
- SIT's mission is a consequent extension of the Stevens **Technogenesis®** environment. In order to encourage entrepreneurial behavior a dynamic entrepreneurial culture must first be established. Thus, the mission is to foster and nurture an entrepreneurial culture that is accepted across the entire Institute community. The core research at SIT is backed by world-renown faculty, laboratories, research centers and shared facilities. Their efforts focus on the transition of technology from research to the commercial marketplace, and provide groundbreaking innovations in the areas of technology commercialization and entrepreneurship.
- SIT aims to foster and exploit technology-driven innovations that either are adopted by industry or serve as a basis for creating new ventures. With the implementation of a culture of Academic Entrepreneurship (AE), SIT recognizes the new role that universities are adopting in response to pressures - both internal and external - to create wealth through the exploitation of scientific discoveries and technological innovations. It is a paradigm shift in **technology transfer**.



Program Overview

- ❑ Stevens Institute of Technology, in collaboration with UKM, will present its workshop in Innovation and Commercialization of University Technology at UKM starting on June 7, 2010. The workshop will teach the fundamentals of technology commercialization and present the Stevens approach to university-based technology commercialization, called Technogenesis®.
- ❑ Stevens has been using the Technogenesis® approach for over 15 years and has made many refinements over the years. This approach can be adapted for use in universities across Malaysia, and the workshop will show how it can be applied to address the many challenges in commercializing university-generated technology.
- ❑ The workshop is designed for university researchers as well as for business school faculty, university administrators, government officials and investors with an interest in technology commercialization.
- ❑ The workshop is highly interactive. Students use state-of-of-the-art collaboration tools and work in small cross-functional teams to create a business plan for a nascent start-up company that is built on current university technology.
- ❑ Instruction and hands-on guidance in the creation of the business plans is provided by world-renowned faculty from Stevens Institute as well as from the key Stevens administrators responsible for the design and implementation of the Technogenesis® approach.
- ❑ In the workshop students will get a broad education in technology commercialization and an invaluable experience the richness of working though the planning of a technology-based startup company.
- ❑ The workshop culminates with students' presentations of their business plans for the companies. The presentations are made to a panel of Stevens faculty and administrators, UKM faculty and administrators and Malaysian investors and government officials.

Agenda by Module

Module 1
**Science of
Business
&
Module 2**
Start-up
Development

- Overview on Technology Management and Innovation
- Pre-Revenue Development
- Marketing Strategy
- Business Models
- Financial Strategies
- Risk Management
- Start-up Development
- Strategic Negotiation Skills
- Preparing Business Plan (Assignment for Module 3)
- Securing Collaborators
- Strategic Planning and Exit Strategies

Module 3
**Implementation
of Business**

- Effective Decision Making for Business Leaders
- Presentation of Business Plan (Projects)
- Project Evaluation and De-Briefing
- Conclusion and Wrap-up



Start-up Issues to be covered

Early Decision-Making and Team Building

- Benefits and drawback to start-ups
 - Start-up versus license
 - Considering the university vision/mission
 - Aligning stakeholders: Inventor, University, Entrepreneur
- Assessment
 - Feasibility analysis
 - Assessing patentability, patent claim breadth, competition, market trends, market size and likely penetration, time to market, scale-up factors, manufacturing and distribution burdens, likely partners
- Bootstrapping issues
 - Pre-launch funding
 - Getting started: Space, corporate documents, compliance and tax issues
 - Starting lean and mean
- Team building and dynamics
 - Partnering
 - Advisory board recruitment/make-up
 - Leadership
 - University interest/role
 - COI and other legal issues
- Money matters and inventor buy-in
 - Value versus equity
 - Leadership incentives/options/employment agreements
 - Early-stage valuation
 - The investor perspective deal-breakers
 - Managing inventor expectations



Start-up Issues to be covered

Money matters

- The realities: Playing in the Investor's Sandbox
- Angels versus VCs
- Valuation issues
- Equity allocations
- Option pools and other equity dilutions
- Investment schedules/tranches
- Milestones
- Alternatives
- The University Stake

Creating a Solid Business Plan

- Managing Risk
 - Audience (Potential Investors, Partners, Recruits)
 - Risk/Return
- Problem & Solution Statement
- Market Risk
 - Market Opportunity
 - Market Size
- Technology/Product Risk
 - Description
 - Feasibility
- Execution/Team Risk
 - Team Strengths
 - Key Hires
 - Market Entry Strategy
 - Manufacturing/Operations
- Financial Risk
 - Financial Plan
 - Exit Strategies
- Mistakes to Avoid



Start-up Issues to be covered

Funding options and opportunities

• Attracting and/or seeking out the right investor(s) and identify what type of funding you need and when:

