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Message from President of TNI

Assoc.Prof.Dr. Bandhit Rojarayanont

President,

Thai-Nichi Institute of Technology (TNI)



It is a pleasure to welcome you to the 2016 Joint Academic Forum Between Thai-Nichi Institute of Technology and the Japan University & Company Research Group, the 2nd forum following last year's first initiative. This forum provides a venue for researchers to pitch their research works and appeal to the investors.

I would like to express my sincere gratitude to researchers who participate in this event. And I also would like to thank our sponsors and colleagues who render their support to this forum.

I hope that you will find the forum both interesting and valuable. And I do hope that there will be some investment collaborations coming out from this forum.

Message from Chairs



Asst. Prof. Dr. Wimol San-Um

Thai-Nichi Institute of Technology



Prof. Dr. Shoji Usuda

Osaka Electro Communication University

As the chairs of the 2016 Joint Academic Forum between Thai-Nichi Institute of Technology and the Japan University & Company Research Group hosted by Master Program in Engineering Technology, Faculty of Engineering, Thai-Nichi Institute of Technology (TNI), we warmly welcome you to the academic forum to be held at Thai-Nichi Institute of Technology (TNI), Bangkok, Thailand, on September 12, 2016.

The joint academic forum consists of 2 invited talks and 17 oral presentations in five categories: Electronics, Power & Energy Systems, Information Technology, Technical Education with Information and Introduction to Company and Business Contents. Through this joint academic forum, it is a great opportunity to bring together researchers, scientists, and engineers to not only share experiences and opinions, but also strengthen our academic and industrial networking in related research fields.

We would like to express our sincere gratitude to all organizing committee, all cooperative institutes, local organizing staffs and all participants for their contributions to the 2016 Joint Academic Forum between Thai-Nichi Institute of Technology and the Japan University & Company Research Group. This Joint academic forum would not be possible without the generosity of our sponsors: Thai-Nichi Institute of Technology (TNI) and the Institute of Electrical and Electronics Engineers (IEEE). We express our deepest thanks for this support.

Finally, we hope that you enjoy our academic program at this warm academic forum including social activities. And we hope that all the participants will experience a rewarding and fruitful time while staying in Bangkok.

General Information

2016 Joint Academic Forum between Thai-Nichi Institute of Technology and the Japan
University & Company Research Group

Organizers

Faculty of Engineering, Thai-Nichi Institute of Technology (TNI)

Sponsors

Thai-Nichi Institute of Technology (TNI)

Institute of Electrical and Electronics Engineers (IEEE)

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Assoc.Prof.Dr. Bandhit Rojarayanont (Thai-Nichi Institute of Technology)

Asst.Prof.Dr. Lerkiat Vongsarnpigoon (Thai-Nichi Institute of Technology)

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Prof.Dr. Kaei Washino (Gifu Shotoku Gakuen University)

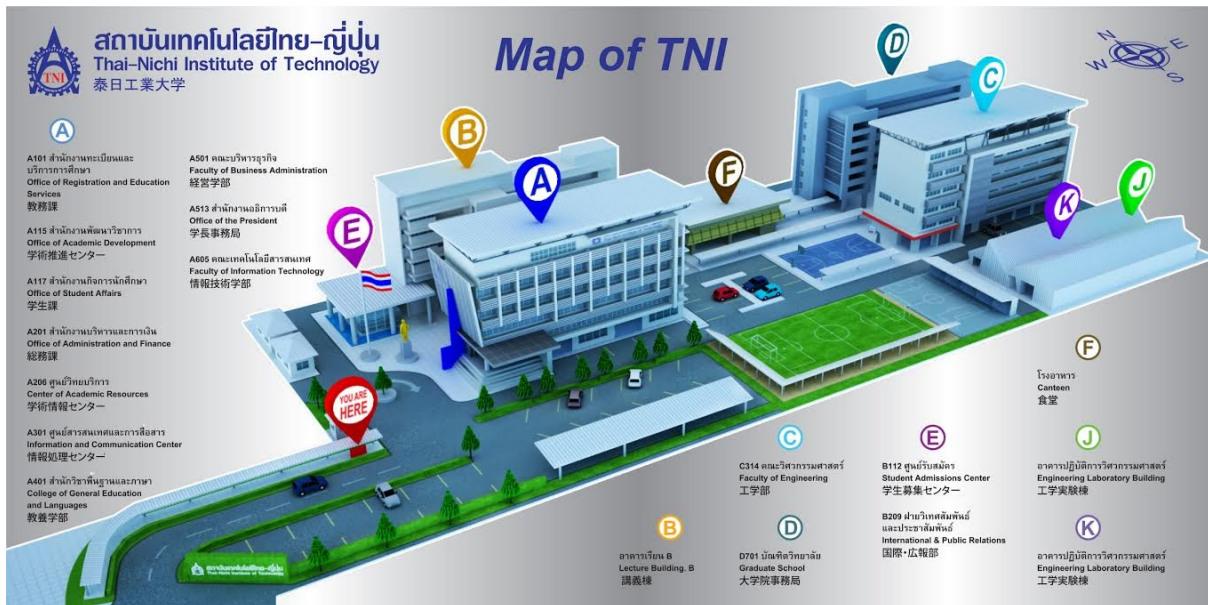
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Ms. Juthamas Prasopsan	(Thai-Nichi Institute of Technology)

