# PROGRAM OF
THE 45th TEXTILE RESEARCH SYMPOSIUM IN KYOTO

September 14, 15 and 16, Kyoto, Conference Room No.1
The 60th anniversary hall, Kyoto Institute of Technology

**September 14, 15 and 16, 2017**

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<td>9:30～9:55 Keynote Speech 3: Professor Xioming Tao, The Hong Kong Polytechnic University, H.K.</td>
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<td>9:55～10:45 Session 3 : Apparel Science and Production Technology</td>
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<td>13:30～13:55 Keynote Speech 4: Professor B. K. Behera, Indian Institute of Technology Delhi, India</td>
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<td>13:55～15:10 Session 5 : Composite and Industrial Textiles</td>
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14th September (Thursday)

9:00～10:00    Registration

10:00～10:10    Opening

10:10～10:35    Keynote speech 1

    Textile impact on high performance sporting gear
    Tsuyoshi Nishiwaki
    ASICS Corporation, Japan

10:35～12:15    Session 1: Fiber Science and Engineering

1. Study on sound absorption behavior and compression property of high-loft nonwovens
   Tao Yang, Xiaoman Xiong, Dr. Rajesh Mishra, Dr. Jan Novak, Prof. Jiri Militky
   Technical University of Liberec, Czech Republic

2. Line lighting systems based on the side emitting optical fibers
   Dana Křemenáková, Jiri Militky, Rajesh Mishra
   Technical University of Liberec, Czech Republic

3. Simultaneous fiber structure formation and dyeing of poly(ethylene terephthalate) fibers
   Dong Woo Go, Rina Khanum, Wataru Takarada, Arun Aneja, Takeshi Kikutani
   Tokyo Institute of Technology, Japan

4. Effect of fabric surface structure on the thermal-contact properties under different compression pressure
   Jiang Shaochen, Shen Hua, Sachiko Sukigara
   Kyoto Institute of Technology, Japan

12:15～13:30    Lunch

13:30～15:30    Poster presentation, Museum Tour

P-1 Levelness Study of Cotton Fabric Dyed in Different Solvents
   Yiu-lun Tang and Chi-wai Kan
   The Hong Kong Polytechnic University, H.K.

P-2 Foaming of Cellulose Derivatives in Supercritical CO2
   Tatsuya Suzuki, Satoko Okubayashi
   Kyoto Institute of Technology, Japan

P-3 Optimization of plasma processing conditions for improving on adhesion of glass fiber composite materials
   Shota Naito, Jian Shi, Mamoru Mizuno, Masaya Sugimoto
   Akita Prefectural University, Japan

P-4 Influence of the electrolyte on the self-organization of liquid silk
   Ayumi Sato, Kazuhiro Yoshida, and Yutaka Kawahara
   Gunma University, Japan

P-5 Study on the preparation microcapsule of AlP/ZHS and the flame retardation of PVC membrane materials
   Jian Han and Bin Zhang
   Zhejiang Sci-Tech University, China
P-6 On acoustic properties and internal structure of foam formed pulp fiber materials
Mizue Kakehi, Takuma Kiribayashi, Hideyuki Uematsu and Syuichi Tanoue,
Industrial Technology Center of Fukui Prefecture, University of Fukui, Japan

P-7 Unique Multiple Melting Behavior of High-Speed Melt Spun Polylactide Fibers and its Kinetics Analysis
Natsumi Fukushi, Miku Yoshizawa, Shota Onosato, Motohiro Hanada, Midori Takasaki*,
Wataru Takarada, Yutaka Kawahara, Takeshi Kikutani, Haruki Kobayashi, and Katsufumi Tanaka
Kyoto Institute of Technology, Japan

P-8 Flame retardant material for high visibility work clothes
Junji Hamada
Toray Industries, Inc., Japan

