



# CONFERENCE PROGRAM & CONTENTS (Volume 1)

-----Day two: September 1, 2014, Monday-----

## Room Bellevue <September 1, Monday>

Opening ceremony  
9:30-10:40  
Host : Toshio OTAKA

### Addressess

- |   |                               |
|---|-------------------------------|
| (1) Chair of Organizing Committee (on behalf of Conference Chair)               | Prof. Tohru Kanada            |
| (2) Chair of Local Organizing Committee (Introduction of the following persons) | Prof. Stanislav Hosnedl       |
| (3) President of Pilsen Region  | Mr. Václav Šlajs              |
| (4) Pilsen City Mayor   | Mr. Martin Baxa               |
| (5) Rector of University of West Bohemia  | Assoc. Prof. Ilona Mauritzova |
| (6) Director of Project Pilsen European Capital of Culture 2015                 | Ing. Jiri Suchanek            |
| (7) Representative for SKODA  | Mr. Josef Bernard             |
| (8) Representative for Shuwarz Müller   | Mr. Petr Hobl                 |
| (9) Representative for Plzensky Prazdroj  | Mr. Vesselin Barliev          |
- Arias with piano accompaniment by Ms. Jana Hoffmannová (Piano; Ms. Hana Bezdekova)

## Room Bellevue <September 1, Monday>

### Special lecture SL-1

10:40~12:10 SL-1

Are We Aware of What We Are Doing in Design Research?  
(Design Research between Science and Practice)  
Prof. Herbert Birkhofer (Technische Universität Darmstadt)  
Chairperson : Tohru KANADA(Kanto Gakuin University)

page

## Room Alto A <September 1, Monday>

Technical Session TS-7  
Others Related to Design Engineering and Science and Workshop with the Design Society and the Design Education SIG.

13:30~14:30 TS-7(1)

### Chairperson

Kiyoshi IOI (Kinki University)

Kazuyuki KOJIMA (Sitama University)

<sup>1066</sup> Computer Aided Mechanical Assembly Sequence Planning

Michał SAŚIADEK(University of Zielona Góra), Poland

<sup>1083</sup> Investigation of fluid intake and necessary drying times of additive manufactured hollow cylinders for further use in vacuum

Kevin KUHLMANN(Otto-von-Guericke-University, Magdeburg), Patrick HEBNER, Jonas CRACKAU and Karl-Heinrich GROTE, Germany

<sup>2040</sup> Thermal Deformation Prediction in Machine Tools by Using Transfer Functions

Yu SETO(Hiroshima Institute of Technology), Fumihiko SUZUMURA and Gonojo KATAYAMA, Japan

page

14:45~15:45 TS-7(2)

### Chairperson

Kazuyuki KOJIMA (Sitama University)

Kiyoshi IOI (Kinki University)

<sup>2036</sup> Environmental Load Evaluation of Reuse Parts for Automobiles

Masato IWASAKI(Meiji University), Mitsunobu FUJITA, Takao MORI(Toyama Prefectural University), Akihiko SASAKI, Motohiro TAMAKI(NGP Corporation), Akihiko SANO, Hironori TANI, Akihiro HAYAKAWA, and Masato INOUE(Meiji

<sup>1003</sup> Design Improvement of Machine Tools by Integration of Cutting Process Model into Finite Element Analysis

Gerhard KEHL (University of Applied Sciences Esslingen), Germany

- <sup>1072</sup> A Survey of Cryptographic Protocols  
Mervat Mikhail(Alexandria University), Yasmine Abouelsoud and Galal El Kobrosy, Egypt

Technical Session TS-4  
CAD/CAM/CAE

16:00~17:00 TS-4(1)

**Chairperson**

**Gerhard KEHL (University of Applied Sciences Esslingen)**

**Michal SAŚIADEK (University of Zielona Góra)**

- <sup>2054</sup> The Principle of Duality in Data Structures and Euler Operators of Solid Modelers (The Quarter-edge Data Structure)

Masatoshi NIIZEKI (Osaka Electro-Communication University),Japan

- <sup>1006</sup> Compression of Simulation Results Database Using Tensor Decomposition

Yixiang FENG (Hitachi, Ltd), Japan

- <sup>1043</sup> Structure Design for the Elastic Body of a Six-axis Wrist Force Sensor

Zheng-shi LIU(Hefei University of Technology), Yi-min LU, En-wei CHEN, and Yong WANG, China