Map of Thai-Nichi Institute of Technology (TNI)



Program

12th September 2016

Time	Programs
8:30- 9:00	Registration in front of the Room A601
9:00- 9:15	An Official Opening Ceremony by The President of TNI
Session 1 : Invited Talks (A601)	
9:15- 9:35 (20 min.)	“Education and study of embedded devices and sensor networks” Kiyoshi Hayakawa, <i>Osaka Prefecture University College of Technology</i>
9:35- 9:55 (20 min.)	“Unique high bright white LED packaging technology and future trend applications” Atsushi Okuno, <i>Green Planets Co. Ltd. CEO</i>
Session 2 : Research Presentation I (A601)	
9:55-10:10 (15 min.)	“Research for stabilization of residential dc systems -Attempt of experimental verification of stabilization based on passivity” Hiroki Yamano and Hiroaki Kakigano, <i>Ritumeikan University</i>
10:10-10:25 (15 min.)	“VSC Converter -Inverter system to suppress sub-synchronous torsional interaction” Masayuki Takeda, Isao Iyoda and Yoshimichi Ito, <i>Osaka Electro Communication University</i>
10:25-10:40 (15 min.)	“Bearingless brushless DC motor control using LQR method” Phaisarn Sudwilai, Supanut Namjuntra and Atip Klangwichien, <i>Thai-Nichi Institute of Technology</i>
10:40-10:55 (15 min.)	“Autonomous functions of sensing node in wireless sensor network for landslide disaster” Takeyoshi Nakano, Vu Van Khoa and Shigeru Takayama, <i>Ritsumeikan University</i>
10:55-11:10 (15 min.)	“Data flow analysis in wearable body area network” Kenji Hayashi, Nur Atiqah Binti Azlan and Shigeru Takayama, <i>Ritsumeikan University, BKC</i>
Coffee Break (11.10 – 11.25: 15 min.)	
Session 3 : Research Presentation II (A601)	
11:25-11:40 (15 min.)	“Dynamic stabilization of exercise intensity in physical training” Muhammad Azary Bin Rusli, Sumayyah Hussin and Shigeru Takayama, <i>Ritsumeikan University</i>
11:40-11:55 (15 min.)	“Breathing detection using an inertial sensor” Wang Linlin ¹ , Satoshi Itou ¹ , Kaei Washino ¹ and Shoshi Inoue ² ¹ <i>Gifu Shotoku Gakuen University</i> , ² <i>Hokkaido University of Education</i>
11:55-12:10 (15 min.)	“Tomographic image simulation of light scattering media” Shoshi Inoue ¹ , Takako Fujimoto ¹ , Kaei Washino ² , Satoshi Itou ² ¹ <i>Hokkaido University of Education</i> , ² <i>Gifu Shotoku Gakuen University</i>
12:10-12:25 (15 min.)	“The Japanese dictionary of information technology terms--For Japanese language education” Hironari Nozaki, Kyoko Umeda and Tetsuro Ejima, <i>Aichi University of Education</i>
Lunch (12:25 - 13:20: 55 min.) A603	