P-9 Survey on Thermal Condition and Micro Climate in Bedding for Assessment of Sleeping Comfort – Comparison between Hong Kong and Japan –
Yuki Kobayashi1, Takayuki Ueno1, Naohide Nishiyama1, Yoshitaka Niimi1, Hiroyuki Kanai1,
Siyu Lin2, Xiaoliao2, Lei Yao2, and Edwin Keh2
1 Shinshu University, Japan,
2 Hong Kong Research Institute of Textiles and Apparel, Hong Kong, China

P-10 Influence of the brand and the price on evaluation in “shittori” for baby’s underwear
Yukari Suehiro, Sachiko Sukigara
Mukogawa Women's University, Kyoto Institute of Technology, Japan

P-11 Twisting Form in Twisting Part of Disc Friction False-twisting Machine
Satoshi Tomohiro, Naoto Kaneda, Toshiyasu Kinari,
Institute of Technology, Fukui College, Japan

P-12 Basic Research on the Surging in False-twisting Machine
Koichi Hayashida, Naoto Kaneda, Toshiyasu Kinari
Institute of Technology, Fukui College, Japan

P-13 Tensile Properties of High-strength Aramid Fibers after Fatigue
Suguru Yagi, Yuya Yomogizawa, Kaname Sugimura, Akihiro Suzuki,
Katsufumi Tanaka, Midori Takasaki and Haruki Kobayashi
Kyoto Institute of Technology, Japan

P-14 Visual Surface Roughness of Legs with Pantyhose and Color Effect of Pantyhose Fabric
Lina Wakako and Toshiyasu Kinari
Kanazawa University, Japan

P-15 Study on Formation of Metallic Oxide Supported Functional Paper and Its Catalytic Activity
Sota Sawaki, Haruhiro Ino, Yoichi Kodera
Kyoto Institute of Technology, Japan

P-16 A Measure of Comfort: KES Texture Measurement Technology for Objective Evaluation
Sean Huang and Kei Kawauchi
Kato Tech Co., Ltd., Japan

P-17 Relationship between Large Deflection Behavior and the Components of Woven Fabric
Ryo Hashizume, Toshiyasu Kinari, Rina Wakako
Kanazawa University, Japan
P-18 Analysis of Frictional Behavior by Whisker Type Tactile Sensor

Influence of Material Properties on Friction of Spunbond Nonwoven

Thinzar Phyo Wyint[*1,*4], Shinosuke Yoneda[*1], Toshiyasu Kinari[*2], Hiroshi Tachiya[*2], Lina Wakako[*2], Mari Inoue[*3]
*1:Graduate School of Natural Science and Technology, Kanazawa University,
*2:Institute of Mechanical Engineering, Kanazawa University
*3:Graduate School of Human Development and Environment, Kobe University
*4:Department of Textile Engineering, Yangon Technological University, Japan

P-19 Friction properties for fabrics by linear/rotational dragging with tactile sensor

Shinosuke Yoneda*, Toshiyasu Kinari**, Hiroshi Tachiya**, Lina Wakako**
*: Graduate School of Natural Science and Technology, Kanazawa University,
**: Institute of Mechanical Engineering, Kanazawa University, Japan

P-20 Hoop Tension Evaluation of CFRP with Braided Structure by Hydraulic Experiment

Kento Kawai*, Takuru Suehiro*, Nanang Endriatno*, Toshiyasu Kinari**
*: Graduate School of Natural Science and Technology, Kanazawa University
**: Institute of Mechanical Engineering, Kanazawa University, Japan

P-21 Relation between the surface gloss and the weave on the polyester fabric

Miwa Iwashita, Atsuji Masuda, Tetsuhiko Murakami, Seiji Kawabata, Kota Kobayashi, Shinya Seko, Yoshiyuki Iemoto, Hideyuki Uematsu, Shuichi Tanoue
University of Fukui, Japan

