



Curriculum Vitae

Dr. Jaafar bin Jantan

Associate Professor of Physics

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Positions: *Associate Professor, Universiti Teknologi MARA (UiTM)*

- Vice-Chair, Asian Physics Education Network (ASPEN), UNESCO, 2007-2012.
- Chair, Asian Physics Education Network (ASPEN), Malaysia, 2007-2012.
- Chair, Outcome Based Education Committee, FSG, UiTM, 2007-present.
- Coordinator, Research & Consultancy Unit, FSG, UiTM, 2000-2001.
- Coordinator, International and External Relations, ITM, 1996-1997.

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Education:

Year	Degree	Place	Major/Field
1991-1994	PhD	Kansas St. Univ., Manhattan, KS, USA	Physics (Physics Education)
1983-1985	M.Sc.	Kansas St. Univ., Manhattan, KS, USA	Physics (Condensed Matter – Low Temperature Magnetism)
1980-1983	B.Sc.	Kansas St. Univ., Manhattan, KS, USA	Physics

Professional Certification

Post Graduate Teaching Certificate, Temenggung Ibrahim Teaching College, Johor Bahru, Johor, Malaysia, Jan - Dec 1986.

Awards

- *Certificate of Excellence in Services*, 2007. Awarded by Universiti Teknologi MARA for excellence in services including teaching, research and other contributions to the faculty and university. October, 2008.
- *Nominated by Universiti Teknologi MARA (UiTM) for the Jon Amos Comenius Medal*,



UNESCO's most prestigious awards, intended to acknowledge the work of those educators who have made a significant contribution to the development or renewal of education. More precisely, it is designed to reward outstanding achievements in the fields of educational research and innovation and exceptional examples of personal devotion to education and the ideals of UNESCO demonstrated throughout an important part of one's life, UiTM, April 2008

- *Nominated by Universiti Teknologi MARA (UiTM) for Anugerah Akademik Negara (AAN) Kategori Pengajaran* (Institute of Higher Learning) for using creative instructional methods to produce effective learning, UiTM, March 2007
- *Bronze Medal, Poster Session, Expo Penyelidikan & Inovasi, UPSI, (22 Jan 2007).*
- *Nominated by Universiti Teknologi MARA (UiTM) for the National Council for Scientific Research & Development (NCSRD/MPKSN) Award 2002 for Increasing Public Awareness on Science & Technology, UiTM, January 2003.*
- *Best Lecturer Award, awarded by students of Diploma in Chemistry, at Faculty of Applied Sciences, UiTM, 2001 and 2002.*
- *Nominated by UiTM for the Kalinga Prize for the Popularization of Science (UNESCO), UiTM, March 2002 .*
- *Best Lecturer Award, awarded by students of Bachelor in Applied Chemistry, at Faculty of Applied Sciences, UiTM, 2001.*
- *Certificate of Excellence in Services, 1999. Awarded by Universiti Teknologi MARA for excellence in services including teaching, research and other contributions to the faculty and university.*

Teaching Portfolio:

<http://www2.uitm.edu.my/drij/DRJJ/Evaluate/jiteachpdf.pdf>

Experiences:

1. Assoc. Prof., Universiti Teknologi MARA, Shah Alam, Selangor; 2001-present.
2. Senior Lecturer, Universiti Teknologi MARA, Shah Alam, Selangor; 1996-2001.
3. Lecturer, Universiti Teknologi MARA, Shah Alam, Selangor; 1995-1996.
4. Graduate Research Assistant, Kansas State University; Manhattan; 1992-1994.
5. Graduate Teaching Assistant, Kansas State University; Manhattan; 1991.
6. Lecturer, Universiti Teknologi MARA, Shah Alam, Selangor; 1987-1991.
7. Graduate Teaching Assistant, Kansas State University; Manhattan; 1983-1985.
8. Lab Assistant, Kansas State University, Manhattan; 1982-1983.

Professional Societies:

- i) American Association of Physics Teachers (AAPT), USA (membership needs yearly renewal)
- ii) National Science Teachers Association (NSTA), USA (membership needs yearly renewal)
- iii) Asian Physics Education Network (AsPEN), Malaysia, under the auspices of UNESCO Education.