- Gap funds
 - Seed
 - Angel
 - VC
 - Lines of Credit
 - Government funding/SBIR/Grants
 - Understanding the pros and cons and strategies of each
-
- Structuring the investment
 - Common terms and pitfalls to avoid
 - Investor turn-ons and turn-offs
 - Current investment landscape and forecast for 2011
 - Understanding and living with dilution

Pitching techniques to get what you want

- Preparation strategies
- Content
- How venue should impact the pitch
- What investors are looking for
- Key topics, words, and phrases - and common blunders
- Delivery techniques
- Striking the right balance between too much information, and too little
- Getting results - closing and follow-up

Impact and outcomes

- Tracking local job creation and economic impact
- Growth strategies
- Stakeholder outreach
- Later-stage funding
- Case studies of successful exits
- When and how to seek a buyer
- Considering an IPO
- Marketing strategies

Facilitators & Biography (Module 1,2 & 3)



Professor Dr Harold J. Raveche

President, Stevens Institute of Technology, USA

Professor Dr Harold is the Founding President of Innovation Strategies International, LLC. He serves as the 6th President of Stevens Institute of Technology in New Jersey from 1988 to June 30, 2010. Dr. Raveche is internationally recognized as a technology innovator for business growth and economic development. He earned his Bachelor of Science degree in chemistry at Hofstra University in Uniondale, Long Island, and his Ph.D. in physical chemistry and statistical mechanics at the University of California at San Diego, where his research in statistical mechanics was mentored by the late Joseph E. Mayer, one of the founders of the field. At UCSD, Raveche's use of models and mathematical analysis in research was strongly influenced by Maria Goeppert Mayer, the first American woman to win the Nobel Prize in physics (1963).

Dr . Lex McCusker



Dr. McCusker is the Associate Dean of the Wesley J. Howe School of Technology Management at Stevens Institute of Technology. He joined the Howe School in July of 2004 and served as its Acting Dean in 2005 and as Dean from 2006 through 2009. He is an accomplished industry professional in R&D Management, Intellectual Property Licensing and Technology Transfer.

Prior to joining Stevens Institute, Dr. McCusker served as Professional Services Vice President and General Manager at AT&T Laboratories. In this capacity, he oversaw day-to-day operations of the internal consulting practice of 450 high-power technical professionals. He also provided administrative oversight for AT&T's R&D budget and led its Intellectual Property Licensing and Technology Transfer activities. He was the CEO of the AT&T technology start-up, Natural Voices™.

He is also the Vice Rector of Stevens Institute of Technology International (SITI) in Santo Domingo, Dominican Republic.

Facilitators & Biography (Module 1,2 & 3)

Professor Dr. Christos Christodoulatos



Dr Christodoulatos is Associate Provost for Academic Entrepreneurship and Director of the Center for Environmental Systems (CES) at Stevens Institute of Technology. The Office of Academic Entrepreneurship (OAE) has the mandate to modernize the technology transfer process and design educational and research programs that bring the concepts of innovation and entrepreneurship into the classroom and the research laboratory.

He has managed and executed over a hundred major research projects exceeding \$30M and serves as a consultant to government and private organizations. He holds several patents in water and air treatment technology and has authored over a hundred fifty articles in professional journals, conference proceedings, and handbooks. He has played a major role in the creation of Technogenesis* at Stevens and is a founding member of two start-up companies for the commercialization of environmental technology.

He holds several patents in water and air treatment technology and has authored over a hundred fifty articles in professional journals, conference proceedings, and handbooks. He has chaired a number of international conferences on environmental technology, he is a member of several professional organizations and serves as a reviewer to several journals

Professor Dr. Murrae Bowden



Dr Bowden is Industry Professor in the Howe School of Technology Management at Stevens Institute of Technology and Academic Director of the Executive Masters programs in technology management (EMTM/EMBA). He also directs the Flex MBA and Master in Management programs encompassing a variety of technology majors.

He received his B.S. degree (First Class Honors) in Chemistry in 1965 from the University of Queensland in Australia, and a Ph.D. degree in Physical Chemistry from the same institution in 1969. He then spent two years as a Post Doctoral Fellow at the University of Manchester, England, and in October 1971, joined AT&T Bell Laboratories in Murray Hill, New Jersey as a member of the technical research staff conducting research into the effects of high-energy radiation on polymeric materials, with particular application to the development of polymeric resists used in the lithographic fabrication of microelectronic circuits.

A renowned chemist, he joined Bell Laboratories in 1971. He is Co-inventor of Bell Labs' 1977 IR-100 Award-winning electron resist technology. In 1988 he was selected as an Outstanding American Inventor. He holds 7 patents and has jointly edited 3 books. He became a Fellow of the PMSE division of the American Chemical Society in 2000.

