

出國報告（出國類別：開會）

## 鎳鋇複合氧化物之製備及在乙醇蒸氣 重組反應之應用

服務機關：國防大學理工學院應化及材料系

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派赴國家：新加坡

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出國期間：99 年 2 月 24 日至 3 月 1 日

## 摘要

會議是由新加坡計算機科學與訊息技術協會(IACSIT)主辦，大會地點為新加坡 Quality Hotel，結合了七個領域的國際會議：農業和動物學(CAAS)、化學工程和應用(CEEA)、細胞和分子生物學(CMBS)、環境科學和開發(CESD)、森林學應用和開發(CFAD)、地球工程和科學(EES)、能承受設計和建設工程(SDCE)。參加人員來自世界各地，包括新加坡、印度、馬來西亞、黎巴嫩、伊朗、墨西哥、台灣、波蘭、韓國和中國之專家學者，此研討會投稿論文為口頭報告，共計 300 餘篇，其中 CEEA 領域為 69 篇。在會議中聆聽各國學者之學術演講，其中 Soltani 學者針對 Pt-Sn/Al<sub>2</sub>O<sub>3</sub> 觸媒進行丙烷脫氫反應之動力學研究對我們的研究獲益最大。大會所討論之範圍很廣，包含環境與經濟問題、能源、燃料電池之創新科技等。世界各國學者齊聚一堂討論不同領域的研究成果與應用。本次會議提供個相當好的知識交流平台，藉由此學術交流進而瞭解國際未來研究發展方向及趨勢，真是獲益匪淺。此外，藉由參與大會各國專家學者之交換研究心得及吸取他人寶貴之研究經驗，將可做為本實驗室日後研究之參考。

筆者此次感謝獲國科會研究計畫之補助成行，其發表題目為“Fabrication and Application of Nickel-Lanthanum Composite Oxide on the Steam Reforming of Ethanol”，達到與各國學者切磋交流的機會，真是獲益匪淺。

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## 壹、會議目的

2010 國際化學工程和應用(CCEA 2010)會議(The 2010 International Conference on Chemical Engineering and Applications)，是由新加坡計算機科學與訊息技術協會(IACSIT)主辦，為該國重要之國際學術會議，其會議宗旨在於結合世界各國有關農業和動物學、化學工程和應用、細胞和分子生物學、環境科學和開發、森林學應用和開發、地球工程和科學、能承受設計和建設工程研究領域之學者專家，就專長領域進行一系列學術研究成果發表及新知討論，該協會歷年來所主辦之學術研究年會、研討會及專題討論會，皆對學術領域有深遠的影響及貢獻。因此，藉由此學術交流進而瞭解國際未來研究發展方向及趨勢，並與各國專家學者交換研究心得及吸取他人寶貴之研究經驗，將可做為日後研究之參考。

## 貳、會議過程

(一)本會議屬於國際型研討會，參加人員為來自世界各國之民間機構、專家學者及研究人員參與為期三天之學術論文發表及討論會。2010 國際化學工程和應用(CCEA 2010)會議(The 2010 International Conference on Chemical Engineering and Applications)，是由新加坡計算機科學與訊息技術協會(IACSIT)主辦，於2010年2月26日至2月28日在新加坡Quality Hotel舉行。大會所討論之範圍很廣，包含環境與經濟問題、能源、燃料電池之創新科技等，與會者多為各國在該領域學有專精之教授與學者，於研討會期間與各國學者相互密切交流之下獲益良多。

(二)本次研討會每天安排不同研討會議地點同時舉行不同領域之議題發表，與會者可在會議期間自行選擇有興趣的場次參與研討過程，其研究領域與大會流程如后。

1. Agricultural and Animal Science
2. Chemical Engineering and Applications
3. Cellular and Molecular Biology Science
4. Environmental Science and Development
5. Forestry Applications and Development
6. Earth Engineering and Science
7. Sustainable Design and Construction Engineering

## 2010 IACSIT SINGAPORE CONFERENCES SCHEDULE

The 2010 International Conference on Agricultural and Animal Science (CAAS 2010)  
The 2010 International Conference on Chemical Engineering and Applications (CCEA 2010)  
The 2010 International Conference on Cellular and Molecular Biology Science (CMBS 2010)  
The 2010 International Conference on Environmental Science and Development (CESD 2010)  
The 2010 International Conference on Forestry Applications and Development (CFAD 2010)  
The 2010 International Conference on Earth Engineering and Science (EES 2010)  
The 2010 International Conference on Sustainable Design and Construction Engineering (SDCE 2010)

*Quality Hotel, Singapore*

*Feb 26 - 28, 2010*

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## **Feb 26, 2010 (Friday)**

### **Emerald Room of Quality Hotel**

10: 00 – 12: 30 13: 30 - 17: 00	Arrival and Registration
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**Note:** (1) You can also register at any time during the conference.