Technical Session TS-2  
Design and Development

17:15~18:15 TS-2(1)

**Chairperson**

**Michal SAŚIADEK (University of Zielona Góra)**

**Taro FUJIKAWA (Tokyo Denki University)**

- <sup>2047</sup> Controller Design for Air-conditioners Considering of Occupant's Requests by using Bayesian Network

Kazuyuki KOJIMA (Saitama University) and Takahiro OKUMURA (Saitama Medical University), Japan

- <sup>2012</sup> Design of an Active Controlled Caster Aiming at Cart with Low Crashes/Vibrations

Kiyoshi IOI (Kinki University), Atsushi SUDA (Yuei Caster co.ltd) and Masahiko YAMAMOTO, Japan

- <sup>2048</sup> Haptic Feedback by One-way Resisting Torque to Assist Manipulation of Control Input with a Lever

Kazunori KAEDE(Saitama University) and Keiichi WATANUKI, Japan

**Room Alto B <September 1, Monday>**

Technical Session TS-3  
Design and Production

13:30~14:30 TS-3(1)

**Chairperson**

**Koki KIKUCHI (Chiba Institute of Technology)**

**Taichi SHIIBA (Meiji University)**

- <sup>2060</sup> Camera Arm System for Disaster Response Robots(1st Report: Design Strategy and Evaluation of Prototype Development)

Hideaki YAMATO(CHIBA Institute of Technology), Kengo TODA, Masaharu SHIMIZU, Takashi KODACHI, Tomoaki

YOSHIDA, Takeshi NISHIMURA and Takayuki FURUTA, Japan

- <sup>2068</sup> Camera Arm System for Disaster Response Robots (2nd Report: A Collision Protection Mechanism for Real-world Missions)

Kengo TODA(Chiba Institute of Technology), Hideaki YAMATO, Masaharu SHIMIZU, Takashi KODACHI, Tomoaki

YOSHIDA, Takeshi NISHIMURA and Takayuki FURUTA, Japan

- <sup>2031</sup> Riding Comfort Evaluation of Railway Vehicle by a Simulator

Kei YASUMURO(Meiji University), Yong HAN, Ryosuke GOTO(Tokyo Metro Co., Ltd.), Yuichi NAKAZATO, Yasuyuki

MIYAJIMA(TOSHIBA Corp.) and Haruo SHIMOSAKA(Meiji University), Japan

14:45~15:45 TS-3(2)

**Chairperson**

**Taichi SHIIBA (Meiji University)**

**Koki KIKUCHI (Chiba Institute of Technology)**

- <sup>1020</sup> Multi-objective Optimization of a CNT/Polymer Nanocomposite Automotive Drive Shaft

M. H. SHOJAEEFARD (Iran University of Science and Technology), A. KHALKHALI and Sh. KHAKSHOURNIA, Iran

- <sup>2086</sup> Development of Quadruped Achieving High Terrain Adaptability(DOF Configuration Consideration for Redundant Leg

Takuya KITAMURA(Chiba Institute of Technology) and Yusuke OTA, Japan

- <sup>2016</sup> Modeling and Simulation of Quadruped Form Multi-purpose Module System MMS for Stability Control

Shinya TACHINO (Aichi Institute of Technology), Takuya SUGIURA, Tasuku HATAKEYAMA, Masaru URUSHIBATA and

Yoshihisa UCHIDA, Japan

16:00~17:00 TS-3(3)

**Chairperson**

**Takahiro DOI (Kanazawa Institute of Technology)**

**Hideaki YAMATO (Chiba Institute of Technology)**

- <sup>2058</sup> Evaluation of Driver Characteristics According to Running Condition Using Driver Model

Ryuta ISHIZAKI(Meiji University), Kazuhiro MORIHARA and Taichi SHIIBA, Japan

- 2079 Design of Quadruped Walking Robot with Spherical Shell  
Takeshi AOKI(Chiba Institute of Technology) and Kazuki OGIHARA, Japan
- 2017 Soft Landing Condition for Stair-Climbing Robot with Hopping Mechanism  
Akira KAMEI (Chiba Institute of Technology), Masaya JINNO, Naoya CHISHIMA, Kenji SATO (Shibaura Holdings, Inc.), and Koki KIKUCHI (Chiba Institute of Technology), Japan