Session 4 : Research Presentation III (A601)	
13:30-13:40 (10 min.)	“Introduction of Japanese university life” Mihono Murakami, <i>Ritsumeikan University</i>
13:40-13:50 (10 min.)	“One rank” upgraded heat dissipation technology for engineers wishes Yasuyuki Komaki, <i>COM Institute Ltd.</i>
13:50-14:05 (15 min.)	“Reviews on exploration and exploitation of Knowledge Managements in engineering” Wimol San-Um, Anchalee Supithak, Jintawat Chaichanawong, Wipawadee Wongsuwan and Lerkiat Vongsarnpigoon, <i>Thai-Nichi Institute of Technology</i>
14:05-14:20 (15 min.)	“Disclosure and current status of Thailand Open Government Data” Boontida Surathinthanakorn ¹ , Pimluck Klangwichit ¹ and Wimol San-Um ² ¹ <i>Electronic Government Agency (Public Organization)</i> , ² <i>Thai-Nichi Institute of Technology</i>
Session 5 : Workshop on Lithium Ion Capacitor and Battery (A601)	
14:20-14:30 (10 min.)	“The present situation and future prospects of lithium-ion battery” Kazuo Tagawa, <i>Hohsen Corp. President</i>
14:30-14:40 (10 min.)	“Research for production of LIC module and internal resistance measurement for lithium-ion capacitor” Shouji Usuda ¹ and Wimol Sun-Um ² ¹ <i>Osaka Electro-Communication University</i> , ² <i>Thai-Nichi Institute of Technology</i>
14:40-15:05 (15 min.)	“Research for handmade production of lithium-ion battery” Byeonghwan Kim, Shouji Usuda and Isao Iyoda, <i>Osaka Electro-Communication University</i>
15:05-15:20 (15 min.)	“Influence of compressive and tensile stress on lithium chemical potential of LiCoO₂ positive electrode for all-solid-state lithium-ion batteries” Mahunnop Fakkao, Yuta Kimura, Takashi Nakamura, Naoaki Kuwata, Junichi Kawamura, Koji Amezawa and Tatsuya Kawada, <i>Tohoku University</i>
15:20-16.00	Official Meeting with TNI executives at Room A509
16.00-16.30	Campus Tour and End of Program
17:30-19:00	Ceremony for Certificate and Best Presentation Award and Welcome party (A601)

Abstract

Session 1: Invited Talk

Education and Study of Embedded Devices and Sensor Networks

Kiyoshi Hayakawa

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Abstract

Recently, intelligent systems which utilized embedded systems and sensor networks are put into practical use, such as smart houses, automatic driving, and interactive robots. In our college, we have provided a practical training of technology required for the smart house. It is suitable for beginners of ICT system engineer. In the smart house, it is important for the sensor networks to link a cloud server to embedded systems including sensor devices. We have introduced how to use mbed as the embedded device and zigbee as the sensor network on the practical training. Triggered by the practical training, we implemented a cooperative study of a health monitoring system of infra-structures. We are able to check Fourier spectrum of the infrastructure and results of damage identification through a cloud server. In evaluations, the health monitoring system was able to detect a broken point of a test bridge. We measured power consumption of the proposed system. Power consumption of it was low enough to drive it with only solar power and battery system. This paper will introduce practical training and the health monitoring system.

Keywords: FPGA, Cloud, Piezo-Electric Element, Health Monitoring System; Sensor Network

Unique High Bright White LED Packaging Technology and Future Trend Applications

Atsushi Okuno
Green Planets Co.,Ltd.
5-39-10, Nanpeidai, Takatuki-Shi, Osaka, Japan

Abstract

Recently, High Bright White LED are growing very rapidly. Especially, brightness of blue LED chip will achieve 170 lm/w in near future. But there are some problem concerning very high bright blue LED chip. It is heat from it's LED chip. Heat diffusion technology and packaging technology are very important from now.

On my paper, I introduce new COB packaging technology using Vacuum Printing Encapsulation System(VPES). This system is using printing technology. We success

Convex lens to make using this VPES. This technology is very unique. We can make these many lens with one printing time. This technology is very unique and very suitable to mass production. Because market of this high bright white LED is very big in the world. I will introduce this unique technology.

At the same time, I introduce encapsulation resin for this LED. We develop special silicon resin having high heat resistance and high humidity resistance. And this resin can print for VPES. We can get very high reliability packaging systems for this LED.