(2) Certificate of Participation can be collected at the registration counter.

(3) Please copy PPT files of your presentation to the secretary when registration.

(4) The organizer won't provide accommodation, and we suggest you make an early reservation.

(5) Please register the Singapore One Day Tour at the registration desk.

## **Morning, Feb 27, 2010 (Saturday)**

Venue: Grand Ballroom

8: 45 - 09: 00	Opening Remarks
9: 10 - 10: 00	Keynote Speech I
10: 00 - 10: 30	Taking Photo & Coffee Break
10:30 - 11:20	Keynote Speech II
11:20 - 12:10	Keynote Speech III

12: 10 - 13: 30	Lunch Break
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### Afternoon, Feb 27, 2010 (Saturday)

#### SESSION – III (CCEA)

Venue: Diamond Room

Session Chair: Prof. Ken-Ming Yin

Time: 13:30 – 15:00

A001	Direct Gas-Liquid Effective Interfacial Area Calculation of a Turbulent Contact Absorber (TCA) Amir Shabani, Siamak Tavoosi Asl and Bahram Hashemi Shahraki
A002	Investigation of a Suitable Growth Strategy for Optimisation of Intensive Propagation and Lactic Acid Production of Selected Strains of Lactobacillus Genus M.P.Zacharof, R.W. Lovitt and K. Ratanapongleka
A003	The Importance of Lactobacilli in Contemporary Food and Pharmaceutical Industry A Review Article M.P.Zacharof, R.W. Lovitt and K. Ratanapongleka
A013	A New Complex Between Ortho-Ester Tetra Azophenylcalix[4]arene (TEAC) And Th(IV) Tran Quang Hieu, Nguyen Ngoc Tuan, Le Van Tan
A014	Simulation of Methane Adsorption on Open Ended Single-Walled Carbon Nanotubes S. Shokri, R. Mohammadikhah, H. Abolghasemi, A. Mohebbi, H. Hashemipour, M. Ahmadi-Marvast, Sh. Jafari Nejad
A017	A New Method of Exergy Analysis for Determination of Optimum Operation Parameters in Double- Pipe Heat Exchangers Seyed Ali Ashrafizadeh, Majid Amidpour
A019	Desulfurization and Regeneration Process by Using Molten Alkali Carbonates at High Temperature Slamet Raharjo, Yasuaki Ueki, Ryo Yoshiie, and Ichiro Naruse
A022	An Integrated Approach for the Production of Absolute Ethanol P.Thenraj, V.Karthikeyan, Dr.K.Ramakrishnan
A023	Activity Integration of Pt-Sn/SAPO-34 Catalyst for Propane Dehydrogenation to Propylene with Different Metallic Promoters Zeeshan Nawaz and Fei Wei
A024	Model Derivation of Proton Exchange Membrane Fuel Cell with Consideration of Unsaturated Cathode Feed

	Hsiao-Kuo Hsuen, and Ken-Ming Yin
A025	Effect of Electroless Coating Parameters on Ni-YSZ Composite Coating Nor B. Baba , W. Waugh and A. Davidson

15: 00 - 15: 30	Coffee Break
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### Afternoon, Feb 27, 2010 (Saturday)

SESSION – IV (CCEA)

