

**The 5th International GIGAKU Conference
in Nagaoka
(IGCN 2016)**

Plenary & Poster Program

7th October (Fri), 2016

Nagaoka University of Technology

Categories (Sessions)

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<http://igcn.gigaku.org/>

PLENARY Multimedia Center, October 7 (Fri)

Plenary Session (PL)

09:00 ~ 10:55 Plenary Session 1 (Chairperson: Prof. Masato Aketagawa)

09:00 ~ 09:15 **“Future of GIGAKU Education in the New Era of Globalization”**

PL-01:

Dr. Nobuhiko Azuma, President, Nagaoka University of Technology, Japan

09:15 ~ 09:35 **“Gifts from Nagaoka - Memories and Gigaku -”**

PL-02:

Dr. Hitoshi Kiya, Professor, Tokyo Metropolitan University, Japan

09:35 ~ 09:55 **“Implementation of Competency and PBL Based Educational Models in Engineering Educational Programs”**

PL-03:

Dr. Modesto Mateos Heis, Professor, Mondragon University, Basque Country, Spain

09:55 ~ 10:15 **“International COOP: Why is so Important Today?”**

PL-04:

Dr. Sampan Silapanad, Vice-president, Western Digital (Thailand) Co., Ltd., Thailand

“Greeting from Oversea”

Mr. Takehiro Nakagawa, Master student of Nagaoka University of Technology, Japan

10:15 ~ 10:35 **“The BTPI: An Innovative Educational Model in Mexico as a Result of a Successful Academic Collaboration with NUT”**

PL-05:

Dr. Sergio Antonio Silva, Director, International Relations and Academic Collaboration Office, Universidad de Guanajuato, Mexico

10:35 ~ 10:55 **“Fostering Leading Engineers with Practical, Innovative and Global Mind”**

PL-06:

Dr. Naohiro Hozumi, Professor, Toyohashi University of Technology, Japan

10:55 ~ 11:05 Coffee break

11:05 ~ 12:30 Plenary Session 2 (Chairperson: Prof. Takaomi Kobayashi)

11:05 ~ 11:10 **“NUT Global Strategy for Academia-Industry Collaboration with
PL-07: GIGAKU Techno Park Network”**

Dr. Takaomi Kobayashi, Professor, Nagaoka University of Technology,
Japan

11:10 ~ 11:30 **“USM’s INNOVATIONS: Research To Industry”
PL-08:**

Dr. Wan Ahmad Kamil Mahmood, Assistant Vice-Chancellor, Professor,
Universiti Sains Malaysia, Malaysia

11:30 ~ 11:50 **“Global Industry-Academia Collaborative Study on Natural Rubber”
PL-09:**

Dr. Seiichi Kawahara, Assoc. Professor, Nagaoka University of
Technology, Japan

11:50 ~ 12:10 **“Vietnam Development and Integration in the World Economy”
PL-10:**

Mr. Nguyen Van Ba, Counselor, Embassy of the Socialist Republic of Viet
Nam in Japan, Viet Nam

12:10 ~ 12:30 **“Academic-Industry joint collaboration between Guanajuato and
PL-11: Japan -Advanced production in company supported with engineering
education in Mexico-”**

Dr. Ximena Maria Alarcon Verduzco, Administration General Director,
Services of High School and Higher Education of Guanajuato, Mexico

POSTER October 7 (Fri), 12:30~14:00

Mechanical Engineering (ME)