Teaching Experience



Basic Physics 1987-1990, 1995

This is about the foundations of physics covering topics of mechanics, heat and thermodynamics, waves and sound, electricity and magnetism and atomic and nuclear physics which are taught to students graduating with diplomas in science (two-and-a-half-year program) and to those graduating in diplomas in engineering (four year program). It is also taught in 1995 to students graduating with diploma in applied sciences (three to four year program)

Thermodynamics 1996-2003

This course is taught using the cooperative learning & utilizing ICT for receiving and sending of assignments to students graduating in Industrial Chemistry (DIC) for the diploma program, in Applied Chemistry (BSAC – Honours) and the Chemical Engineering for the degree programs. Students are introduced to the laws of thermodynamics and extensive discussions to applications of heat engines and related engineering devices. Students also experience to become facilitators twice during the semester to lead discussions regarding topic of the week. Textbook: Yunus A. Cengel and Michael A. Boles; Thermodynamic, An Engineering Approach; Third & Fourth Edition, McGraw-Hill, Inc. copyright ©2002, 1994,1989. All power point notes, self-assessment materials and other form of summative assessment examples are made available on Dr. J.J.'s website.

Environmental Assessment Jul 1999

This course is taught in collaboration with another lecturer. Students are given the opportunities to discover the properties of noise and its impact on human's social behaviour. The physics of sound, sound propagation and the parameters that affect the sound intensity are introduced. Methods to measure sound intensity by using the Sound Level Meter (SLM) are discussed and students had the opportunity to make some measurements using the portable SLM. Aside from sound pollution, radiation effects, sources of radiation and its health hazards were also looked into. Other forms of pollution and risk management were taught by another colleague.

Computer Science Laboratory Jul 1999

This course was taught as part of the requirement for the lecture course. It introduced the students to the basics of Microsoft Office such as the Microsoft Word and Excel. Students were given the exposure and the practice to use Word for writing scientific reports and using Excel to analyse data and transform the data to graphs. In addition, students were required to browse the internet and practised sending emails with attachments.

Project and Thesis Supervision (Diploma & Degree with honours)

This course was designed for students to be involved with the process of writing proposals, plan and execute mini –projects which can be of any topic but related to industrial chemistry or applied chemistry. Pollution such as sound and noise, radiation pollution, chemical spraying and its affect, pesticide use and its effect are some of the topics that students ventured into to make the students aware and be more sensitive to the environment. The following titles are the projects completed so far.

Degree in Applied Chemistry (Honours)



“Determining if Chilli and Kailan Sold at the Wet and Dry Markets is Pesticide-Free”, April 2001.

“Determination of Ethylenebisdithiocarbamate in Chilli and Kailan from Wet and Dry Market by Using the Headspace Gas Chromatography”, April 2001.

“The Natural Radioactivity and Its Sources in Sediments from the Malacca Straits (Selangor Areas)”, April 2001.

“Persistence of Prothiofos in Red Chilli and Kailan”, October 2000.

“Noise Pollution in the Vicinity of An Industrial Area in Shah Alam”, October 2000.

“Noise pollution around the Vicinity of Public Areas in Shah Alam”, May 2000.

Diploma in Industrial Chemistry

“The Effectiveness of Sunscreens with different SPF Values for Two Most Commercially Available Brand Names of Sunscreens”, May 2000.

“Analysis of the Nutritional Components in Liquid Milk (Cow’s Milk and Goat’s Milk)”, Nov 1999.

“Analyzing the Minerals Present in Commercialized Mineral Water, Mineral Pot and “Air Zam-Zam”, Nov 1999.

Thermodynamics (for Physics program) 2003-2004

The course engaged students in an active learning environment in the learning of the concepts, laws and theories in the area of thermodynamics. Collaborative learning was used to enhance understanding of concepts and its applications in thermodynamic devices. The use of ICT to download & email self-assessment on the conceptual understanding and the achievement of lesson outcomes was utilized to gauge any cognitive changes before and after collaborative learning. All power point notes, self-assessment materials and other form of summative assessment examples are made available on Dr. J.J.’s website.

Basic Physics II (for Material Technology program) 2005-2008

The course engaged students in an active learning environment in the learning of the concepts, laws and theories in the area of electrostatics, electricity, magnetism, electricity & magnetism and introductory modern physics. Students predict outcomes of an investigation perform simulations, actively discuss the predictions and results of investigations produce a model a the relationship of physical quantities and compare to the existing scientific model and laws. All power point notes, self-assessment materials and other form of summative assessment examples are made available on Dr. J.J.’s website.