I introduce many LED applications using this unique packaging technology such as general display, car lighting, back light for LCD, plant cultivation, medical applications and general lighting.

On 7th October, 2014, we received is very great news. It is three engineers in Japan received Nobel Prize with LED. Three great engineers are Dr. Suji Nakamura, Dr. Isamu Akasaki and Dr. Hiroshi Amano. It Nobel Prize is very good effect to save energy in world wide. I think this great invent to save peoples and to protect worldwide environmental. From now, LED lighting technology and market will increase very rapidly in world wide.

Abstract

Session 2: Research Presentation I

Research for Stabilization of Residential DC Systems - Attempt of experimental Verification of Stabilization Based on Passivity

Hiroki Yamano and Hiroaki Kakigano
Ritumeikan University
1-1 ichome, Nozihigashi, Kusatsu, Shiga, 525-8577 Japan

Abstract

Recently, intelligent systems which utilized embedded systems and The Positive Feed-Forward (PFF) control was adopted to satisfy passivity-based stability criterion in dc power systems. A virtual admittance was added with an input admittance of a converter in parallel using PFF control. Experimental results show input bus voltage of a buck converter was stable when it satisfied passivity.

Keywords: DC Power Supply, Stability, Passivity, Feed-Forward Control, Input Admittance

VSC Converter – Inverter System to Suppress Subsynchronous Torsional Interaction

Masayuki Takeda, Isao Iyoda and Yoshimichi Ito
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Abstract

Suppression of subsynchronous torsional interaction (SSTI) in the power system is achieved by controlling the active power of subsynchronous torsional interaction component using an insertion of an inverter and dq transformation theory. A VSC converter – inverter system is designed for actual application, and its performance evaluated by digital simulation. Simulation results show the control is effective to suppress the SSTI.

Keywords: Subsynchronous Torsional Interaction (SSTI), Series Compensation, Inverter

Bearingless Brushless DC Motor Control using LQR Method

Phaisarn Sudwilai, Supanut Namjuntra and Atip Klangwichien
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Faculty of Engineering, Thai-Nichi Institute of Technology
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Abstract

Bearingless Brushless DC motor (BBLDC) can suspend the rotor and generate torque simultaneously. The advantage of using brushless DC motors are, it has no physical contact with rotor, therefore reduce/neglect friction loss, produce higher speed, and no need of lubrication system. Linear Quadratic Regulator (LQR) methodology was used to tune the parameters of PI controller. Motor dynamics are described by a mathematical differential model and were simulated using MATLAB/SIMULINK. Results were obtained in order to verify the proposed method.

Keywords: Bearingless Brushless DC Motor, Linear Quadratic regulator, State-Space Model, PI-Control, Speed Control, MATLAB/SIMULINK

Autonomous Functions of Sensing Node in Wireless Sensor Network for Landslide Disaster

Takeyoshi Nakano, Vu Van Khoa and Shigeru Takayama
Ritsumeikan University
1-1-1 Nojihigashi, Kusatsu, Shiga, 525-0058 Japan

Abstract

This paper shows study on telemetric sensing network system for landslide disaster surveillance. The sensing network system consists of Local Sensing Node Network System (LSNNS) and Host System (HS). LSNNS is placed at monitoring area (slope of mountains and hills). And HS is placed at a remote location. LSNNS is a network of distributed sensing nodes. The Host System manages the operation of LSNNS remotely and monitors landslide disasters. The characteristics of telemetric sensing network system are autonomous operation function of LSNNS and remote management function by HS using dual way communication. This paper introduces functions of Sensing Nodes for observing, sensing and communicating autonomously. Finally, this paper shows the effectiveness of autonomous functions.

Keywords: Sensor Network, Landslide Disaster, Autonomous Function

Data Flow Analysis in Wearable Body Area Network

Kenji Hayashi, Nur Atiqah Binti Azlan and Shigeru Takayama
Ritsumeikan University, BKC
1-1-1 Noji-higashi, Kusatsu, Shiga, 525-8577 Japan

Abstract

Wearable Body Area Network (BAN) system is one of the useful methods to improve user's body behavior and monitor health condition. Not only showing physical parameters, by feedback of vital information to user, BAN system is extended to the autonomous system closed to user. Getting such information, user is able to improve his body behavior consciously. Moreover, telemetric function realizes to inform user's physical condition dynamically to his family or home doctor far from him. To install these functions to BAN, it is necessary to design flexible and robust data flows among Sensor nodes, Hub system, Local Human Interface and Remote Host System. This paper describes the design of dynamical data flows and management of the BAN system for real time physical monitoring.