- P-01:** “Shape Identification of Cavity in Structures Using Thermal Testing Data Based on Adjoint Variable and Finite Element Methods”
Kotaro Maruoka, Takahiko Kurahashi and Tetsuro Iyama (*NUT, Japan*)
- P-02:** “Optical Design of High/Low Concentration Hybrid Concentrator Photovoltaic Module Maximizing Solar Energy Conversion”
Masakazu Nakatani^{1,2} and Noboru Yamada¹ (¹*Sun Marion Co., Ltd., Japan* and ²*NUT, Japan*)
- P-03:** “Feasibility Study of Concentrator Photovoltaic Module with Built-in Tracking Mechanism”
Atsushi Ito, Masaaki Baba, Daisuke Sato and Noboru Yamada (*NUT, Japan*)
- P-04:** “Effects of Lewis Number and Unburned-gas Temperature on Cellular Instabilities of Premixed Flames: Numerical Calculations Based on the Compressible Navier-Stokes Equation”
Thwe Thwe Aung and Satoshi Kadowaki (*NUT, Japan*)
- P-05:** “Experiment of Flywheel Battery Combined with Fluid Dynamic Bearing and Magnetic Suspension”
Suzuki Takeo, Kato Yosuke, Masuda Takumi, Sato Daisuke, Yamada Noboru and Itoh Jun-ichi (*NUT, Japan*)
- P-06:** “Outdoor Direct STC Performance Evaluation of Photovoltaic Module Based on Sun Shading Technique”
Kazuma Kawagoe¹, Yoshihiro Hishikawa² and Noboru Yamada¹ (¹*NUT, Japan* and ²*National Institute of Advanced Industrial Science and Technology, Japan*)
- P-07:** “Design the Walnut Sorting Machine Using Image Processing Method”
Truong Tran¹, Tu Nguyen², Mai Nguyen¹ and Tuan Pham² (¹*Hanoi University of Science and Technology, Vietnam* and ²*National Center for Technological Progress, Vietnam*)
- P-08:** “Optimizing the Boundary Surface of Ceramics Dies in the Deep Drawing Process”
Hanh C. Nguyen¹, Shigeru Nagasawa¹ and Kensei Kaneko² (¹*NUT, Japan* and ²*NIT, Nagaoka College, Japan*)
- P-09:** “Bending Behavior of PP (Polypropylene) Sheet Subjected Two-line Wedge Indentation”
Akihiro Yamamoto¹, Satawat Singprayoon², Shigeru Nagasawa¹ and Seksan Chaijit² (¹*NUT, Japan* and ²*Pathumwan Institute of Technology, Thailand*)

- P-10: “Fundamental Study on Ultrasonic Quantitative Topography of Non-Gaussian Rough Surfaces”
Muhammad Nur Farhan Saniman and Ikuo Ihara (*NUT, Japan*)
- P-11: “Development of Large-scale Oscillating Heat Pipe for GAPS Application”
Katsumasa Takahashi¹, Shun Okazaki², Hideyuki Fuke², Noboru Yamada¹,
Hiroyuki Ogawa² (¹*NUT, Japan and* ²*JAXA, Japan*)
- P-12: “Flame Acceleration Generated by Hydrodynamic and Diffusive-thermal Instabilities under the Adiabatic and Non-adiabatic Conditions -Risk Reduction Based on the Concept of System Safety-”
Yusuke Morita, Thew Thwe Aung, Toshiyuki Katsumi and Satoshi Kadowaki (*NUT, Japan*)
- P-13: “Laser Ignition Experiment of Low-toxic Monopropellants for Thruster”
Masaya Furusawa, Toshiyuki Katsumi and Satoshi Kadowaki (*NUT, Japan*)

Electrical Engineering (EE)

- P-14: “Pseudo-Formal Linearization of Polynomial Type for Multiple-Systems and Its Application to Nonlinear Observer”
Kazuo Komatsu¹ and Takata Hitoshi² (¹*NIT, Kumamoto College, Japan* and ²*Kagoshima University, Japan*)
- P-15: “Analysis of TMAH Developer Intrusion into Resist Film by C-V Curve of MIS Capacitor”
Hodaka Shirataki and Akira Kawai (*NUT, Japan*)
- P-16: “Influence of MBE Flux Ratio on Film Properties of ZnSnAs₂:Mn on InP Substrates”
Masaki Ogo, Shiro Hidaka, Hideyuki Toyota, Takahiro Kato and Naotaka Uchitomi (*NUT, Japan*)
- P-17: “Application of Micro Heating System to Plant Vital Control”
Kazuho Kai and Akira Kawai (*NUT, Japan*)
- P-18: “Smooth Fluid Flow at Micro Channel/Tube Junction”
Natsumi Yagi and Akira Kawai (*NUT, Japan*)
- P-19: “Current Oscillation in Porous GdBa₂Cu₃O_{7-δ}-based Ceramics Rod Prepared using Naphthalene”
Tokuhiro Narihata¹, Tomoichiro Okamoto¹, Yasuyuki Yamada¹, Yuichiro Kuroki² and Masasuke Takata³ (¹*NUT, Japan*, ²*Salesian Polytechnic, Japan* and ³*Japan Fine Ceramics Center, Japan*)
- P-20: “Improvement to Reduce Delay Time in Transportation to Disaster Area Using Similarity to Electric Circuit”
Chata Yorvarak¹, Thanat Rungsirathana², Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹ and Nob. Harada¹ (¹*NUT, Japan* and ²*University of the Thai Chamber of Commerce, Thailand*)
- P-21: “Human-in-the-Loop Type Simulator of MasterSlave Manipulation System for Micro Surgery”
Yosuke Tashiro, Hirohumi Ohtsuka and Tomohiro Kawahara (*NIT, Kumamoto College, Japan*)
- P-22: “Synthesis of Li₂SrSiO₄:Eu²⁺ Nano Phosphor by Reverse Micelle”
Siti Sarina Nasir and Kato Ariyuki (*NUT, Japan*)
- P-23: “Biomimetic Fabrication of Gas Storage System in Micro Two Step Cone Tube”
Katsuaki Yamane and Akira Kawai (*NUT, Japan*)
- P-24: “Formation of Ultra Thin Continuous Resist Film Less Than 10nm”
Tomohiro Maruyama and Akira Kawai (*NUT, Japan*)