Philosophy of Science (for all FSG degree programs) 2006-2008

The course engaged students to the meaning, similarity and differences between data, information, knowing, belief, truth and knowledge. Students engage with their peers and with the facilitator on the examples provided to utilize the tools of philosophy (the art of arguing and verbal reasoning) in identifying and confirming their existing knowledge on the scientific method, laws and theories. Students also try to convince their peers on their thoughts and ideas through teamwork in a debate while their values and ethics in science and its impact on the environment and society are expressed through terms papers they have to write and submit for assessment. All power point notes, self-assessment materials and other form of summative assessment examples are made available on Dr. J.J.’s website.



Graduate Students & Referee to Journal Article

- External Examiner for M.Sc. in Physics Education; Faculty of Science & Technology, UPSI. Dec 2008.
- Referee to a science journal article for the Faculty of Science & Technology, UPSI. Oct. 2008.
- Referee to a science journal article for the Faculty of Science (FIZIK), UKM. Oct. 2008.
- PhD in Chemical Education at FSG, UiTM. (still finishing the writing-up) 2003-2008
- Referee to a science journal article for IRDC, UiTM. 2006.
- External Examiner for M.Sc. in Physics Education; Faculty of Science & Technology, UPSI. 2003.
- External Examiner for M.Sc. in Physics Education; Physics Dept., UKM. 1999.

Present and Future Research

- “Mapping The Level Of Critical Thinking Skills To Instructional Methodologies Among Undergraduates In Asian Universities / Malaysian Public Universities”. University Mobility in Asia and the Pacific (UMAP) research proposal, a collaboration between UiTM, UPSI and two other UMAP universities to be named. Grant to be submitted by end of December 2008 to FRGS.
- “Learning Styles of the Staff and Students at the Faculty of Applied Sciences: Real-Time Identification and Its Implication on Classroom Teaching Instructional Techniques”. *Funds will be from the University Grant, Aug 2002 (Partial data has been collected). A real-time scoring of the learning styles (Felder's) using Microsoft Excel is now available. Up to 40 samples can be accommodated by the worksheet through the use of Visual Basic Editor.*
- “Industrial Chemistry and Applied Chemistry Students' Views of Chemistry Obtained Using the Views about Science Survey (VASS) Instrument”. *University Grant, Aug. 2001 – Jul 2002.*
- “Common-sense Beliefs about Force and Motion among the Engineering and Applied Science First Semester Students at Universiti Teknologi MARA.” *University Grant, Aug. 2000 – Jul 2001. A real-time scoring of the FCI using Microsoft Excel is now available. Up to 40 samples can be accommodated by the worksheet through the use of Visual Basic Editor.*
- “The Effectiveness of Mechanics Classes for the First Semester Engineering and Applied Science Students at University Teknologi MARA in Replacing Students' Common-sense Beliefs about Force and Motion.” *University Grant, Dec 2001 – Nov 2002 (to be submitted but data has already been collected).*
- “Peer-Facilitating Learning Cycle for Effective Learning of Thermodynamics at Faculty of Applied Sciences, Universiti Teknologi MARA.” *(Partially funded by Faculty of Applied Sciences, April 2001. (Development of self-assessment materials is complete and can be viewed from my website. The documents are password-protected and those interested need to send email to me to obtain the password.)*
- “Progress in Learning about Force and Motion among Physics and Science Education Students at Selected Universities in Malaysia”. *Partially funded by Faculty of Applied Sciences, Aug 99-present. (Data for UPM, UKM and USM has been collected. Results of this research were first presented at the Workshop for Matriculation Lecturers, Kota Kinabalu, July, 2002.)*



Publications

PROCEEDINGS

- “Learning Chemistry;The Human Perspective”, Proceedings of the Young Researchers Conference on Applied Sciences. 2006
- “Matching Chemistry Perception to Learning Preferences on Chemistry-based Students at UiTM”, Proceedings of the Symposium Kimia Analisis Malaysia XVII, 2004.
- “Determination Of Night Time Sound Pressure Level Inside Uncle Chill’s Grill And Bar, Hilton PJ”, Proceedings of the Symposium Kimia Analisis Malaysia XVII, 2004.
- “Research In Creativity for Science and Mathematics Education.” (with Dr. Sheila Tobias) Proceedings of the Second International Conference on Primary and Secondary Schools Science and Mathematics Education, 2004.
- “Matching Teaching Methods To Learning Preferences of Industrial Chemistry Students at UiTM”, Proceedings of the Symposium Kimia Analisis Malaysia XVI, 2003.
- “Probing the Perception about Chemistry on Industrial Chemistry Students at Universiti Teknologi MARA.” Proceedings of the Symposium Kimia Analisis Malaysia XVI, 2003.
- "University Physics Education for the 21st Century", Group Editor, Proceedings of ASPEN Conference 1997, Sinaran Bros. Sdn. Bhd., Penang, Malaysia, 1999.
- “Pre-Science Modules in Chemistry, Physics and Mathematics”, UiTM, Shah Alam, 1999
- “Physics InfoMall Users’ Guide”, The Learning Team, Armonk, New York, 1996.