Facilitators & Biography (Module 1,2 & 3)

Professor Dr Peter Koen



Dr Koen is a tenured Associate Professor in the Wesley J. Howe School of Technology Management. He is currently the director of the Consortium for Corporate Entrepreneurship (CCE), which he founded in 1998, and whose mission is to significantly increase the number, speed and success probability of highly profitable products and services at the "Front End of Innovation" – which is the discovery portion of the innovation process. Current consortium members include Corning, Ethicon (a division of J&J), ExxonMobil and P&G.

He is also the inventor and founder of ID8 Systems – a Stevens start-up. Peter was involved in The New Concept Development model with 13 other companies, is being adopted by industry as a theoretical construct for understanding the front end. Peter is also actively working with Cabot, Dow Corning, Ethicon, ExxonMobil, International Flavors and Fragrances, Rohm and Haas, Valvoline and WelchAllyn under a project funded through the National Science Foundation.

Peter also has extensively published articles on the front end. Summaries of his work appear in the Product Development Handbook (published in 2005 by Wiley) and the Product Development Toolbooks (published by Wiley in 2002, 2004 and 2007). Koen's academic background includes a BS and MS in Mechanical Engineering from New York University in 1965 and 1967, respectively. In addition he holds a Ph.D. in Biomedical Engineering from Drexel obtained in 1975 and a professional engineering license.

Professor Dr. Gary Lynn



Dr. Lynn is the Distinguished Service Professor at Stevens Institute of Technology in Hoboken, NJ. He is a tenured professor and teaches marketing; innovation; and technical entrepreneurship at the graduate and executive levels. Dr. Lynn was selected by Business 2.0 Magazine as one of the top ten management gurus in the world. He was also named twice (2003 and 2008), as one of the most important thought leaders in the field of Technology-Innovation Management by the International Association for the Management of Technology (IAMOT).

Dr. Lynn was formerly Chief Innovation Officer and Senior Managing Director of Spencer Trask – a New York based venture capital company, that placed \$1.2 billion in 100 business over the past decade – where he worked with a variety of CEOs, and Board members across eight industries. He won the Best Professor Award at Stevens Institute of Technology; the Outstanding Research Award and Outstanding Teaching Award in the Howe School of Technology Management at Stevens; the Merritt Williamson Research Award from the American Society for Engineering Management; and the first Innovation Fellowship given by Rubbermaid Inc.

Facilitators & Biography (Module 1,2 & 3)

Professor Dr. Elliot Fishman



Dr. Fishman has been teaching at Stevens Institute of Technology since 2004. He teaches courses and performs research on intellectual property management, commercialization of early stage research, venture capital, entrepreneurship and corporate finance.

Prior to coming to Stevens, he founded and managed the New York office of a \$440 million venture capital fund called Advantage Capital Partners. He was an executive at Doubleclick, Inc. and was instrumental in that company's IPO in 1998. Earlier in his career, he worked at National Semiconductor Inc. and Amdahl Corporation. He holds PhD and MBA degrees from the University of Pennsylvania/Wharton and a BS in Engineering from Duke University.

Mr. Malcolm Kahn



Mr Kahn is Vice President for Enterprise Development & Licensing at Stevens Institute of Technology. In this capacity, Mr. Kahn is responsible for the full cycle of business development at Stevens, from helping researchers and staff identify markets and technology applications, to the spawning, development and funding of Stevens' Technogenesis® Companies.

Mr Kahn is a serial entrepreneur of technology-based companies for more than 25 years. He has extensive experience in the fields of analytical and scientific instrumentation, membrane filtration, lab-on-chip and technologies, and first-hand knowledge of the medical diagnostics, clean-tech, telecommunications, analytical instrument and biopharmaceutical markets. He sits on the boards of several start-up companies in the fields of raman spectroscopy, carbon nanotubes, sequencing using quantum-controlled femto-second lasers and mass spectrometers, and a predictive software company for analyzing water contamination. He has successfully raised considerable venture capital funding for his companies, and he is an expert in the full process of going from idea to delivered product.

Mr. Kahn holds a Bachelor of Arts degree in Finance from The Pennsylvania State University, and an MBA from Fordham University. He Kahn began his career at Pfizer in their Medical Diagnostics Division and then at Millipore before moving into start-ups. Mr. Kahn's past companies include Kratos International plc, which he sold to Applied BioSystems (LC) and Shimadzu (MS & SA); Membrex, that he sold to Osmonics, which is now part of GE; and Sensicore, a filter-sensing technology company that he sold to GE.



Places are limited!

Join this program and register now!

Please contact the following for registration and enquiry:

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Mode of payment for registration fees:

Please provide payment by cheque, bank draft/banker's order or postal order payable to
"BENDAHARI UNIVERSITI KEBANGSAAN MALAYSIA"

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