Material Science (MS)

- P-25:** “Obtention of HEC-PAAm Hydrogel for the Regeneration of Muscle Tissue”
Rosa Saucedo, Karla Tovar, Takaomi Kobayashi, Judith Rios, Genaro Tamayo, Alejandro Donohue and Carlos Rodriguez (*Universidad Autónoma de Ciudad Juárez, México*)
- P-26:** “Effect of Antimony or Titanium Ions in Sulfuric Acid Solution on Electrochemical Behavior of Lead Electrode”
Ryota Ozaki¹, Iori Yoshida¹, Shohei Kawakita¹, Yui Yamamoto¹, Nobumitsu Hirai¹ and Munehiro Kimura² (¹*NIT, Suzuka College, Japan* and ²*NUT, Japan*)
- P-27:** “Synthesis and Use of Green-Chemical Calix[4]Resorcinarenes Applied for Ethylene Gas Adsorbent”
Lisa Nakajima and Takaomi Kobayashi (*NUT, Japan*)
- P-28:** “Preparation And Characterizations of Nylon 6/Zeolite Composite Membranes”
Nguyen Tan Thanh, Kotaro Nakamoto and Takaomi Kobayashi (*NUT, Japan*)
- P-29:** “Effect of Potassium Nitrate, Potassium Chloride and Potassium Sulfate Doping on The Structure and Optical Transition properties of Zinc Tungstate”
Prinya Lorchirachoonkul, Masaya Nakata, Yasuyuki Yamada and Tomoichiro Okamoto (*NUT, Japan*)
- P-30:** “Synthesis of Symmetric and Asymmetric Imidazol Ionic Liquids and Their Properties”
Fabiola I. López-Vallejo^{1,2}, Takaomi Kobayashi², Miguel A. Vázquez-Guevara¹ (¹*Guanajuato University, Mexico* and ²*NUT, Japan*)
- P-31:** “Electrochemical Cell Performance and Durability of Cobalt Alloying with Ni-Ysz Anode Materials”
Nicharee Wongsawatgu¹, Soamwadee Chaianansutcharit¹ and Kazunori Sato² (¹*Chulalongkorn University, Thailand* and ²*NUT, Japan*)
- P-32:** “Cellulose Films Prepared with Larrea Tridentata for Dental Applications As Antimicrobial Alternative During Orthodontic Treatment”
Karla Lizette Tovar-Carrillo¹, Salvador David Nava-Martínez¹, Leon francisco Espinosa-Cristobal¹, Alejandro Donohue-Cornejo¹, Takaomi Kobayashi² (¹*Universidad Autónoma de Cd. Juárez, México* and ²*NUT, Japan*)