**17:15~17:55 TS-3(4)**

**Chairperson**

**Hideaki YAMATO (Chiba Institute of Technology)**

**Yoshihisa UCHIDA (Aichi Institute of Technology)**

- 1082 Methodical Design of a Trailer Range Extender for Improving the Range of electric Vehicles  
Carsten HAUGWITZ(Otto-von-Guericke-University, Magdeburg), Kevin KUHLMANN, Stefan LÜDECKE and Karl-Heinrich GROTE, Germany
- 2073 A Study of Robustness in Handling Performance for Light Weight Vehicle  
Yusuke UDAGAWA(Meiji University), Kyosuke TAKEKOSHI and Taichi SHIIBA, Japan

**Room Basso A <September 1, Monday>**

Technical Session TS-1  
Design Methodology

**13:30~14:30 TS-1(1)**

**Chairperson**

**Masato INOUE (Meiji University)**

**JIRKOVÁ Hana (University of West Bohemia)**

- 1089 Property Driven Innovation of a Technical Product  
Stanislav HOSNEDL(University of West Bohemia), Martin Kopecky, Josef Dvorak, Ladislav Zich(MemBrain s.r.o.), Czech
- 1088 Theory Based Management and Software Support of Property Driven Designing of Technical Products  
Stanislav HOSNEDL(University of West Bohemia), Czech Republic
- 2081 The Modular Design in Consideration of Influence of Noise  
Saimon GOKYU(Keio University), Hideki AOYAMA, and Toshiharu MIWA(Hitachi, Ltd.), Japan

**14:45~15:45 TS-1(2)**

**Chairperson**

**Stanislav HOSNEDL (University of West Bohemia)**

**Hideki AOYAMA (Keio University)**

- 1080 Project Management enriched by Engineering Design Science during the design process of a technical product  
KROTÁK Stanislav(University of West Bohemia), ŠTÁDLER Ctibor, ŠIMLOVÁ Martina, JIRKOVÁ Hana, Czech Republic
- 2071 Robust Multiple Optimization for Adjustable Mechanisms  
Masatoshi Muramatsu(Tokai University), Keigo Yamamoto and Takeo Kato, Japan
- 1067 Improving Reliability of Designed Technical Products Using FMEA  
Michał SAŚIADK(University of Zielona Góra) and Wojciech BABIRECKI, Poland

**16:00~17:00 TS-1(3)**

**Chairperson**

**Hideki AOYAMA (Keio University)**

**Stanislav HOSNEDL (University of West Bohemia)**

- 2037 An Upgrade Product Design Method for Satisfying Performance Criteria, Environmental Load, and Cost  
Shuho YAMADA(Meiji University), Tetsuo YAMADA(The University of Electro-Communications), Stefan BRACKE(University of Wuppertal), and Masato INOUE(Meiji University), Japan
- 2032 Design Method for Obtaining Diverse Possible Design Solution Sets to Adapt to Changes in Boundary Conditions  
Shunsuke IJIMA(Meiji University), Masaki TAKAHASHI(Keio University), and Masato INOUE(Meiji University), Japan
- 1022 Evaluation of a New Concept of a Knowledge based Environment  
Robert FURIAN(Volkswagen AG), Frank VON LACROIX, Ana CORREIA(Institut fuer angewandte Systemtechnik Bremen), Stefan FALTUS, Myrna FLORES(Ecole Polytechnique Fédérale de Lausanne (EPFL), College of Management of Technology) and Karl-Heinrich GROTE ( Otto-von-Guericke-University, Magdeburg), Germany

**17:15~18:15 TS-1(4)**

**Chairperson**

**Masato INOUE (Meiji University)**

**Takeo KATO (Tokai University)**

- 1002 Case Example of Systematic Design Engineering – Linear Friction Test Equipment  
W. Ernst EDER (Royal Military College of Canada), Canada
- 1049 A New Concept of Volumetric Error Analysis of Machine Tools based on Abbé Principle  
Kuang-Chao FAN(National Taiwan University), Han-Ming YEN and Kun-Ying LI(Industrial Technology Research Institute), R.O.C.(Taiwan)

# CONFERENCE PROGRAM & CONTENTS (Volume 2)

----- Day three: September 2, 2014, Tuesday -----

**Room Bellevue <September 1, Monday>**

## Special lecture SL-2

16:30~18:00 SL-2

**Design Research: Current Status and Future Challenges** page  
**Prof. Christopher McMahon (University of Bristol), UK**  
Chairperson : Tohru KANADA(Kanto Gakuin University)