15:30〜15:55 Keynote speech 2

Multilayered perpendicular nonwovens for advanced thermal and acoustic insulation
Jiri Militky, Mohanaprya Venkataraman, Tao Yang
Technical University of Liberec, Czech Republic

15:55〜17:35 Session 2: Nano Fibers and Smart Textiles

5. Plasma mediated coating of fibers by conductive layers
Jiri Militky*, Veronika Tunakova*, Josef Vecernik**
*Technical University of Liberec, Czech Republic
**Vecernik s.r.o., Czech Republic

6. Mechanical properties of the Flexible conductive yarn
* Industrial Technology Center of FUKUI Pref.
**URASE CO., Ltd., Japan

7. Formation of Superamphiphobic Inorganic Nanofiber Mats Using Silane Coupling Agents with Short Perfluoroalkyl Chain
Koji Nakane, Shuya Gao, Akiyoshi Ohgoshi, Tadayuki Isaji, Masaaki Ozawa
University of Fukui, Japan, Nissan Chemical Industries, Ltd., Japan

8. Molding and mechanical property of keratin based composite material using ionic liquid
Haruhiro Ito, Keisuke Komuro, Teruo Kimura, Yoichi Kodera
Kyoto Institute of Technology, Japan

18:00〜19:30 Welcome Party
**15th September (Friday)**

8:30 ~ Registration
9:30 ~ 9:55  **Keynote speech 3**

Textile-based Wearable System for Monitoring Upper-arm Muscle Contraction during Dynamic Flexion

Xiaoming Tao  
The Hong Kong Polytechnic University, H.K.

9:55 ~ 10:45  **Session 3 : Apparel Science and Production Technology**

9. Thermo physiological and sewing properties of firefighter clothing  
   Adnan Mazari, Funda Buyuk, Antonin Havelka  
   Technical University of Liberec, Czech Republic

10. The compression properties of fabric towel under various water contents  
    Yuriko Kibayashi*, Hiroko Yokura**, Sachiko Sukigara*  
    *Kyoto Institute of Technology, **Shiga University, Japan  
    - Coffee Break 15 min -

11:00 ~ 12:15  **Session 4 : Fabric Handle and Sense Evaluation**

11. Effect of fiber length on hand and dimension changes of cotton knit fabrics by laundering  
    Nagisa Hirata1, KyoungOk Kim1, Masayuki Takatera1, Kyosuke Kanda2, Masatoshi Kawakami2:  
    1Shinshu University, 2Kondo Cotton Spinning Co., Ltd., Japan

12. Objective Evaluation of the Handle of Towels  
    Mari Inoue, Kazuki Chiba, Hiromi Nakaya, Yusuke Hayashi  
    Kobe University, Japan

13. Nonlinearity Evaluation of Soft Materials by Ball Indentation imitating Palpation  
    Atsushi Sakuma, Asuka Nagai, Etsuko Takayama  
    Kyoto Institute of Technology, Japan

12:15 ~ 13:30  Lunch

13:30 ~ 13:55  **Keynote speech 4**

3D Fabric and their Applications  
B. K. Behera  
Indian Institute of Technology Delhi, India

13:55 ~ 15:10  **Session 5 : Composite and Industrial Textiles**

14. Interesting different mechanical behaviours of 3D warp interlock fabrics for composite material  
    Francois Boussu, D. Soulat, C. Huniade, S. Picard  
    Univ. Lille North of France, France

15. Activated carbon structures from fibrous wastes  
    Vijay Baheti, Jiri Militky, Salman Naem  
    Technical University of Liberec, Czech Republic
16. **Introduction of New Fire Blocking Textile “GULFENG?” Composed of PPS and Ox-PAN**
    Masaru Harada
    Toray Industries, Inc., Japan

    - Coffee Break 15 min –

15:25～17:05 **Session 5: Composite and Industrial Textiles**

17. **Optimization of formulations with basalt fiber**
    Promoda Kumar Behera, Vijay Baheti, Jiri Militky, Holmer Savastano Junior
    Technical University of Liberec, Czech Republic

