

# The 8th International Nanotechnology/MEMS Seminar (INMS2014)

(Version 1)

このたび、ナノテクノロジー、MEMS、ナノマテリアル、グラフェン、量子ドット、ディスプレイ等の研究で著名な下記の方々(英国4名、仏国3名、米国2名、韓国6名、国内4名、計19名)が中本研を来訪されます。

昨年に続き、第二部「先端科学技術とクラシックピアノ音楽との出会い(The Cutting Edge Science and Technology Meet Classical Piano Music)」を、世界的ピアニスト山岸ルツ子さんのピアノリサイタルにより、12月1日、18:20 開場、18:50 開演で、アクトシティ浜松・中ホールにおいて行います。

(株)河合楽器製作所の御厚意により、本社から最高性能のピアノ及び国際調律技術者を提供して頂きます。

山岸ルツ子さんは、村上春樹氏の新刊「色彩を持たない多崎つくると、彼の巡礼の年」に始終登場する巨匠ピアニスト、ラザール・ベルマンの最後の弟子で、8年間、直接指導を受けた国際的ピアニストです。

さらに、今回の趣旨に鑑み、楽器技術の飛躍的革新を遂げたロマン派の時代の作品を中心に演奏とトークで先端科学技術と音楽の精神の融合と調和を紡いで下されます。

Prof. William I. Milne,	Cambridge University,	U.K.
Prof. Andrew. J. Flewitt,	Cambridge University,	U.K.
Prof. Jack Silver,	Brunel University,	U.K.
Prof. George Fern,	Brunel University,	U.K.
Prof. Didier Pribat,	Ecole Polytechnique/Sungkyunkwan University,	France/Korea
Prof. Yvan Bonnassieux,	Ecole Polytechnique,	France
Prof. Francois Templier,	CEA-LETI(Laboratory for Electronics & Information Technology),	France
Prof. Vincent Lee,	Columbia University,	U.S.A.
Prof. Paul H. Holloway,	University of Florida,	U.S.A.
Prof. Jin Jang,	Kyung Hee University,	Korea
Prof. Oh-Kyung Kwon,	Hanyang University,	Korea
Prof. Kyu-Chang Park,	Kyung Hee University,	Korea
Prof. Jang-Hyuk Kwon,	Kyung Hee University,	Korea
Prof. Min Chul Suh,	Kyung Hee University,	Korea
Prof. Yoon-Ho Song,	ETRI(Electronics and Telecommunications Research Institute),	Korea
Prof. Yoshinobu Aoyagi,	Ritsumeikan University,	Japan
Prof. Hiroshi Fujiwara,	Keio University,	Japan
Prof. Masanori Muroyama,	Tohoku University,	Japan
Prof. Minoru Sasaki,	Toyota Technological Institute,	Japan

The 8th International Nanotechnology/MEMS Seminar を下記のとおり開催いたしますので、多数御出席くださるようお願い申し上げます。なお、このセミナーはナノビジョン工学特別講義第二の対象講義として認められます。

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第二部参加登録用 E-mail nakamoto.inms2014@gmail.com

Date : Dec 1st (Mon), 2014

Part I Academic Symposium I: 11:15~16:50

Part II Rutsuko Yamagishi Piano Recital

- Cutting Edge Science and Technology Meet Classical Piano Music -  
18:20 (Doors Open/開場)、18:50 (Curtain Time/開演)

Dec 2nd (Tue), 2014

Part III Academic Symposium II: 9:00~12:05

Place : Concert Hall/中ホール, Act City Hamamatsu/アクトシティ浜松

Registration Fee : Part I & III / Free, Part II / 1,000 Yen

## **Monday, December 1st**

### **Opening (11:15-11:15)**

- 11:15            Opening Remarks        M. Nakamoto, General Chair, Shizuoka University
- 11:20            Opening Greetings      Y. Ito, President, Shizuoka University
- 11:25            Opening Greetings      H. Mimura, Director of RIE, Shizuoka University
- 11:40-12:50    Lunch

### **Part I    Academic Symposium I        Registration Fee : Free**

#### **Session 1: Nanomaterials and Graphene for Displays and NEMS/MEMS Devices**

- 13:00-13:20    W. I. Milne, Cambridge University, U.K.  
"FBAR Devices for Bio- Sensing Applications"
- 13:20-13:40    A. J. Flewitt, Cambridge University, U.K.  
"Cuprous Oxide Solar Cells"
- 13:40-14:00    D. Pribat, Ecole Polytechnique/Sungkyunkwan University, France/Korea  
"Improved Graphene Quality by a Careful Control of the Cu Surface Roughness during Growth"
- 14:00-14:20    J. Silver, Brunel University, U.K.  
"A Cathodoluminescence Method for Finding the Decay Rates of Excited States of Phosphors. Studies on Nanocrystalline  $Y_2O_3:Eu^{3+}$  with various  $Eu^{3+}$  Concentrations"
- 14:20-14:40    G. Fern, Brunel University, U.K.  
"Nano YAG for Lighting Applications"
- 14:40-14:50    Break