**Room Alto A <September 2, Tuesday>**

## Technical Session TS-6 Design Education

9:40~11:00 TS-6(1)

### Chairperson

**Masakatsu MATSUIISHI (Kanazawa Institute of Technology)**  
**Shigeo HIRANO (Tokyo City University)**

- 2010 Environment Recognition Using Diagram - as a Practice in Design Education page  
Akiyo KOBAYASHI (Musashino Art University) and Qifan HUANG, Japan
- 2029 Educating Students in Universal Design using a Digital Mannequin  
Noriyasu HIROKAWA(Kinki University) and Tsutomu NISHIGAKI, Japan
- 2059 Design Exercise Making Use of Classic Engineering Documents  
Kazuki TAKENOUCHEI(Kyushu University) and Masahiro MAKIZONO, Japan
- 2069 Modeling of Relationships between Abilities, Skills, and Knowledge for Mechanical Designers and Its Application to  
University Curriculum  
Takeo KATO(Tokai University), Gentaro OTSUJI and Masaru TAKEUCHI, Japan

11:15~12:35 TS-6(2)

### Chairperson

**Kazuki TAKENOUCHEI (Kyusyu University)**  
**Takeo KATO (Tokai University)**

- 2085 Practical Manufacturing Education in the Mechanical Engineering Course at the School of Science and Engineering,  
Kokushikan University  
Toshio OTAKA(Kokushikan University), Ken KISHIMOTO, Yasuhiro HONDA and Tomoaki KODAMA, Japan
- 2023 Design Education to Develop Self-Directed and Innovative Engineers - Short Technical Course to Enhance Design Capabilities  
Hiroshi SAITO(Kanazawa Institute of Technology), Takumi SAKAMOTO and Masakatsu MATSUIISHI, Japan
- 2011 Education of Drawing Courses and Students' Achievements (How to Develop and Make the Best Use of Freehand Sketch Skills)  
Sumio NAKAMURA (Kanazawa Institute of Technology) and Masakatsu MATSUIISHI, Japan
- 2090 Learning Through the Use of CAD and 3D-RP Modeling (From Experience by Collaboration and Communication)  
Tsutomu ARAKI(Tsukuba University of Technology), Shigeo HIRANO(Tokyo City University), Susumu KISE(Artner Co.  
Ltd), Sozo SEKIGUCHI, Kazuya OKUSAKA and Rei WADA, Japan

## Technical Session TS-2 Design and Development

14:00~15:40 TS-2(4)

### Chairperson

**Katsuhiko TAKEDA (Kanto Gakuin University)**  
**Toshio OTAKA (Kokushikan University)**

- 2027 Droplet Size Measurement of Liquid Atomization by Immersion Liquid Method (Droplet Coalescence and Evaporation on the  
Immersion-Liquid Surface)  
Takahiro FUJIMATSU(Suzuka National College of Technology), Mizuki KITO and Kunikazu KONDO, Japan
- 2026 Design of Ceramics Heater for Stirling Engine  
Teruyuki AKAZAWA(estir Co., Ltd.), Koichi HIRATA(National Maritime Research Institute), Takeshi HOSHINO(Japan  
Aerospace Exploration Agency), Hideki KITA and Kazuhito FUJIWARA(Nagoya University), Japan
- 2057 Effect of Combustion Design for Diesel Dual Fuel Engine(Effect of Using GTL Diesel Fuel for DDF Engine)  
Osamu SAOTOME(Kanto Gakuin University), Fumiya SATO and Katsuhiko TAKEDA, Japan
- 2056 Influence of Combustion Design for Waste Plastic Decomposition Oil(An Attempt to Use Waste Plastic Decomposition Oil in  
DDF Engine)  
Kenichi ENDOH(Kanto Gakuin University), Katsuhiko TAKEDA and Keiichiro SANO, Japan

<sup>2055</sup> Influence of Fuel Design based on the Cetane Number for Diesel Combustion(Influence of Ethanol Blending to Jatropa  
Katsuhiko TAKEDA(Kanto Gakuin University), Kiyomoto TAKANO and Keiichiro SANO, Japan