- P-33:** “Cellulose Hydrogels As Drug Delivery Systems for Dental Applications As Antimicrobial Alternative During Orthodontic Treatment”
Itzel Judith Nevarez-Rico¹, Salvador David Nava-Martínez¹, Leon francisco Espinosa-Cristobal¹, Alejandro Donohue-Cornejo¹, Karla Lizette Tovar-Carrillo¹ and Takaomi Kobayashi² (¹*Universidad Autónoma de Cd. Juárez, México* and ²*NUT, Japan*)
- P-34:** “Fucoidan Polysaccharides Extracted from Okinawa-mozuku and Their Crosslinking Hydrogel Polymers”
Kento Kinjo and Takaomi Kobayashi (*NUT, Japan*)
- P-35:** “Antimicrobial Sensibility of Streptococcus Mutans Serotypes to Different Sizes and Coatings of Silver Nanoparticles”
Gisela Armida Ríos-Velázquez¹, León Francisco Espinosa-Cristóbal¹, Takaomi Kobayashi², Karla Tovar Carrillo¹, Alejandro Donohué-Cornejo¹ (¹*Autonomous University of Juarez City, Mexico* and ²*NUT, Japan*)
- P-36:** “Synthesis and Dioxygen Activation of Cobalt(II) and Nickel(II) Thiophenolato Complexes”
Akira Miyano¹, Masafumi Otsuki¹, Hiroshi Eguchi¹, Hidehito Komatsuzaki¹, Jun Nakazawa³, Michito Yoshizawa², Munetaka Akita², Shiro Hikichi³ (¹*NIT, Ibaraki College, Japan*, ²*Tokyo Institute of Technology* and ³*Kanagawa University*)
- P-37:** “Synthesis and Characterization of Y₂O₃-Doped CeO₂ for Photocatalytic Activity of CO₂ Reduction.”
Pimfhan Asavasuwansutee¹, Soamwadee Chaianansutcharit¹, Nobuo Saito², Hideto Furuno² and Kazunori Sato² (¹*Chulalongkorn University, Thailand* and ²*NUT, Japan*)
- P-38:** “Recycling of High Purity Magnesium from Flame-Retardant Magnesium Alloy”
Makoto Inoue¹, Tetsuo Aida², Kazuo Matsuzawa³, Naritoshi Aoyagi⁴ and Masao Kita¹ (¹*NIT, Toyama College, Japan*, ²*University of Toyama, Japan*, ³*Tokyo Metropolitan College of Industrial Technology, Japan* and ⁴*NUT, Japan*)
- P-39:** “Monitoring Changes on Calcium Alginate Polymer Exposed to Industrial Process Wastewater”
Judith V. Ríos Arana¹, Marvin M. Martínez Cortéz¹, Wa Tzu Teoh², Rosa A. Saucedo Acuña¹, Simón Y. Reyes López¹, Carlos I. Rodríguez Rodríguez³, Kazunori Sato² (¹*Universidad Autónoma de Cd. Juárez, México*, ²*NUT, Japan* and *Universidad Tecnológica de Ciudad Juárez, México*)
- P-40:** “Gd₂O₄ addition to CeO₂ on the photocatalytic removal of lead ions from water”
Takuya Nozaki¹, Ryo Shoji¹, Yasukazu Kobayashi² and Kazunori Sato³ (¹*NIT, Tokyo College, Japan*, ²*Tokyo Institute of Technology* and ³*NUT, Japan*)

Civil & Environmental Engineering (CE)

- P-41: “A new Sensitive FISH; Fluorescence Amplification using Click Chemistry for Detecting of Microorganisms”
Keisuke Kimura¹, Tsuyoshi Yamaguchi¹, Katsumichi Takebe¹ and Takashi Yamaguchi² (¹*NIT, Matsue College, Japan* and ²*NUT, Japan*)
- P-42: “QuickHCR-FISH; Modification of in situ DNA-HCR Protocol for Detection of Marine Bacteria”
Tsuyoshi Yamaguchi¹, Shuji Kawakami², Masashi Hatamoto³, Takashi Yamaguchi³ (¹*NIT, Matsue College, Japan*, ²*NIT, Anan College, Japan* and ³*NUT, Japan*)
- P-43: “An Observation on Potential Alkali Silica Reactivity of Natural Aggregate in Myanmar”
Pyae Phyo Kyaw and Thynn Thynn Htut (*Tet Lann Concrete Co., Ltd, Myanmar*)
- P-44: “Parallel Implementation of Lattice Boltzmann Method for Flow Past a Circular Cylinder with High Reynolds Number”
Ayurzana Badarch, Khenmedekh Lochin and Hosoyamada Tokuzo (*NUT, Japan*)

Information & Management (IM)

- P-45: “Future Facility Location with Maintaining Present Accessibility”
Wataru Takahagi, Kazuki Sakai, Yuto Omae, Yasushi Sumitani and Hirotaka Takahashi (*NUT, Japan*)
- P-46: “On Individual Characteristics in Walking Motion by using Acceleration Data”
Ikumi Kamio¹, Takuma Akiduki², Zhong Zhang² and Hirotaka Takahashi¹
(¹*NUT, Japan* and ²*TUT, Japan*)
- P-47: “Hilbert-Huang Transform in Search for Gravitational Waves”
Satoshi Ueki¹, Kazuki Sakai¹, Yukitsugu Sasaki¹, Masato Kaneyama², Ken-ichi Oohara³ and Hirotaka Takahashi¹ (¹*NUT, Japan*, ²*Osaka City University, Japan* and ³*Niigata University, Japan*)
- P-48: “An Evaluation and Relaxation of Constraints in Constraint Satisfaction Problem by Linear Programming: Case of Timetabling”
Yohei Kakimoto¹, Yoichi Shimakawa¹ and Hirotaka Takahashi² (¹*NUT, Japan*, ²*Salesian Polytechnic, Japan* and ³*Japan Fine Ceramics Center, Japan*)
- P-49: “Swimming Style Classification for System of Swimming Performance Evaluation”
Yoshihisa Kon¹, Kazuki Sakai¹, Masahiro Kobayashi¹, Akira Shionoya¹, Hirotaka Takahashi¹, Yuto Omae², Yoshihisa Sakurai², Takuma Akiduki³, Chikara Miyaji⁴, Nobuo Ezaki⁵ and Kazufumi Nakai⁵ (¹*NUT, Japan*, ²*Japan Institute of Sports Sciences, Japan*, ³*Toyohashi University of Technology, Japan*, ⁴*The University of Tokyo, Japan* and ⁵*NIT, Toba College, Japan*)
- P-50: “Development of a Farming Work Recording System”
Tatsuki Akutsu and Shinji Chiba (*NIT, Sendai College, Japan*)
- P-51: “A Web Based Visualization of Water Quality Correlation with Environmental Influence Using Cloud Platform”
Chamara P Liyanage and Koichi Yamada (*NUT, Japan*)
- P-52: “STI Indicators for Policy Evaluation: A Case of Selected Asian Countries”
Tawisa Pipatthitikorn and Yoshiki Mikami (*NUT, Japan*)