18. **Thermo-physiological properties of silica aerogel-encapsulated composites**
    Xiaoman Xiong, Tao Yang and Rajesh Mishra
    Technical University of Liberec, Czech Republic

19. **Fatigue damage analysis under tension loading for textile composites**
    Kazutaka Mukoyama, Koushu Hanaki, Tetsuei Kurashiki
    Osaka University, Japan

20. **Study on the damage propagation under three point bending for a short glass fiber reinforced composites by an injection mold**
    Xingsheng Li, T. Kurashiki, M. Zako, K. Kobayashi, T. Yamamoto, T. Sakakibara
    Osaka University, Japan

13:55～15:10 **Session 6: Dyeing and Finishing**

21. **Present situation of supercritical fluid dyeing and finishing**
    Teruo Hori, Isao Tabata and Kazumasa Horigaki
    University of Fukui, Japan

22. **Synthesis of Nano-porous Flexible Para-aramid Aerogel Fiber**
    Kazumasa Horigaki, Arata Uchimura, Yumiko Suzuki, Lei Du, Isao Tabata, Teruo Hori
    University of Fukui, Japan

23. **Improvement in dyeability of UHMWPE fiber using Supercritical CO2**
    Jaehyuk Ma, Satoko Okubayashi
    Kyoto Institute of Technology, Japan

    - Coffee Break 15 min –

15:25～16:40 **Session 6: Dyeing and Finishing**

24. **CASEIN TREATED FLAME RETARDANT COTTON TEXTILES**
    Sajid Faheem, Vijay Baheti, Maros Tunak, Jakub Wiener, Jiri Militky
    Technical University of Liberec, Czech Republic

25. **Soil resistant finishing technology “TECHNOCLEAN?”**
    Shota Takeshita
    Toray Industries, Inc., Japan

26. **Dyeability in Hair Dyeing Using Dyestuffs Prepared from Biobased Materials**
    Hidekazu Yasunaga, Akiko Takahashi, Kazue Ito, Masahisa Ueda, Saina Taniguchi, Asami Yano, Chinami Seki, Hiroshi Osaki, Tomoyasu Kida, Takanori Matsubara
    Kyoto Institute of Technology, Japan

18:00～20:00 **Symposium Party**
16th September (Saturday)

8:30～ Registration

9:15～10:05 Session 7: Designs and Quality of Textiles

27. Numerical Model of Textile for Large Deformation Behavior on Seat of Chair
   Yuki Kitahara, Atsushi Yokoyama
   Kyoto Institute of Technology, Japan

28. Measurement of Effective Thermal Conductivity of Synthetic and Regenerated Fiber Assemblies in Low Fiber Volume Fraction
   Morihiro Yoneda, Ai Ogawa, Michiyo Tada
   Nara Women's University, Japan

   - Coffee Break 15 min –

10:20～11:55 Session 8: Science and Technology of Textile Machinery

29. Research into the causes of Center Marks in Spandex plated fabric
   Shunji Takeuchi, Kazuki Nishioka, Hideyuki Uematsu, Shuichi Tanoue
   University of Fukui, Japan

30. An experimental study for optimal roller drafting parameters
   Tatsumori Matsumoto
   Murata Machinery, Ltd., Japan

31. Vortex spinning - technology, applications and market
   Akitsugu Mori
   Murata Machinery, Ltd., Japan

32. Bio Innovative Design and Manufacture of CFRP preform by Braiding Technology
   Toshiyasu Kinari, Nanang Endriatno**, Kento Kawai**, Takuru Suehiro***, Jiro Sakamoto*, Satoshi Kitayama*
   *: Institute of Mechanical Engineering, Kanazawa University,
   **: Graduate School of Natural Science and Technology, Kanazawa University, Japan

11:55～12:05 Closing Address
12:05～13:00 Lunch
13:00～ Excursion