**Room Alto B <September 2, Tuesday>**

Technical Session TS-2  
Design and Development

**9:40~11:00 TS-2(2)**

**Chairperson**

**Takahiro DOI (Kanazawa Institute of Technology)**

**Karl-Heinrich GROTE ( Otto-von-Guericke-University, Magdeburg)**

<sup>2075</sup> Development of the Artificial Wing Suitable for Flapping Micro Air Vehicle Based on Dragonfly Wing  
Hisayoshi NAKA(Tokai University), Yuta SUNAMI and Hiromu HASHIMOTO, Japan

<sup>2042</sup> Motion Analysis of Pitch Rotation Mechanism for Posture Control of Butterfly-style Flapping Robot  
Taro FUJIKAWA(Tokyo Denki University), Masahiro SHINDO(Chiba Institute of Technology) and Koki KIKUCHI, Japan

<sup>2005</sup> Analysis of Roll Rotation Mechanism of a Butterfly for Development of a Small Flapping Robot  
Masahiro SHINDO (Chiba Institute of Technology), Taro FUJIKAWA (Tokyo Denki University), and Koki KIKUCHI (Chiba Institute of Technology), Japan

<sup>2065</sup> Effects of Micro Spike Structure on Flow Around Plate  
Yutaro KAWAMURA(Tokai University), Hisayoshi NAKA, Yuta SUNAMI, Hiromu HASHIMOTO, Japan

**11:15~12:15 TS-2(3)**

**Chairperson**

**Karl-Heinrich GROTE (Otto von Guericke University Magdeburg)**

**Manabu IGUCHI (Osaka Electro-Communication University)**

<sup>2045</sup> Development of cm-scale Wall Climbing Hexapod Robot with Claws  
Mayo FUNATSU(Chiba Institute of Technology), Yushi KAWASAKI(JST Mfg. Co. Ltd.), Soichiro KAWASAKI(Chiba Institute of Technology) and Koki KIKUCHI, Japan

<sup>2062</sup> Development of Wall Mobile Robot for Household Use  
Takahiro DOI(Kanazawa Institute of Technology), Kenta SHIROTORI and Ken ITO, Japan

<sup>2077</sup> Development of a Small Legged Wall Climbing Robot with Passive Suction Cups  
Soichiro KAWASAKI(Chiba Institute of Technology ) and Koki KIKUCHI, Japan

Technical Session TS-3  
Design and Production

**14:00~15:20 TS-3(5)**

**Chairperson**

**Taro FUJIKAWA (Tokyo Denki University)**

**Yuta SUNAMI (Tokai University)**

<sup>2009</sup> Finite Element Analysis of the Human Middle Ear and an Application for Clinics for Tympanoplasty(Static and Harmonic Vibration Analysis)

Takao HIGASHIMACHI (Sojo University), Takashi MAEDA, Takayuki OSHIKATA and Ryuzo TORIYA (Toriya ENT Clinic),

<sup>2070</sup> Optimization of Cushion and Back Angles for Lower Limb Blood Flow and Its Verification Experiment  
Saori SONE(Tokai University), Daisuke SANNAN, Takeo KATO, Yoshiyuki MATSUOKA(Keio University) and Hiromu HASHIMOTO(Tokai University), Japan

<sup>1004</sup> Additive Manufacturing of Anatomical Phantoms Based on Medical Imaging Data Sets  
Fabian KLINK (Otto-von-Guericke-University, Magdeburg), Thomas HOFFMANN, Axel BOESE, Martin SKALEJ and Karl-Heinrich GROTE, Germany

<sup>2007</sup> Development and Assessment of Measuring and Rehabilitation Support Device for Myelopathy Patients with Lower Extremity  
Tohru KANADA (Kanto Gakuin University), Hisanori MIHARA (Yokohama Minami Kyosai Hospital), Kouhei INABA (Kanto Gakuin University), Hiroki KAKINUMA, Takahiro MANABE and Akihide MIYATA, Japan

**Room Basso A <September 2, Tuesday>**

Technical Session TS-5  
Accuracy and Measurement

**10:00~11:00 TS-5(1)**

**Chairperson**

**Masayuki OCHIAI (Tokai University)**

**Kouitsu MIYACHIKA (Tottori University)**

<sup>2008</sup> Endurance Property of Rail Material for Ball Guide  
Hisaiichi SUZUKI (Canon Inc.), Tsuneo EGAWA (Meisei University) and Tomoyuki ISHII, Japan