Bioengineering (BE)

- P-53: “Antibacterial Evaluation of Fluorescent HAp Complex with Photocatalyst Coating by Visible Light Irradiation”
Sarita Morakul, Yuichi Otsuka, Kiyoshi Ohnuma, Motohiro Tagaya, Satoshi Mototsuka, Yukio Miyashita and Yoshiharu Mutoh (*NUT, Japan*)
- P-54: “Identification of the Novel pH-responsive Cellulase Regulating Factor in Filamentous Fungus *Trichoderma reesei*”
Hiroki Hirasawa¹, Yosuke Shida¹, Kosuke Tashiro², Satoru Kuhara², Wataru Ogasawara¹ (*¹NUT, Japan and ²Kyushu University, Japan*)
- P-55: “The Physiological Role of BGLII in *Trichoderma reesei*”
Ayana Nakamura¹, Machiko Takahashi¹, Tomohiko Matsuzawa², Yosuke Shida¹, Katsuro Yaoi² and Wataru Ogasawara¹ (*¹NUT, Japan and ²National Institute of Advanced Industrial Science and Technology, Japan*)
- P-56: “Identification and Characterization of D-Aspartate Oxidase in the Thermophilic Fungus *Thermomyces dupontii*”
Kohei Osugi, Katsumasa Abe, Shouji Takahashi and Yoshio Kera (*NUT, Japan*)
- P-57: “Analysis of Relationship between Light Response and Lipid Production in the Oleaginous Yeast *Rhodospiridium toruloides*”
Atsushi Miyata¹, Pham Khanh Dung¹, Yosuke Shida¹, Harutake Yamazaki², Kazuo Masaki³, Kazuki Mori⁴, Satoru Kuhara⁴, Hiroaki Takaku², Wataru Ogasawara¹ (*¹NUT, Japan, ²Niigata University of Pharmacy and Applied Life Sciences and ³NBIR*)
- P-58: “Enzymatic Characterization of S46 Peptidase from Pathogenic Bacteria”
Yasuhiro Ito¹, Akihiro Nakamura¹, Saori Roppongi², Yuki Sakurai³, Yosiyuki Suzuki¹, Koushi Hidaka³, Yuko Tsuda³, Yasumitsu Sakamoto², Nobutada Tanaka⁴, Wataru Ogasawara¹ (*¹NUT, Japan, ²Iwate Medical University, Japan, ³Kobe Gakuin University, Japan and ⁴Showa University, Japan*)
- P-59: “Transcriptional Regulation Mechanism of Proteases in *Trichoderma reesei*”
Nayani D. Daranagama, Hiroki Hirasawa, Koki Shioya, Haruna Sato, Yoshiyuki Suzuki and Yosuke Shida, Wataru Ogasawara (*NUT, Japan*)
- P-60: “Functional Analysis of C Terminal-tail of Putative Trancepser CRT1 Involved in Lignocellulase Production in *Trichoderma reesei*”
Kazumasa Yoshizawa¹, Hiroki Taniguchi¹, Takanori Furukawa², Yosuke Shida¹, Wataru Ogasawara¹ (*¹NUT, Japan and ²Manchester University, England*)
- P-61: “Functional Analysis of Chitin Synthases in *Trichoderma reesei*”
Minaho Fujiwara, Shingo Tahara, Yosuke Shida and Wataru Ogasawara (*NUT, Japan*)