Keywords: Sensor Network; Data Traffic; Distributed Data Management

Abstract

Session 3: Research Presentation II

Dynamic Stabilization of Physical Exercise Intensity by Autonomous Wireless Body Area Network System

Muhammad Azary Rusli , Sumayyah Hussin and Shigeru Takayama
Ritsumeikan University
1-1-1 Noji-Higashi, Kusatsu, Shiga, 525-8577 Japan

Abstract

Improving Quality of Life (QOL) has long been an absolute goal nowadays. The understanding, measurement and evaluation of human's vital signs and their applications are essential in order to prevent any complications, which may reduce one's QOL. This study presents a concrete application of measurement health-related QOL with an autonomous Wireless Body Area Network System (WBANs). A method of evaluating vital signs is performed and linked to physical intensity assistance in exercise. Specifically, BAN acts as a supportive system which can assist a user in monitoring user's vital parameters, providing real-time feedbacks and dynamically sharing information from any location to one or more users. This paper presents the measurement of exercise intensity in jog training and stabilization.

Keywords: Healthcare, Data Management, Body Area Network System

Breathing Detection using an Inertial Sensor

Wang Linlin, Itou Satoshi, Washino Kaei and Inoue Shoshi
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²Hokkaido University of Education, Hokkaido, 002-8502 Japan

Abstract

We developed a small size motion recorder to analyse the artifact of a human physical movement. The device recorded the data of the acceleration and gyroscope of each component x, y, and z axes to csv file. In each sensor device, the ATmega328 was used for some numerical processing and data transmission to SD card. In this study, we measured the sleeping state as an example and obtained the data correctly from this device.

Keywords: Physical Artifact, Sleeping

Tomographic image simulation of light scattering media

Shoshi Inoue¹, Takako Fujimoto¹, Kaei Washino², Satoshi Itou²

¹Hokkaido University of Education, Hokkaido, 002-8502 Japan

²Gifu Shotoku Gakuen University, Gifu, 500-8288 Japan

Abstract

We study the condition of successful obtaining the tomographic image of transparent light based on simple scattering numerical model. To decrease the blur by scattering, we show that both the restriction of the back projection area to the center of rotation axis and expansion of rotation angle to 360 degrees are effective. We also propose the new square filter and edge procedure of back projection sharpening to diminish the blur of reconstruction image. The combination of these procedures and image processing of sharpening will give the start point of near-infrared CT imaging.

Keywords: Light Scattering, Tomography, Near-Infrared, Transmitted, Back Projection

The Japanese Dictionary of Information Technology Terms --For Japanese Language Education

Hironari Nozaki, Kyoko Umeda and Tetsuro Ejima

Aichi University of Education

¹Hirosawa, Igaya-cho, Kariya, Aichi, 448-8542 Japan

Abstract

In today's world, as computer technology continues to advance, a lot of new IT (Information Technology) terms (for example, "インターネット" (internet), "ビット" (bit) and so on) have appeared in Japanese document such as textbooks. It is very difficult for Japanese-language students to learn these IT terms even if they are computer specialists. On the other hand, Japanese has three types of orthographies, namely, hiragana, katakana, and kanji. IT terms in Japanese are most commonly written in katakana (phonetic characters). The learners of Japanese tend to find katakana terms harder to learn. So the main theme of my research is IT terms written in Katakana. I have conducted a survey on the texts of the Morning Examination in the FE (Fundamental Information Technology Engineer Examination), covering 5 years from 2004 to 2008, both spring and autumn edition. The FE is a Japanese official certification for IT professionals. We have produced a table of frequencies of IT terms written in katakana. Based on this frequency table, some of the results show that (1) We extracted 827 IT term types and 6,284 IT term tokens; (2) The 10 most frequently used IT terms account for about 30% of the total IT terms usage. These results should be effective fundamental data for the developing the Japanese dictionary of IT terms, as well as for the teaching of Japanese language about the computer technology.