Venue: Diamond Room

Session Chair: Prof. Cyrus Ghotbi

Time: 15:30 – 18:00

A026	CNG Station Consequence Analysis Located in a Densely Populated City N.Badri, B.Abdolhamidzadeh, S.Sadreddini, and D.Rashtchian
A027	A New Approach for Domino Accident Frequency Estimation in Process Plants using Monte Carlo Simulation (MCS) Bahman Abdolhamidzadeh, Davoud Rashtchian
A029	Controlled Release of 2,4-D and MCPA from Starch-Based Superabsorbent Ghazaleh Pourfallah, Mojgan Zendeheh, Amir Memar, Abolfazl Barati
A034	Fabrication and Application of Nickel-Lanthanum Composite Oxide on the Steam Reforming of Ethanol Jyong-Yue Liu, Chuin-Tih Yeh and Chen-Bin Wang
A044	Pyrolysis Characteristics of Jatropha Seed Shell Waste in a Fluidized Bed Reactor Dong Kyoo Park, Sang Done Kim, Sung Won Kim
A047	Phase Separation and Dry Wash Purification of Ethyl Ester from Refined Palm Oil Ruamporn Nikhom, Sutham Sukmanee and Chakrit Tongurai
A048	Production of Ethyl Ester from Esterified Crude Palm Oil by Continuous Flow Microwave Kittiphoom Suppalakpanya, Sukritthira Ratanawilai and Chakrit Tongurai
A049	Effects of Ferrocene on the Phase Behavior of Alkanes in a Microemulsion System Saravane Singtong, Chantra Tongcumpou and David A. Sabatini
A050	Adsorption of Phenylethanol into Anionic Carboxylate and Sulfate Extended Surfactants Modified Aluminum Oxide Surface Jirapat Lewlomphaisan, Noulkamol Arpornpong, Donyaporn Panswad, Ampira Charoensaeng, David A. Sabatini and Sutha Khaodhiar
A052	Simulation of Gasification with In-situ Carbon Dioxide Adsorption of Empty Fruit Bunch into Hydrogen Murni M. Ahmad, M. Khairuddin Yunus and Abrar Inayat
A053	Design of 'HIGEE' for Absorption & Distillation Lava Agarwal, V. Pavani, D. P. Rao and Nitin Kaistha
A054	Production of Macro-Porous Monoliths by Gelation of Magnetic Nanoparticles Ruili Feng, Eldin Wee Chuan Lim and Chi-Hwa Wang
A055	Capturing of Dissolved Oxygen using Magnetic Nanoparticles Huiren Seah, Eldin Wee Chuan Lim, and Thiam Chye Tan
A056	Application of UNIFAC and SAFT Based Models in Correlating The Solubility of Acid Gas in Ionic Liquids Cyrus Ghotbi, Mohammad Hashem Sedghkarder, Vahid Taghikhani, Mahboubeh Rahmati Rostami, Bahman



	Behzadi
A057	Study of Newtonian and Non-newtonian Fluids through Numerical Simulation of Reverse Roller Coating Flows with Free Surface Feroz Shah Syed, Asif A. Shaikh, M. Saleem Chandio, Zahid Mehmood and Hua-Fei Sun
A059	Multi-rate State Estimation and Control of an Industrial Poly Vinyl Acetate Reactor Bardia Hassanzadeh, Mahmoud Reza Pishvaie and Hesam Ahmadian Behrooz
A065	Study of Two-Phase Flow Regimes in Vertical Tubes using CFD and Tomography Arsalan Parvareh, Asghar Alizadehakhel, Masoud Rahimi and Ammar Abdulaziz Alsairafi
A068	Carbon Fibers in Human Body Reza Eslami Farsani, S. Mohammad Reza Khalili and Sadigh Raissi
A070	Hydrate-Aqueous Liquid-Vapor Equilibrium (H-LW-V) for Binary CO <sub>2</sub> /H <sub>2</sub> Mixture in Aqueous Solutions of Water and Tetrahydrofuran Khalik M. Sabil, Nadia Oujamaa, Johannes M. Bruining, Geert-Jan Witkamp and Cor J. Peters

### Morning, Feb 28, 2010 (Sunday)

SESSION –9 (CCEA)