- P-62: “Study of the Localization of Haloalkylphosphorus Hydrolase from *Sphingobium* sp. Strain TCM1”
Toshihiro Imai, Katumasa Abe, Shouji Takahashi and Yoshio Kera (NUT, Japan)
- P-63: “Analysis of Lipid Production in the Oleaginous Yeast *Rhodospiridium toruloides*”
Dung Pham Khanh¹, Atsushi Miyata¹, Yosuke Shida¹, Harutake Yamazaki², Kazuo Masaki³, Kazuki Mori⁴, Satoru Kuhara⁴, Hiroaki Takaku², Wataru Ogasawara¹ (¹NUT, Japan, ²Niigata University of Pharmacy and Applied Life Sciences, Japan ³NRIB, Japan and ⁴Kyushu University, Japan)
- P-64: “Visualization of Nuclei in *Trichoderma reesei*”
Nguyen Le Quynh Anh¹, Minaho Fujiwara¹, Nobuhito Nango², Yosuke Shida¹, Wataru Ogasawara¹ (¹NUT, Japan and ²Ratoc System Engineering, Japan)
- P-65: “Elucidation of Cellobiose-responsive Cellulase Production Mechanism in *Trichoderma reesei*”
Keitaro Takahashi, Hiroki Aiita, Hiroki Hirasawa, Yosuke Shida and Wataru Ogasawara (NUT, Japan)
- P-66: “Study on the Localization of Haloalkylphosphotriesterase from *Sphingomonas* sp. Strain TDK1”
Risa Ibaraki, Toyokazu Kobayashi, Katsumasa Abe, Shouji Takahashi and Yoshio Kera (NUT, Japan)
- P-67: “Rock Inhibitor and Insulin Enhance Cell Viability in Heart Cell Generation from Human iPS Cell at Low Density”
Minh Nguyen Tuyet Le and Kiyoshi Ohnuma (NUT, Japan)
- P-68: “Activities of “Research Association of High Pressure Technologies for the Creation of Future Industry” to Disseminate the High-Pressure Technology and Promote Its Industrial Use”
Miyuki Ogino¹, Satoshi Maeda², Yuya Imai², Asami Oguro², Hiroei Hirasawa¹ and Akira Yamazaki¹ (¹Research Association of High Pressure Technologies for the Creation of Future Industries, Japan and ²Research Department, Echigo Seika Co., Ltd., Japan)

Safety Society & Technology (ST)

- P-69: “Forecast of Power Consumption and Temperature and Humidity Index Based on Bayesian Inference Using the Maximize of A Posteriori Estimation”
Yohei Saika¹ and Masahiro Nakagawa² (¹*NIT, Gunma College, Japan* and ²*NUT, Japan*)
- P-70: “Modeling of Road Accident Severity with Most Affected Accident Occurring Circumstances”
R.A.M. Madhuwanthi, Duminda Bandara, Amila Jayasinghe, A.D. Dharmawansa and Shusaku Nomura (*NUT, Japan*)
- P-71: “Activities of “High-Pressure Support” to Support the Practical Application of the High-Pressure Technology”
Eri Ohara¹, Yuta Kazama¹, Yasushi Tokunaga¹, Atsushi Kobayashi², Kiyoshi Kawai² and Akira Yamazaki² (¹*Research Department, Echigo Seika Co., Ltd., Japan* and ²*High-Pressu Laser re Support Co., Ltd., Japan*)
- P-72: “Analyses Method for Hazards of Materials Relating to Failure Modes by Considering Simulated Design Specifications of Functional Model”
Tomoyuki Okabe and Yuichi Otsuka (*NUT, Japan*)
- P-73: “A Study on Exercise Support System Based on Kinect Sensor and Network Access Control”
Keita Tanaka and Kei Fujii (*NIT, Kumamoto College, Japan*)
- P-74: “A Study on the Relationship between the Mindset of Taxi Drivers and the Attribution of Accident Causes and Driving Behavior”
Makiko Okamoto and Katsuko T. Nakahira (*NUT, Japan*)

Nuclear System Safety (NS)