Keywords: Information Technology(IT) terms; Fundamental Information Technology Engineer Examination (FE); Japanese dictionary of technical terms; Japanese language education; katakana

Abstract

Session 4: Research Presentation III

Introduction of Japanese University Life

Shoshi Inoue¹, Takako Fujimoto¹, Kaei Washino², Satoshi Itou²

¹Hokkaido University of Education, Hokkaido, 002-8502 Japan

²Gifu Shotoku Gakuen University, Gifu, 500-8288 Japan

Abstract

Thai university student life and Japanese one are different in many points. For example, Thai student have to wear uniform, but Japanese student choose their clothes freely.

I would like to present two things. First of all, one day of Japanese university student; next, Job hunting of Japanese university student. I would like to introduce to you about Japanese students' life and differences of Thai and Japanese university life.

Keywords: Japanese University Life, Job Hunting

“One rank” Upgraded Heat Dissipation Technology for Engineers Wishes

Yasuyuki Komaki
COM Institute Ltd.

Abstract

The performance of electric parts falls down by heat storage. How can we dissipate heat from the semiconductor elements such as a power transistor or LED devices? For the solution of this historic difficulty, we introduce an answer of heat radiation products with experimental proof that we developed originally. In addition, we introduce the environmental counterplan using our heat radiation technology.

Keywords: Heat Dissipation Technology, Heat Radiation Technology, Thermal conductivity

Reviews on Exploration and Exploitation of Knowledge Managements in Engineering

Wimol San-Um, Anchalee Supithak, Jintawat Chaichanawong,
Wipawadee Wongsuwan and Lerkiat Vongsarnpigoon
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Abstract

Knowledge management (KM) is typically an inclusive process of knowledge creation, validation, presentation, distribution and application. This paper presents knowledge management in general and attempts to explain an application of KM in engineering, especially for Faculty of Engineering, Thai-Nichi Institute of Technology. The paper proposes a KM model, protocol, tools, and methods to achieve a goal efficient KM. The model can be used by all faculty members for the choosing of competitive orders. Particular case study of KM at faculty of engineering, Thai-Nichi Institute of Technology is described.

Keywords: Knowledge Managements, KM protocol

Disclosure and Current Status of Thailand Open Government Data

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10400 Thailand

²Intelligent Electronic System Research Laboratory,
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Abstract

The objectives of this report is to understand the principles used in the disclosure of government data, the status of open dataset of the Thai government qualitatively and quantitatively, the guideline for the disclosure of the Thai government data explaining past disclosure, the development plans for the disclosure of government data, analysis of the factors that enhance and promote the disclosure of government data in terms of the cooperation of government agencies, the private sector, as well as various suggestions to improve the disclosure of Thailand government data.

Keywords: Open Data, Open Government Data, Thailand Open Government Data, Thailand Open Government Dataset

Abstract

Session 5: Workshop on Lithium Ion Capacitor and Battery

Research for Production of LIC Module and Internal Resistance Measurement for Lithium-Ion Capacitor

Shouji Usuda¹ and Wimol Sun-Um²

¹Osaka Electro-Communication University

²Thai-Nichi Institute of Technology

Abstract

A lithium ion capacitor (LIC) is called "hybrid capacitor". LIC is a new storage device to joint together with the best performance of the lithium-ion battery and electric double layer capacitor. Substrate type LIC module by combining a plurality of LIC and the dedicated convert was produced. These performance evaluation was carried out. Further, new data logger capable of measuring in time series the internal resistance of LIC during charge and discharge was developed.

Keywords: Hybrid Capacitor, Lithium-Ion Capacitor, Electric Double Layer Capacitor

Research for Handmade Production of Lithium-Ion Battery

Byeonghwan Kim, Shouji Usuda and Isao Iyoda

Osaka Electro-Communication University

Abstract

Lithium ion batteries are utilized widely as a secondary battery in wide fields ranging mobile devices and consumer appliances, industrial equipment vehicles and transportation equipment. In this time, in quality of "medium- and long-term exchange agreements student" of Osaka Electro-Communication University, I could have several classes and the opportunity to conduct research program. So I carried out the production research of lithium ion batteries that are promoted in the laboratory of the university.