<sup>2030</sup> Influence of Relative Densities on Tribological Characteristics of Various Artificial Joint Materials  
Motoi MIYAZAWA(Nihon University) and Hiromasa TAKAHASHI, Japan

<sup>2039</sup> Design of Piston Ring Surface Treatment for Reducing Lubricating Oil Consumption  
Junya TANAKA (Kogakuin University), Japan

**11:15~12:15 TS-5(2)**

**Chairperson**

**Hatsuhiko USAMI (Meijo University)**

**Toshiro KOBAYASHI (Tsuyama National College of Technology)**

<sup>2041</sup> Friction and Vibration Characteristics of Pneumatic Cylinder

Yasunori WAKASAWA (Toyota National College of Technology), Yuhi ITO and Hideki YANADA (Toyohashi University of Technology), Japan

<sup>2076</sup> Experimental Study on Friction Characteristics between Plastic Film and Steel Roller

Yuta SUNAMI (Tokai University), Yasushi FUJIWARA, Yusuke KOTOBUKI and Hiromu HASHIMOTO, Japan

<sup>2074</sup> Elastohydrodynamic Lubrication Analysis of Journal Bearings Using CAD

Toshihiro OZASA (Osaka Electro-Communication University), Akira KINOSHITA (PSG., Inc.), Yuji HIROSE (Osaka Electro-Communication University) and Masatoshi NIIZEKI, Japan

**14:00~15:00 TS-5(3)**

**Chairperson**

**Tomoyuki ISHII (Meisei University)**

**Masayuki OCHIAI (Tokai University)**

<sup>2014</sup> Effect of Heat Sink Structure on Cooling Performance of LED Bulb

T. Kobayashi (Tsuyama National College of Technology), S. Ishikawa, R. Hashimoto (Hiroshima University), H. Kanematsu (Suzuka National College of Technology) and Y. Utsumi (University of Hyogo), Japan

<sup>2028</sup> Effect of Friction Model on Simulation of Hydraulic Actuator

Hideki YANADA (Toyohashi University of Technology), War Htun KHAING, and Xuan Bo TRAN (Hanoi University of Science and Technology), Japan

<sup>2084</sup> Effects of Contact Width and Pressure on Traction Characteristics in Traction Drive of Concave and Convex Roller Pair

Kouitsu MIYACHIKA (Tottori University) and Yuhichi ONO, Japan

**15:15~16:15 TS-5(4)**

**Chairperson**

**Kouitsu MIYACHIKA (Tottori University)**

**Junya TANAKA (Kogakuin University)**

<sup>2087</sup> Applicability of Surface Flow Process for Modification of Tribological Properties of Titanium

Hatsuhiko USAMI (Meijo University), Yuma HORIBA, Hideki AKITA (Hitachi Construction Machinery Co. Ltd.) and Shuichi KOBAYASHI, Japan

<sup>2013</sup> Lubrication State on the Sliding Part of a Multiple Vane Type Compressor

Eita KUREHA (Yanmar Co., Ltd.) and Masayoshi MURAKI (Shonan Institute of Technology), Japan

<sup>2078</sup> Topological Optimization of Dry Gas Seals for Improving Seal Characteristics

Masayuki OCHIAI (Tokai University), Hayato SASAKI, Yuta SUNAMI and Hiromu HASHIMOTO, Japan

**Room Conferenza <September 2, Tuesday>**

**Banquet at Conferenza  
18:00-20:00**

**Master of ceremony : Stanislav HOSNEDL**

**(Local Organizing Committee, Professor, UWB)**

18:00 : Opening address by Tohru KANADA

(Chair of Organizing Committee, Vice-President, JSDE)

18:05 : Address by Eiji Mutoh (Honorable Conference Chairman)

18:10 Address from Local Organizing Committee

18:15 Awarding ceremony : Coordinated by Hideki Aoyama

(Chair of Awarding Committee)

18:30 Toast

Communing together, wining and dining

Folk ensemble show

20:00 Closing address

# CONFERENCE PROGRAM & CONTENTS (Volume 3)

-----Day four: September 3, 2014, Wednesday-----

## Room Alto B <September 3, Wednesday>

### Technical Session TS-7

Others Related to Design Engineering and Science and Workshop with the Design Society and the Design Education SIG.