- P-75: “Chemically Conversion And Dissolution Of Hardly Soluble Materials Using Atmospheric-Pressure Non-Thermal Plasma”
Kohei Matsumoto and Tatsuya Suzuki (*NUT, Japan*)
- P-76: “Structural Integrity Sensitivity Analysis of Reactor Pressure Vessel Based on Probabilistic Fracture Mechanics During Thermal Transient Events”
Ryuta Okayama and Masahide Suzuki (*NUT, Japan*)
- P-77: “Removal of Cesium by Using Heteropolyacid Salts in HCl System”
Yasuhiro Sakate¹, Yu Tachibana¹, Son Nguyen An², Lanh Dang², Tatsuya Suzuki¹ (¹*NUT, Japan* and ²*Dalat University, Vietnam*)
- P-78: “Development of Experimental System for Measurement of Tungsten Damaged by High Energy Helium for Divertor in Magnetic Confinement Fusion Device”
Yuki Uchida¹, Seiki Saito², Nobuo Saito^{1,3}, Tsuneo Suzuki¹, Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹ and Nob. Harada¹ (¹*NUT, Japan* and ²*NIT, Kushiro College, Japan*)
- P-79: “Measurement of Penetration Depth Into Water Using Helical Target of Pulsed Intense Relativistic Electron Beam for Aquatic Microorganism Treatment”
Kenta Shoji¹, Isamu Minagawa¹, Go Imada^{1,2}, Shota Umemura³, Tsukasa Aso³, Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹ and Nob. Harada¹ (¹*NUT, Japan*, ²*Niigata Institute of Technology, Japan* and ³*NIT, Toyama College, Japan*)
- P-80: “Comparative Study On System Analysis And Cost Evaluation For Heavy Ion Inertial Fusion”
Akie Inoue¹, Mayu Kitamura¹, Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹, Nob. Harada¹ and John Barnard² (¹*NUT, Japan* and ²*Lawrence Livermore National Laboratory, USA*)
- P-81: “Evaluation of Nuclear Structure Data of ¹²⁴Cd and ¹²⁴In in 124 Mass Chain”
W.T.L.S. Fernando, J. Katakura, T. Kikuchi, Kazumasa Takahashi, Toru Sasaki and Nob. Harada (*NUT, Japan*)
- P-82: “Ruby Fluorescence Measurement for Thermal Conductivity in Dense Plasma Generated by Pulsed-Power Discharge”
Satoshi Sugimoto, Yuki Sugimoto, Shingo Kusano, Kazumasa Takahashi, Toru Sasaki, Takashi Kikuchi and Nob. Harada (*NUT, Japan*)

- P-83: “Incident Energy and Dose Rate Dependence of Equilibrium Constant in NaCl Irradiated by Pulsed Intense Relativistic Electron Beams”
R. Toba¹, T. Kikuchi², G. Imada^{1,2}, H. Suematsu¹, T. Nakayama¹, T. Suzuki¹ and K. Niihara¹ (¹*NUT, Japan* and ²*Niigata Institute of Technology*)
- P-84: “Fundamental Study on Void Fraction Distributions in A Simulated Sub-Channel at the Condition of Stop of Coolant Flow for Enhancing Light-Water Reactor Safety”
Akinori Sato and Kazuyuki Takase (*NUT, Japan*)
- P-85: “Material Properties of Concrete Structures for Nuclear Power Plant Exposed to Extremely High Temperature”
Yuma Sato, Thi-Mai-Dung Do and Masahide Suzuki (*NUT, Japan*)
- P-86: “Input Energy Control Experiment for Warm Dense Matter Generation by Using Electron Beam Diode for Inertial Confinement Fusion”
Tomoaki Ito¹, Ryota Hayashi¹, Tomoki Ishitani¹, Kenji Kashine², Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹, Nob. Harada¹, Weihua Jiang¹, Akira Tokuchi^{1,3} (¹*NUT, Japan*, ²*NIT, Kagoshima College, Japan* and ³*Pulsed Power Japan Laboratory Ltd., Japan*)
- P-87: “Study on Plastic Deformation, Fracture Conditions and the Related Microstructures Under Combined Tensile and Bending Loadings”
Kazukiyo Ishimoto and Kazuhiko Suzuki (*NUT, Japan*)
- P-88: “Flyer Acceleration Experiment Toward Measurement in Dense Material Property for Fast Ignition in Inertial Confinement Fusion”
Naoto Takakura¹, Yusuke Nakayama¹, Fumihito Tamura¹, Yuma Suenaga¹, Kenji Kashine¹, Kazumasa Takahashi¹, Toru Sasaki¹, Takashi Kikuchi¹, Nob. Harada¹, Weihua Jiang¹, Akira Tokuchi^{1,3}, Mayuko Koga⁴, Takayoshi Sano⁵ and Shinsuke Fujioka⁵ (¹*NUT, Japan*, ²*NIT, Kagoshima College, Japan*, ³*Pulsed Power Japan Laboratory Ltd., Japan*, ⁴*University of Hyogo, Japan* and ⁵*Osaka University, Japan*)
- P-89: “Fundamental Experiments Toward Development of Plasma Charge Stripper”
Naoya Ikoma^{1,2}, Takashi Kikuchi¹, Jun-ichi Ohnishi², Tamaki Watanabe², Hiroshi Imao², Hiroki Okuno² (¹*NUT, Japan* and ²*RIKEN Nishina Center for Accelerator-Based Science, Japan*)
- P-90: “Study on the Effect of Hydrogen on the Material Property of Hafnium”
Yasuharu Kawahara, Thi-Mai-Dung Do and Masahide Suzuki (*NUT, Japan*)