CD-ROM

- "Physics InfoMall" (part of the team with Prof. Dean Zollman and Prof. R. G. Fuller), The Learning Team, Armonk, New York, 1996.
- “Physics InfoMall Users’ Guide”, The Learning Team, Armonk, New York, 1996.

- Doctoral Degree Dissertation
- “Differences and Similarities in Teachers’ Information Strategies for Lesson Planning Using the Physics InfoMall – A Large Physics Database on CD-ROM”, Nov 1994.

JOURNAL ARTICLES

- “The Relationship between UPSI Lecturers’ Perceptions of their Teaching Practices and Students’ Conceptions of Force and Motion”, The International Journal of Learning (Common Ground), Volume 14, 2007.
- “Matching Chemistry Perception to Learning Preferences on Chemistry-based Students at UiTM”, The Malaysian Journal of Analytical Sciences Volume 9, Number 1&2, 2005.
- “Determination Of Night Time Sound Pressure Level Inside Uncle Chill’s Grill And Bar, Hilton PJ”, The Malaysian Journal of Analytical Sciences Volume 9, Number 1&2, 2005.
- “Double transitions in Gd-Mn and Gd-Ni glasses”, *Jour. of Magnetism & Magn. Mat.* (Netherlands) Nov 1988



Talks and Workshops

Guest Lectures, Invited Talks and Workshops at National and International Meetings:

- **Invited Guest Speaker** for the ASTRO Awani Television Show , the “Sudut Pandang Programme” televised live at 8:30 pm. Topic of Discussion: “TIMSS and the role of PPSMI in placing Malaysia in the top 10 of TIMSS.” 17th Dec. 2008.
- **Guest** for the 5th Round Table Discussion on “Teaching of Science & Math in English (PPSMI), organized by the Quality and Inspectorate Division MOE for politicians and NGO’s, Putrajaya Convention Center, 16th Dec. 2008.
- **Chief Facilitator** for the Matriculation Engineering/Technical Curriculum Review Workshop (Physics Subject) organized by the Matriculation Division, MOE. Casuarina Impiana, IPOH. 24th-26th Nov. 2008.
- **Invited Speaker** for the 4th Round Table Discussion on “Teaching of Science & Math in English (PPSMI), organized by the Quality and Inspectorate Division MOE for politicians and NGO’s, Putrajaya Convention Center, 21st Oct. 2008.
- **Permanent Judge** for Physics. Tunas Saintis Program to select the best three science projects from MRSM schools in Malaysia that will represent Malaysia to the INTEL ISEF in USA. 29th – 31st July 2008. Jasin, Melaka.
- **Facilitator** for the Active Learning Workshop (ALW) at Swineburne University of Technology, Sarawak Campus.. Training lecturers of Swineburne, Asian Physics Education Network university representatives, and lecturers from the Asian region on how to implement Active Teaching & Learning activities for physics & engineering courses. 7th-10th July 2008
- Science content **Judge** in the finals for the ACTOLOGY program, PETROSAINS. 8th July 2008.
- **Invited Speaker & Master Facilitator** for the “Outcome Based Education (OBE)” Workshop at FSG. OBE Stage 1 Workshop: Training the Program Heads, Coordinators & **ALL Lecturers** of FSG at the Shah Alam, Kuala Pilah, Penang and Jengka campus for all programs at all certification levels on the writing of Program Educational Objectives, Program Outcomes, Course Outcomes, and the matrix showing how each of them address the MOHE learning outcomes and how they address each other. 1st May -30th June 2008
- **Invited Speaker, Master Facilitator & Chairman** for the “Outcome Based Education” Workshop at FSG.. OBE Stage 1 Workshop: Training the Program Heads & Coordinators of FSG on the writing of Program Educational Objectives, Program Outcomes, Course Outcomes, and the matrix showing the how each of them address the MOHE learning outcomes and how they address each other. 17th-18th Dec 2007.
- **Invited Speaker, Master Facilitator & Chairman** for the “Outcome Based Education” Workshop at FSG.. Training the OBE Facilitators of FSG on the writing of Program Educational Objectives, Program Outcomes, Course Outcomes, and the matrix showing



the how each of them address the MOHE learning outcomes and how they address each other. 27th-28th Nov 2007