#### 9:00~10:00 TS-7(3)

##### Chairperson

**Junya TANAKA (Kogakuin University)**

**Motoi MIYAZAWA (Nihon University)**

2052 Development of Multi Disk Fan combined with Centrifugal Fan page

Naoki IKEDA(Osaka Electro-Communication University), Daizo TAKAOKA, Charles W. KNISELY(Bucknell University), Koji MORI(Osaka Electro-Communication University) and Kazuyoshi NISHIHARA, Japan

2051 Mechanical Active Noise Control for Cross Flow Fan

Daizo TAKAOKA(Osaka Electro-Communication University), Charles W. KNISELY(Bucknell University), Koji MORI(Osaka Electro-Communication University) and Kazuyoshi NISHIHARA, Japan

2035 Impact of a Circular Cylinder on a Water Surface(Preliminary Study on Computational Analysis)

Toshio NISHIMURA(Setsunan University), Yoshiaki UEDA, Shoki YONAMINE, Ryoji TSUJINO and Manabu IGUCHI(Osaka Electro-Communication University), Japan

#### 10:15~11:15 TS-7(4)

##### Chairperson

**Motoi MIYAZAWA (Nihon University)**

**Hatsuhiko USAMI (Meijo University)**

2034 Development of Al/Cu Dissimilar Joint by New Friction Welding Method

Yongbo HU(Shizuoka University), Ryoji TSUJINO, Takeshi HIGASHI, Yoshiaki UEDA and Manabu IGUCHI(Osaka Electro-Communication University), Japan

1044 Research and Development of Computer Aided Accuracy (CAA) in Precision Engineering

Yetai FEI(Hefei University of Technology), Qiangxian HUANG, Huijuan YU and Shenghua YE(Tianjin University), China

1038 Research on Determining Method of The Three-dimensional Thermal Deformation Critical Point of CNC Machine Tool Bed and Its Application

Yang Hongtao(Anhui University of Science and Technology), Yu Caofeng, Zhou Jiao, Zha Xiaona, Wu Tianfeng, China

## Room Basso A <September 3, Wednesday>

### Technical Session TS-2

Design and Development

#### 9:00~10:00 TS-2(5)

##### Chairperson

**Keiji SONODA (Sojo University)**

**Kohei NAKASHIMA (Meijo University)**

2033 Contacting State on Imaginary Rack of Crossed Helical Gears

Ema TAMUTA(Tokyo Metropolitan College of Industrial Technology), Ryozo NEMOTO, Hirotaka TOMITA, Eiichirou TANAKA(Shibaura Institute of Technology) and Hideo TAKAHASHI(Kisarazu National College of Technology), Japan

2064 Analysis of Torsional Vibration in Elliptical Gears

Kazuteru NAGAMURA(Hiroshima University) and Kiyotaka IKEJO, Japan

2018 Evaluating Fatigue Life of Injection-Molded-Plastic-Gear added with Carbon Particle made from Rice Hull

Takayoshi ITAGAKI (Kisarazu National College of Technology), Hideo TAKAHASHI, Hiroshi IIZUKA (Yamagata University), Mikio TAKAHASHI (Kisarazu National College of Technology) and Ryozo NEMOTO (Tokyo Metropolitan College of Industrial Technology), Japan

#### 10:15~11:15 TS-2(6)

##### Chairperson

**Ryozo NEMOTO (Tokyo Metropolitan College of Industrial Technology)**

**Kazuteru NAGAMURA (Hiroshima University)**

2015 Design and Manufacture of New Circular-Arc Tooth-Trace Gears(Design of Rack and Pinion based on Transverse System)

Keiji SONODA (Sojo University), Kazuki TAKENOUCI (Kyushu University) and Shinji HASHIMURA (Shibaura Institute of Technology), Japan

2063 In-plane and Out-of-plane Deflection of J-shaped Beam

Tadashi HORIBE(Ibaraki University) and Kotaro MORI, Japan

2046 Evaluation of Breakage of Keystone Rings with Two Types of Overall Side Angles

Kohei NAKASHIMA(Meijo University), Yoshio MURAKAMI(Meijo University) and Soichi ISHIIHARA, Japan

**Room Bellevue <September 3, Wednesday>**

Closing ceremony  
11:30-13:00  
Host : Toshio OTAKA

Address from Executive Committee

Farewell performance by Ms. Jana Hoffmannová (Aria)