GIGAKU Education (GE)

- P-91:** “Engineering Design Exercise (EDE) for Faculty Development in National Institute of Technology, Nagaoka College”
Rumi Shindo Togashi, Taku Kiryu, Shigehiro Toyama, Yoshinori Tokoi, Tetsuro Iyama, Fujio Ikeda, Yuki Murakami, Shin-ichi Akazawa and Yasuko Tsuchida (*NIT, Nagaoka College, Japan*)
- P-92:** “JSCOOP: Education Program to Produce Innovative Personnel Cooperated with Local Industry”
Yuki Murakami, Shigehiro Toyama, Fujio Ikeda, Tetsuro Iyama, Yoshinori Tokoi, Shin-ichi Akazawa, Yasuko Tsuchida and Taku Kiryu (*NIT, Nagaoka College, Japan*)
- P-93:** “Continued, Accelerated Efforts in Students' Voluntary Learning by All the Faculty Members in NIT, Gifu College”
Nobuyuki Ogawa, Tetsuro Tokoro, Akira Shimizu and Yoshito Itoh (*NIT, Gifu College, Japan*)
- P-94:** “Development of Eye Gaze Application for Children in Special Needs Education School”
Yasuhiro Maki, Minoru Miyamoto, Yasuyuki Shimada, Koki Shibasato and Hirofumi Otsuka (*NIT, Kumamoto College, Japan*)
- P-95:** “About Promotion of AL and the Evaluate of The AL Lecture in NIT Sendai College”
Kuniaki Yajima, Yasuhiro Kashiwaba, Akiko Takahashi and Yoshihiro Hayakawa (*NIT, Sendai College, Japan*)
- P-96:** “Case Study of Evaluation of Experimental Skills”
Yoshihiro Yoshihiro¹, Jun Sato, Kuniaki Yajima² and Kentaro Noguchi³ (¹*NIT, Tsuruoka College, Japan*, ²*NIT, Sendai College, Japan* and ³*NUT, Japan*)
- P-97:** “A Proposal of Global Engineering PBL Education Using by Developed Sequence Control Kit”
Akihiro Nitta, Junichi Sugaya and Kuniaki Yajima (*NIT, Sendai College, Japan*)
- P-98:** “Large Sized Handout for Encouraging Active Learning and GIGAKU Education”
Hideaki Aburatani¹, Kyouhei Kuroda¹, Misuzu Okada¹, Shigeyoshi Nakamura¹, Shinya Maki², Takashi Yamaguchi² and Makoto Ichitubo² (¹*NIT, Kitakyushu College, Japan* and ²*NUT, Japan*)

- P-99: “The Active Learning Workshop of Improving the Skill of the Teaching on Collaboration between the National Institute of Technology and NUT”
Shigeyoshi Nakamura¹, Kyohei Kuroda¹, Hideaki Abratani¹, Akio Shimogoori², Shinya Maki³, Takashi Yamaguchi³ and Makoto Ichitsubo³
(¹NIT, Kitakyushu College, ²NIT, Hakodate College, Japan and ³NUT, Japan)
- P-100: “Application of Statistical Approaches Based on Questionnaire Scores of Students’ Generic Skills Improvement”
Kyohei Kuroda¹, Tsuyoshi Danshita², Shigeyoshi Nakamura¹, Hideaki Aburatani¹, Shinya Maki², Takashi Yamaguchi² and Makoto Ichitsubo²
(¹NIT, Kitakyushu College, Japan and ²NUT, Japan)

Techno Park (TP)

- P-101:** “Academia-Industry Cooperation Network”
Rohani Abdul-Majid¹, Dhananchabha Yaowakulpattana², Hua Thuy Trang³,
Francisco Lopez-Guzman⁴ and Yasuo Obikane⁵ (¹*GIGAKU Techno Park
USM-NUT office, Malaysia,* ²*GIGAKU Techno Park CU-NUT office,
Thailand,* ³*GIGAKU Techno Park HUST-NUT office, Vietnam,* ⁴*GIGAKU
Techno Park UG-NUT office, Mexico and* ⁵*MUST-NUT office, Mongolia*)