- **Invited Speaker.** “Students’ Learning Preferences and The Need for Concept Mapping.” **Master Facilitator** for the workshop, “Constructing Concept Map in Physics by Using the IHMC Software”. “International Conference on Physics Education (ICPE)” at Universiti Cadi Ayyad, Marrakech, Morocco. 11th-16th Nov 2007.
- **Panel** for the **Round Table Discussion**, in identifying the strength & weaknesses of the “Teaching of Science & Math in English” program at the primary and secondary schools in Malaysia. Ministry of Education, PUTRAJAYA. 8th Nov 2007.
- **Represented Malaysia** to the “General Assembly UNESCO” on Asian Physics Education. “5th Asian Physics Education Network General Assembly and Active Learning Workshop” at Ateneo De Manila University, Quezon City, Phillipines. 20-27th Oct 2007. **Invited Speaker.** “Science Exploration in Electrostatics Via the Physics Education Technology (PhET) simulations. “5th Asian Physics Education Network General Assembly and Active Learning Workshop” at the Ateneo De Manila University, Quezon City, Phillipines. 20th-27th Oct 2007.
- **Physics Specialist Consultant** on the role of physics & physical laws on driving & road safety. A Malaysian television program, KMJ, aired live on prime time TV1, 4th Oct & 11th Oct 2007.
- **Physics Specialist Consultant** on the role of physics & physical laws on driving & road safety A Malaysian television program, KMJ, aired on prime time TV1, 20th Sept & 27th Sept 2007.
- **Physics Specialist Consultant** on the role of physics & physical laws on driving & road safety. A Malaysian television program, KMJ, aired on prime time TV1, 23rd Aug 2007.
- **Invited Speaker** “Visualizing Mathematics: The Hierarchical Concept Map Approach”. Convention for the Negeri Sembilan Additional Math Teachers 5th-8th Aug 2007.
- **Permanent Judge** for Physics. Tunas Saintis Program to select the best three science projects from MRSM schools in Malaysia that will represent Malaysia to the INTEL ISEF in USA. 21st -23rd July 2007. Kuantan, Pahang.
- **Invited Speaker** “Writing Students’ Behavioral Intended Learning Objectives/Outcomes” and **Chief Facilitator** for the Workshop to train lecturers of the Physics & Material Science in producing measurable learning & lesson outcomes. FSG. 28th June 2007.
- **Invited Speaker** “Academy Science Malaysia’s PORTAL Content Development.” **Workshop Facilitator** to assist practical students placed at Academy Science Malaysia to produce content for the Academy Science PORTAL. 21st May 2007.
- **Invited Speaker** “I See I Remember, I do I understand: Visualizing Your Knowledge Using Hierarchical Concept Map.” & **Workshop Facilitator** to assist science matriculation students at Londang, Masjid Tanah to producing concept maps as evidence in conceptual understanding of physics. 17th-18th March 2007.