#### **Session 2: Advanced Organic and Nano Imaging Devices**

- 14:50-15:10    Y. Bonnassieux, Ecole Polytechnique, France  
"White Organic Light-Emitting Diodes with Ultra-Thin Mixed Emitting Layer"
- 15:10-15:30    F. Templier, CEA-LETI(Laboratory for Electronics & Information Technology), France  
"Impact of Passivation Conditions on the Performance of Bottom-gate IGZO Thin-film Transistors"

15:30-15:50 V. Lee, Columbia University, U.S.A.  
"Future Microdisplays through Integration of LEDs with Laser Crystallized Silicon Transistors"

### Session 3: Quantum Dot and Nanotechnologies for Energy and Information

15:50-16:10 P. H. Holloway/J. R. Manders, University of Florida, U.S.A.  
"Next-Generation Display Technology: Quantum Dot LEDs"

16:10-16:30 J. Jang, Kyung Hee University, Korea  
"Quantum Dots Light Emitting Devices by Solution Process"

16:30-16:50 H. Fujiwara, Keio University, Japan  
"Super-Mature, Society: Energy Business for Sustainable Future"

## Part II Rutsuko Yamagishi Piano Recital - Cutting Edge Science and Technology Meet Classical Piano Music -

**Registration Fee : 1,000 Yen**

18:20 Doors Open of The 2nd part

18:50 Curtain Time of The 2nd part

Opening Remarks

Prof. M. Nakamoto, General Chair, Shizuoka University

19:00 Rutsuko Yamagishi Piano Recital

**L.van ベートベン Ludwig van Beethoven (1770-1827) :**

**ピアノソナタ第14番嬰ハ短調「月光」**

*Sonate für Klavier Nr.14 cis-Moll "Sonata quasi una fantasia(Mondscheinsonate)"Op.27-2*

**F.リスト Franz Liszt (1811-1886) :**

**12の歌(シューベルト)から From 12 Lieder von Franz Schubert, S.558**

**糸を紡ぐグレートヘン Gretchen am Spinnrade**

**アヴェ・マリア Ave Maria**

**魔王 Erlkonig**

**【休憩】**

**エステ荘の噴水 (巡礼の年第3年IV)**

**Les jeux d'eaux a la Villa d'Este (Années de pelerinage Troisième année S.163 R.10 A283**

**ラ・カンパネラ (パガニーニ大練習曲より) La campanella (From Grandes études de Paganini S.141 R.3b)**

**スペイン狂詩曲 (スペインのフォリアとホタ・アラゴネーサ)**

**Rhapsodie espagnole(Folies d'Espagne et jota aragonesa) S.254 R.90**

**21:00-22:30 Banquet at Sky Banquet, Okura Act City Hotel 45th Floor**

**Banquet Fee : 8,000 Yen**

**Tuesday, December 2nd**

**Part III Academic Symposium II**

**Session 4: Advanced NEMS/MEMS Devices**

- 9:00-9:20 Y. Aoyagi, Ritsumeikan University, Japan  
"Nanotechnology toward High Power, High Efficient DUV LED"
- 9:20-9:40 O. K. Kwon, Hanyang University, Korea  
"Integrating Capacitive Micro-machined Ultrasonic Transducer and Front-end Circuits for 3-D Ultrasound Imaging"
- 9:40-10:00 Masanori Muroyama, Tohoku University, Japan  
"Microsystem Integration by MEMS and LSI Technologies for Human Support Robots and Other Applications"
- 10:00-10:20 M. Sasaki, Toyota Technological Institute, Japan  
"3D Processing using Resist Spray Coating or Microplasma Nozzle"

**Session 5: Carbon Nanotube and Advanced Nanodevices**

- 10:20-10:40 K. C. Park, Kyung Hee University, Korea  
"Carbon Nanotubes Electron Beam for High Efficient Light Source"
- 10:40-11:00 Y. H. Song, ETRI(Electronics and Telecommunications Research Institute), Korea  
"Digital X-ray Sources with CNT Field Emitters for Digital Breast Tomosynthesis"
- 11:00-11:20 J. H. Kwon, Kyung Hee University, Korea  
"Electrochromic Device for High Contrast Ratio Transparent AMOLED"
- 11:20-11:40 M. C. Suh, Kyung Hee University, Korea  
"Highly Efficient Fluorescent Organic Light Emitting Devices"
- 11:40-12:00 M. Nakamoto, Shizuoka University, Japan  
"Ruggedized Nanostructure Vacuum Green Devices"
- 12:00-12:05 Closing Remarks W. I. Milne, Cambridge University, U.K.