Venue: Diamond Room

Session Chair: Prof. Seyed Mohammad Reza Khalili

Time: 9:00 – 10:30

A072	A CFD Investigation on the Effect of CO <sub>2</sub> Injection into a Landfill Asghar Alizadehdakhel, Mohammad Javad Zoqi
A074	Characterization of Bamboo-based Activated Carbons by Fourier Transform Infrared Spectroscopy Ye LUO, Qi-zhe YE, Jia GUO, Wei LU and Xiao-ling ZHU
A075	Adsorption of Shikimic Acid Extracted from Star Anise onto Activated Carbons Jia GUO, Si-ping SUN, Ye LUO, Qi-zhe YE
A077	Fracture and Mechanical Behavior of Nanoclay Reinforced Epoxy Adhesive in Bonded Joints S.M.R. Khalili, M. Tavakolian, S. Khalili, R. Eslami Farsani
A078	Comparison between the Artificial Neural Network System and SAFT Equation in Obtaining Vapor Pressure and Liquid Density of Pure Alcohols Ali Asghar Rohani, Gholamreza Pazuki, Hamed Abediny Najaf-abady, Saeed Seyfi
A080	Creep Analysis of Reinforced Adhesives in Adhesively Single Lap Joints Reza Eslami Farsani, S. Mohammad Reza Khalili, Sameera Khalili and Ali Fathi
A102	The Use of Calligonum Comosum as a New Adsorbent for the Removal of Cadmium Ions from Aqueous Solutions Mohamed Ackacha and Rokaya azaka
A106	Characterization of the TritonX-114-Metal Complex by Electrospray Ionization Mass Spectrometry Khaled Edbey, Grainne Moran and Gary Willett
A108	Periodic Control of Gas Phase Polyethylene Reactors Al-haj Ali M., and Ali Emad
A109	Selectivity Engineering with Reactive Distillation: Attainable Region for Complex Reactions Vinay Amte, Sanjay M Mahajani, Ranjan K Malik
A110	Modelling The Kinetics Of Photolysis Of Phenol Degradation Using Artificial Neural Network S.Shanmuga Priya, I.Thirunavukkarasu, M.Premalatha, P.Subramanian
A111	Computational Fluid Dynamic Studies of a Converging - Diverging Nozzle of Various Flows for Accurate Shock Prediction K. Siddharthan, M.Bhageshvar, Dr.M.Thirumarimurugan and Prof.S.Gopalakrishnan
A114	An Artificial Neural Network for Predicting the Sulfur Solubility in Sour Natural Gases Produced in Petroleum Industry Bahman ZareNezhad and Ali Aminian
A116	Optimal Pin-Fin Design and Control of Heat Sink Processes

Chyi-Tsong Chen and Shi-Hung Jan
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10: 30 - 10: 50	Coffee Break
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### Morning, Feb 28, 2010 (Sunday)

SESSION –10 (CCEA)

Venue: Diamond Room

Session Chair: Prof. Mohammad Hossein Moslemin

Time: 10:50 –12:20

A117	Kinetic Model of Removal Toluene from Waste Air by Photo-Fenton Oxidation Saowapa Seetapong, Charun Bunyakan and Juntima Chungsiriporn
A118	Thermodynamic Modeling of Asphaltene Precipitation in Crude Oil Samples Using the Artificial Neural Network Method Vahid Taghikhani, Cyrus Ghotbi, Ramin Bozorgmehry, Mona Khalighi
A120	Effect of Electrosynthesis Conditions on the Electronic Properties of Poly(1,8-diaminonaphthalene)/In Schottky Diode Mohammad Hossein Moslemin, Mohammad Reza Nateghi, and Mahmood Borhani-zarandi
A121	Effect of Pressure on the Electrical Resistance of Prelocalized Polyindole and Polypyrrole Encapsulated Poly (vinyl chloride) Composites Mohammad Reza Nateghi, Mahmood Borhani-zarandi and Nahid Nazeri
A123	Fenton's Reagents Dosing Effect on Treatment Efficiency of Diisopropanolamine Contaminated Wastewater Putri N Faizura Megat Khamaruddin, Raihan Mahirah Ramli, A Aziz Omar and Binay K Dutta
A127	Effects of Side Reactions in Propane Dehydrogenation Over Pt-Sn/Al <sub>2</sub> O <sub>3</sub> Afrooz Farjoo, Saied Niknaddaf, Farhad Khorasheh, and Mahnaz Soltani
A128	Novel Terpolymer Resin: Synthesis, Characterization and its Applications Burkandeem A. Razak, Azarudeen R. Sulaiman and Riswan Ahamed M. Aniba
A129	Gas Hydrates in the Presence of Alcohols and Electrolyte Solutions Hesam Najibia, Ali Naderia, Abolhasan Mohammadib
A132	Performance Analysis Of Counter Current Flow Plate Type Heat Exchanger Using Immiscible System Dr.T.Kannadasan, Dr.M.Thirumarimurugan, Prof.S.Gopalakrishnan
A133	Evaluation of Adsorbate-Adsorbate Interaction for Supercritical Fluids using Ono-Kondo Equation Panita Sumanatrakul, Chayanoot Sangwichien, Marc D. Donohue and Grigoriy L. Aranovich
A134	Utilization of Chemically Activated Coconut Shells for Removal of Chromium (vi) from Aqueous Solution Khadija Qureshi and Inamullah Bhatti
A135	Bio-Electro Chemical Treatment of Olive Oil Dr.M.Thirumarimurugan, M.E.Pavithra, M.Mekala and Dr.B Ramesh Babu
A141	Extraction Kinetic Model and Chemical Compounds of Agarwood Oil Jutarut Pornpunyapat, Pakamas Chetpattananondh and Chakrit Tongurai
A142	Design, Implementation and Control of a Hybrid Three-Tank-System Cyril Joseph, Dr. V. I. George and Dr. P. R. Venkateswaran