- **Invited Speaker and Workshop Facilitator.** The Concept Map in Understanding Sciences, Matriculation Perak (Gopeng). Dec 2006.
- **Physics Specialist Consultant** on the role of physics & physical laws on driving & road safety. A Malaysian television program, KMJ, aired on prime time TV1, Fridays at 8:45 pm beginning Oct 2006.
- **Member** of Active Learning Workshop (ALOP Asia) at Univ. of New Delhi sponsored by UNESCO. Nov 2006.
- **Invited Speaker**, FRONTPAGE program organised by RTM to motivate financially handicapped form 5 students in Selangor to perform better in their SPM physics. June 2006.
- **Workshop Facilitator along with Dr. Khodoori from MOE (Assessment)**, Workshop on Assessment and Preparing Effective Exam Questions, Physics Program, FSG. June 2006.
- **Invited Speaker and Workshop Facilitator**, "Effective Instructional Methods", FSG Lecturers at the Perlis Campus. June 2006.
- **Invited Speaker**, Academy Science Malaysia Workshop at THE MINES RESORT to identify and plan programs for the jobless graduates. May 2006.
- **Invited Speaker and Workshop Facilitator & Consultant** for INED UiTM. Training of UiTM's Franchise Lecturers in Effective Teaching & Learning, July -October 2005.
- **Invited Speaker** "Mapping Your Science Knowledge Using The Concept Map", Professional Course for the Negeri Sembilan Secondary Schools Science & Math Department Heads. May 2005.
- **Invited Speaker** "Mapping Your Science Knowledge Using The Concept Map", Perlis Matriculation College. 5th Mar 2005.
- **Invited Speaker** "Mastering Physics: Why My Teaching is Not Effective in Producing Meaningful Learners", Kedah Matriculation College. 3rd – 5th Feb 2005
- **Invited Speaker** "Meaningful Science Learning: Knowing Yourself", Polytechnic Port Dickson. 25th Feb 2005.
- **Invited Speaker** "Meaningful Learning: Understanding Your Client & Adapting Your Teaching", Strategy College, Taman Permata, Kuala Lumpur 19th Feb 2005.
- **Keynote Speaker** "Creativity and Innovation in Teaching Physics and Engineering: The Human Dimension." ASPEN 2004 Seminar and Workshop, Regency Hotel, Port Dickson, 13th Dec 2004.
- **Invited Speaker** "Learning Preferences' Role in Promoting Meaningful Learning in Science." Hari Kecemerlangan Fakulti Sains Gunaan, Blue Waves, Shah Alam. Nov 2004.



- **Invited Speaker** "Leading Super Learning of Sciences by Capitalizing on Research Findings and Technology For Learning." Convention on Leadership, Science and Technology from the Islamic Perspective, Yayasan Saad, Air Keroh, Melaka, October 2004.
- **Invited Speaker** "Assessment: Testing, Measurement and Evaluation". Kursus Penilaian Tahap Kecekapan TK3 dan TK4, October 2004.
- **Invited Speaker** a) "Tools For Lifelong Meaningful Learning: They Are Not Dumb, Just Different.", b) "Tools For Lifelong Meaningful Learning: Concept Mapping." UiTM Students' Development Program For Year 2 students, Universiti Teknologi MARA, Shah Alam, July 2004.
- **Workshop Chief Facilitator (with Dr. Sheila Tobias)** "Learning Preferences, Concept Mapping and Practices That Works in Promoting Creativity and Innovation in a Physics Classroom." Second International Conference on Primary and Secondary Schools Science and Mathematics Education, Legend Hotel, Kuala Lumpur, Malaysia. 16th – 18th June 2004.
- **Keynote Speaker (with Dr. Sheila Tobias)** "Research In Creativity for Science and Mathematics Education." Second International Conference on Primary and Secondary Schools Science and Mathematics Education, Legend Hotel, Kuala Lumpur, Malaysia. 16th– 18th June 2004.
- **Invited Speaker** "Curriculum, Instruction and Effective Teaching." Kursus Penilaian Tahap Kecekapan TK3 dan TK4. Nov 2003. **Invited Speaker** "Testing & Measurement." Kursus Penilaian Tahap Kecekapan, Nov 2003.
- **Contributed Speaker** a) "Probing the Perception About Chemistry on Industrial Chemistry Students at UiTM.". (b) "Matching Teaching Methods to Learning Preferences of Industrial Chemistry Students at UiTM." 16th Chemical Analysis Symposium, Universiti Malaysia Sarawak. 9th-11th Sept 2003.
- **Invited Speaker** "Tools for Effective Learning: Graphical Knowledge Representation.": Motivational Week & Techniques of Answering for the PMR/SPM, Sekolah Menengah Kebangsaan Seksyen 11, Shah Alam, Selangor. 16th Apr 2003.
- **Invited Plenary Speaker** "ICT in Science Teaching. Is it Really Worth The Effort?: Convention on Application of Information & Communication Technology in Education. Sri Negeri Auditorium, Air Keroh, Melaka; 12th Mar 2003.
- **Invited Speaker** "The Role of Learning Styles To Foster Meaningful Learning." MARA Secondary Education Section. Meeting for School Enrichment Program, MARA Headquarters, KL. 5th Mar 2003.
- **Invited Plenary Speaker** "Incorporating ICT to Promote Deep Learning in Thermodynamics", 2nd International Physics Conference, Karachi Pakistan. 7th – 9th Feb 2003.
- **Invited Workshop Facilitator** "Developing Concept Maps", 2nd International Physics Conference, Karachi Pakistan. 7th – 9th Feb 2003.