Keywords: Open Data, Open Government Data, Thailand Open Government Data, Thailand Open Government Dataset

Influence of Compressive and Tensile Stress on Lithium Chemical Potential of LiCoO₂ Positive Electrode for All-Solid-State Lithium-ion Batteries

Mahunnop Fakkao¹, Yuta Kimura², Takashi Nakamura², Naoaki Kuwata²,
Junichi Kawamura², Koji Amezawa² and Tatsuya Kawada¹
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Tohoku University, Sendai, Japan
Institute of Multidisciplinary Research for Advanced Materials,
Tohoku University, Sendai, Japan

Abstract

This paper demonstrated an effect of mechanical stress on the lithium chemical potential of LiCoO₂ electrode. The change in lithium chemical potential changed by stress was evaluated by measuring the electromotive force between two LiCoO₂ electrode films deposited on a solid state electrolyte with and without mechanical loads. By using four-point bending flexural test, electromotive force was abruptly generated in a positive value after applying tensile stress in the in-plane direction and a negative value was observed under the compressive stress in the in-plane direction. After releasing a load, the electromotive force was also disappeared. This electromotive force behavior suggested that the lithium chemical potential of LiCoO₂ electrode changed depending on both the magnitude of stress and the direction of applied stress. The influence of mechanical stress on lithium chemical potential was discussed by the lattice deformation in LiCoO₂.

Keywords: Electromotive Force, Lithium Chemical Potential, Mechanical Stress, LiCoO₂

Faculty of Engineering

Thai-Nichi Institute of Technology

The Faculty of Engineering, Thai-Nichi Institute of Technology, was officially set up in 2007, in accordance with Article 1, Section 7, of the Regulation of Thai-Nichi Institute of Technology on Organization Structure and Internal Management System, B.E. 2550, which was approved by the Council of Thai-Nichi Institute of Technology in the 4-1/2550 meeting on the 8th January 2007. The Faculty is headed by a Dean of Engineering in accordance with the Faculty's organization and management structure.

The Faculty of Engineering is responsible for academic instruction, academic services, and support of engineering researches. The objective of the Faculty is to train personnel with technological skill for industries with emphasis on both knowledge and practical ability. Graduates of the Faculty will have knowledge and ability in the areas of design, manufacturing, installation, and maintenance. They will have learned about new technologies so that they can initiate development, continuous learning, innovation, and adding value to goods and services of their organizations.

There are at present five Bachelor Degree programs and one Master's Degree program in the Faculty of Engineering and they are:

1. Bachelor of Engineering program in Automotive Engineering, approved by the Office of the Higher Education Commission, Ministry of Education, on the 29th September 2006.
2. Bachelor of Engineering program in Production Engineering, approved by the Office of the Higher Education Commission, Ministry of Education, on the 3rd April 2008.
3. Bachelor of Engineering program in Computer Engineering, approved by the Office of the Higher Education Commission, Ministry of Education, on the 3rd April 2008.
4. Master of Engineering program in Engineering Technology, approved by the Office of the Higher Education Commission, Ministry of Education, on the 7th July 2011.
5. Bachelor of Engineering program in Industrial Engineering, approved by the Office of the Higher Education Commission, Ministry of Education, on the 20th August 2012.
6. Bachelor of Engineering program in Electrical Engineering, approved by the Office of the Higher Education Commission, Ministry of Education, on the 1st February 2013.

Philosophy of the Faculty of Engineering

To produce thinking and hand-on engineers who are ethical and dedicated to the society.

Vision and Determination

The Faculty of Engineering is determined to be a center of knowledge and a producer of skillful and qualified engineers with ability to apply modern technology for the benefit of industries and the society.

Missions of the Faculty of Engineering

The Faculty of Engineering has set its missions as a decision guideline to determine its targets, purposes, and strategy as follows:

1. To carry out academic instruction in specific professional and technology-related programs to support the need of business and industrial sectors with emphasis on actual practical and hand-on experience (Monodzukuri).
2. To create and develop engineers who are well trained in technology and languages, have practical ability, can conduct themselves ethically, responsibly, and with discipline, and are accountable in their work.
3. To create new engineering knowledge and integrate the knowledge for the benefit of Thai industries and society.
4. To transfer new knowledge to industries and society to enhance development toward lasting self-sufficiency.
5. To conserve, maintain, and preserve Thai arts and culture and carry out international cultural exchange.