12: 20 - 13: 30	Lunch Break (Terrace Café)
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### Afternoon, Feb 28, (Sunday)

SESSION –15 (CCEA)

Venue: Diamond Room

Session Chair: Prof. Jalal Shayegan

Time: 13:30 – 15:00

A143	Feasibility Of Reactive Distillation Column For Biodiesel Production From Palm Oils Chokchai Mueanmas, Kulchanat Prasertsit and Chakrit Tongurai
A145	Recovery of Metal Ions using Polymer-Enhanced Filtration Serge Alex, Fabienne Biasotto and Endre Nagy
A146	Vermicomposting of Organic Solid Waste with the E. Fetida in Different Bedding Materials Mohamad H. Fatehi and Jalal Shayegan
A147	Indoor Environment Quality in Green Buildings Shashank Ravi, Sharada Ramesh
A148	Effect of Working Fluid on The Performance of Thermosyphon Heat Exchangers In Series Used In An Air Conditioning System Iman Abrishamchi, S. Mostafa Nowee, Reza Rezazadeh and S. Hossein Noie
A149	Heat Transfer from a Tube Bank by Psychrometry Method Arash Mir Abdollah Lavasani
A150	Waste Mangrove Barks as Potential Adsorbent for Removal of Nickel Ion from Aqueous Solution Rozaini Che Amat and Mohd Jain Noordin Mohd Kassim
A152	Separation Efficiency of Oil Palm Shell and Kernel Mixture by using Different Types of Media Chayanoot Sangwichien, Arrisa Ruangmee and Panita Sumanatrakul
A154	Removal of Cationic Dye From Aqueous Solution By Chemically Treated Mangrove Barks Tan Lean Seey, Mohd Jain Noordin Mohd Kassim
A156	Effect of Fuel Spray Angle on Pollutants Emission in Turbulent Spray Flames Iman Abrishamchi, Yasamin khazraii, Kazem Bashirnezhad
A158	Synthesis of 2- (4-methoxyphenyl) – 4 - phenyl -2, 5 - dihydro -8-substituted –1,5- benzothiazepines Babita Singhal

15: 00 - 15: 30	Coffee Break
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## 參、會議心得

本研討會結合了七個領域的國際會議：農業和動物學、化學工程和應用、細胞和分子生物學、環境科學和開發、森林學應用和開發、地球工程和科學、能承受設計和建設工程，會議是由新加坡計算機科學與訊息技術協會主辦，為該國重要之國際學術會議。參加人員為世界各國之專家學者，此研討會投稿論文為口頭報告，共計300餘篇，其中CEEAA領域為69篇。大會所討論之範圍很廣，包含環境與經濟問題、能源、燃料電池之創新科技及燃料電池之應用等。部份足以為我國所參考之依據，另相關論述主題亦十分具參考價值。

於研討會中，透過各國學者不同領域的經驗，於問答間各取所需，達到智識精進功效，並積極與各國學者交換演講意見達到學術交流目的。經過此次研討會歷練，使本人對未來之研究更具信心，將持續於此領域探討研析，並且對於後續之研究將會秉持精益求精的精神戮力完成。本次會議提供個相當好的知識交流平台，藉由此學術交流進而瞭解國際未來研究發展方向及趨勢，真是獲益匪淺。

#### 肆、建議事項

本研討會歷年與會人員及論文發表數目眾多，探討範圍亦相當廣泛，值得相關領域之研究人員與學者參與。建議未來增加國內專家學者參與機會，藉以吸收國際新知並分享研究成果。若能在補助的員額及經費予以增加，相信對國內各方面研究及學術工作的提昇，必定有所助益。