- **Guest Lecture** “Pedagogical Aspects of Teaching Physics – A Series of Guest Lecture” at Fakulti Sains & Teknologi, Universiti Pendidikan Sultan Idris, Tg. Malim, Perak. Jan 2003.
- **Invited Lecture and Workshop Facilitator** “Meaningful Learning: The Role of Concept Maps”. Science Week Program, Perlis Matriculation Centre, Arau, Perlis, Malaysia. 21st Oct 2002.
- **Invited Workshop Facilitator** “Making Science Learning Fun”. for Women in Science Lecture and Workshop Program, National Science Centre, Bukit Kiara, Kuala Lumpur, Malaysia. 22nd – 25th July 2002.
- **Guest Lecture and Chief Workshop Facilitator** “Developing Classroom Formative Assessment”. National Workshop for Matriculation Lecturers in Malaysia organized by Matriculation Colleges, Labuan, Sabah, at the Promenade Hotel, Kota Kinabalu, Sabah, Malaysia. 15th -18th July 2002.
- **Guest Lecture and Chief Facilitator** (workshop assisted by Prof. Khalijah Salleh of Univ. Kebangsaan Malaysia) “Formative Assessment Using Concept Maps and Lickert-type Scale Specific Operational Objectives Self-Assessment Technique in a Typical Physics Classroom”. at the National AsPEN Malaysia 2002 Seminar and Workshop held at Yayasan Pelajaran MARA, Kuantan, Pahang, Malaysia. 27th – 30th May 2002.
- **Keynote Address** “Bridging the Learning Concerns of Yesterday and Challenges of Today through the use of Multimedia”. given at the Seminar and Workshop on Multimedia Approach in Learning Physics and Engineering, University Tenaga Nasional, Bangi, Selangor, Malaysia. 12th – 14th June 2001.
- **Speaker** “Crossover into the Newtonian Beliefs-A Preliminary Study on the First Semester Engineering Students at Universiti Teknologi MARA,” Physics Seminar 2000, Conference at Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia. 6th – 9th Nov 2000.
- **Guest Lecture** “The Success Rate in Removing Common-sense Beliefs About Force and Motion among First Semester Engineering Students at Universiti Teknologi MARA”, Science Faculty, UiTM, Shah Alam, Selangor, Malaysia. July 2000.
- **Guest Lecture** “Analysing Results of the Force Concept Inventory and Mechanics Baseline Test by Universiti Kebangsaan Malaysia’s Science Education Students”, Physics Department, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia. May, 2000.
- “Multimedia in Education: The way forward” **Panel** discussion on “Multimedia in Science Teaching” (with Prof. Dean Zollman and Prof. Priscilla Laws), Universiti Sains Malaysia, Minden, Pulau Pinang, Malaysia. Dec 1997.
- **Guest Speaker** “Science: An Introduction,” Seminar for students enrolling for the degree program in Distance Learning, ITM (1997).
- **Workshop Facilitator** “The Role of Leadership and Group Cohesiveness in Organisation’s Quality Move,” Quality Camp, Port Dickson, Malaysia. (1997)
- **Invited Speaker** “Recognising Problems Within A Department Towards Inculcating a TQE Culture,” Seminar on TQE for Non-Academic Staff at the School of Information Technology



and Science Computer Universiti Teknologi MARA, Malaysia, (1996).

- **Invited Speaker** "The Significance of Group Cooperation in Total Quality Education," Seminar on TQE for non-academic staff attached to the Universiti Teknologi MARA, 's students dormitories, Langkawi, Malaysia, (1995).
- **Invited Speaker** "What They Say About Physics Lab," Seminar on the Introduction of A New Physics Lab Concept, Universiti Teknologi MARA, Malaysia. (1995).
- **Invited Speaker** "Shopping for Physics Instructional Materials," (with Abdul Malik Abdullah), Seminar on the Introduction of A New Physics Lab Concept, Universiti Teknologi MARA, Malaysia. 1995.
- **Workshop Facilitator** "Media and the Dissemination of Physics Knowledge," on Physics and the Public (with ASPEN committee members), Petaling Jaya, Malaysia. 1995.
- "Physics InfoMall Field Test Version 3-What's New in it?," (with Prof. Dean Zollman), Section of American Association of Physics Teacher Fall Meeting, Pittsburg State University, Kansas. (1994).
- "Physics Educators' Information-Seeking and Exploration Strategies from the Physics InfoMall," (with Prof. Dean Zollman), American Association of Physics Teacher Summer Meeting, University of Notre Dame, Illinois. (1994).
- "Using the InfoMall Advanced Searching Features," Facilitator for the Physics InfoMall Workshop (with Dr. R. Grabhorn), American Association of Physics Teacher Summer Meeting, University of Notre Dame, Illinois. (1994).
- "Physics Material on CD-ROM-Using the InfoMall for Preparing Physics Lesson," Program for KATS Camp, Junction City, Kansas. (1994).
- "An Introduction to the Physics InfoMall CD-ROM," Facilitator for the InfoMall Workshop (with Dr. R. Grabhorn), American Association of Physics Teacher Winter Meeting, San Diego, (1993).
- "Information Retrieval and Management by Physics Educators: A Proposed Research Design Towards a Model Development," Physics Education Seminar, Kansas State University. (1993).
- "Materials for Lesson Planning Made Richer by the Physics InfoMall-A Large Physics Database on CD-ROM," (with Prof. Dean Zollman), Section of American Association of Physics Teacher Fall Meeting, Northeastern State University, Oklahoma. (1993).
- "Shopping the Mall: Results from the First Field Test of Physics InfoMall." (with Prof. J.D. Spears and Prof. R. Enger), American Association of Physics Teacher Summer Meeting, Boise State University, Idaho. (1993).
- "An Introduction to the Physics InfoMall CD-ROM," Facilitator for the InfoMall Workshop (with Dr. R. Chaudhury), American Association of Physics Teacher Summer Meeting, Boise State University, Idaho. (1993).
- "Information Retrieval and Management from the Physics InfoMall by the Physics



Teachers,” Physics Education Seminar, Kansas State University, Kansas. (1993).

- “An Introduction to the Physics InfoMall CD-ROM,” Facilitator for the InfoMall Workshop (with Dr. R. Chaudhury), American Association of Physics Teacher Winter Meeting, New Orleans. (1993).
- “Physics on CD-ROM: A Tool for Under-Prepared Teachers,” (with Prof. Dean Zollman) Section of American Association of Physics Teacher Fall Meeting, University of Arkansas Fayetteville, Arkansas. (1992).
- “Teaching Physics in Malaysia,” American Association of Physics Teacher Summer Meeting, The University of Maine at Orono, Maine. (1992).
- “Introduction to the Physics Teacher’s CD-ROM Toolkit,” Facilitator for the CD-ROM Toolkit (with Prof. Dean Zollman, Prof. R. Fuller, and Dr. R. Chaudhury), American Association of Physics Teacher Summer Meeting, The University of Maine at Orono, Maine. (1992).
- “Physics Lab Structure at Universiti Teknologi MARA,” Section of American Association of Physics Teacher Fall Meeting, Fort Hays State University, Kansas. (1991).

Service to Professional Community and University

Professional Committee Activities:

- Vice-Chair, Asian Physics Education Network (ASPEN) UNESCO. 2007-2012.
- Chair & National Point of Contact, Asian Physics Education Network (ASPEN) Malaysia 2007-present.
- Asian Physics Education Network (AsPEN) committee member, 1995-2006.
- Asian Physics Network (ASPEN) Conference 97, Deputy Chairman, 1996-1997.
- Asian Association of Open Universities (AAOU) Annual Conference and Exhibition committee member, 1996-1997.

National Committee

- Member, Science Education Committee, Academy Science Malaysia, 2004 - present.
- Member, “National Science Challenge” Academy Science Malaysia, March 2007.
- Member, Second International Conference on Primary and Secondary Schools Science and Mathematics Education, Legend Hotel, Kuala Lumpur, Malaysia. June 16 – 18, 2004.
- Member, Seminar and Workshop AsPEN Malaysia 2002, Jan 2002 – July 2002.
- Member, The Setting-up of the National Computing Centre, Sept. 2000.
- Member, Asian Physics Education Network (AsPEN) Malaysia, since 1996.
- Member, Seminar and Workshop on Multimedia Approach in Learning Physics & Engineering, (SMILE 2001), Aug 2000 – July 2001.
- Member, AsPEN Meeting, July 1999 - April 2000.
- External examiner for a Master’s Student at the Physics Dept., UKM, July 2000.
- Member, The Setting-up of the National Fundamental Science Research Centre, Nov 1999.