

# East Asia Regional Biometric Conference 2015

20-22 December 2015 Kyushu University, Fukuoka, Japan

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## Sunday, December 20

**12:30 - 13:30**      **Registration**

**13:30 - 13:40**

### Opening Address

- Hall -

Yasuo Ohashi (Chair, EAR-BC 2015 Organizing Committee)

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**13:40 - 15:20**

### Opening Ceremony: Introduction to IBS and Its Regional Activities

- Hall -

Chair: Tae Rim Lee (IBS Executive Board Director, Korea)

Satoshi Hattori (EAR-BC 2015 Organizing Committee, Japan)

John Hinde\* (IBS President, National University of Ireland Galway, Ireland)

Yasuo Ohashi\* (Japanese Region President, Chuo University, Japan)

P. Venkatesan\* (Indian Region President, Sri Ramachandra University, India)

Xiao Hua Andrew Zhou\* (Chinese Region President, University of Washington, USA)

Donguk Kim\* (Korean Region President, Sungkyunkwan University, Korea)

Sanjay Chaudhuri\* (Singapore Region President, National University of Singapore, Singapore)

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**15:20 - 15:50**      **Poster Session 1 / Coffee Break**

**15:50 - 17:30**

### Invited Session 1: Design and Analysis of Clinical Trials

- Hall -

Chair: Satoshi Teramukai (Kyoto Prefectural University of Medicine, Japan)

Akihiro Hirakawa (Nagoya University, Japan)

I1-1 ***Practical Use of Mixed-Effects Models for Repeated Measures in Longitudinal Clinical Trials***

Masahiko Goshō\* (University of Tsukuba, Japan)

I1-2 ***Analyzing the Clustered Interval-Censored Data with Informative Censoring***

Jinheum Kim\* (University of Suwon, Korea); Youn Nam Kim (Yonsei University Health System, Korea)

I1-3 ***An Adaptive Dose-Finding Method Using a Change-Point Model for Molecularly Targeted Agents in Phase I Trials***

Hiroyuki Sato\* (Pharmaceuticals and Medical Devices Agency, Japan); Akihiro Hirakawa (Nagoya University, Japan); Chikuma Hamada (Tokyo University of Science, Japan)

I1-4 ***New Perspective on the Determination of the Number of Japanese Patients in Multiregional Clinical Trials***

Seung-Ho Kang\* (Yonsei University, Korea)

## Contributed Session 1: Analysis of Survey / Diagnostic Data

- Room A+B -

Chair: Tatsuyuki Kakuma (Kurume University, Japan)

- C1-1 ***How Does the Statistical Interaction Between a Single Point Exposure and Attained Age Imply the Shape of Age-at-Onset Distribution?***  
Shizue Izumi\* (Oita University, Japan); John Cologne (Radiation Effects Research Foundation, Japan)
- C1-2 ***Semi-Parametric Approach for Estimating Smoothing Receiver Operating Characteristic Curves with Covariates***  
Motoki Oe\* (Oita University, Japan); Yoshimichi Ochi (Oita University, Japan); Masashi Goto (Biostatistical Research Association, Japan)
- C1-3 ***Comparison Methods about Identification Problem for Age-Period-Cohort Model***  
Se-Young Park\* (Yonsei University, Korea); Chung Mo Nam (Yonsei University College of Medicine, Korea)
- C1-4 ***Long Term Trends of Height, Weight and Body Mass Index in Japan***  
Ikuko Funatogawa\* (The Institute of Statistical Mathematics, Japan)
- C1-5 ***Joint Modeling of Longitudinal CD4 Cell Count and Time to Loss to Follow Up in HIV/AIDS Patients on Antiretroviral Therapy***  
Prafulla Kumar Swain\* (University of Delhi, India); Gurprit Grover (University of Delhi, India)
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## Monday, December 21

08:30 - 09:10 Registration

09:10 - 10:30

## Invited Session 2: Analysis of Observational Data

- Hall -

Chair: Donguk Kim (Sungkyunkwan University, Korea)

- I2-1 ***A Study of Bias Correction When Different Missing Mechanisms Coexist in a Survey of Medical Expenditure and Its Influence Factors for Urban Residents Enrolling in Urban Resident Basic Medical Insurance***  
Haixia Zhang (Shanxi Medical University / Hebei Province Center for Disease Prevention and Control, China); Tong Wang\* (Shanxi Medical University, China); Junkang Zhao (Shanxi Medical University, China)
- I2-2 ***A Semiparametrically Efficient Estimator of the Time-Varying Effects for Survival Data with Time-Dependent Treatment***  
Huazhen Lin\* (Southwestern University of Finance and Economic, China)
- I2-3 ***Branching Process and Statistical Determination of the End of an Epidemic***  
Hiroshi Nishiura\* (The University of Tokyo, Japan); Yuichiro Miyamatsu (The University of Tokyo, Japan); Kenji Mizumoto (The University of Tokyo, Japan)

## Contributed Session 2: Analysis of Genomic / Imaging Data

- Room A+B -

Chair: Aya Kuchiba (National Cancer Center, Japan)

C2-1 **Network Reconstruction Using Random Forest Regression in Metabolomics**

Yan Hou\* (Harbin Medical University, China)

C2-2 **False Discovery Rate Control for Correlation Testing in Neuroimaging Data**

Donghwan Lee\* (Ewha Womans University, Korea); Woojoo Lee (Inha University, Korea)

C2-3 **Informative SNP Selection Method Based on Principal Variables**

Seunghyun Lee (NEXON Korea Corporation, Korea); Mira Park\* (Eulji University, Korea)

C2-4 **Method for Estimating Cancer Genome Evolution from Next-Generation Sequencing Data Utilizing Population Genetics**

Yutaro Konta\* (University of Tokyo, Japan); Hisanori Kiryu (University of Tokyo, Japan)

### 11:30 - 11:00 Poster Session 2 / Coffee Break

11:00 - 12:30

## Keynote Lecture

- Hall -

Chair: Yasuo Ohashi (Chuo University, Japan)

K-1 **Translational Statistics**

John Hinde\* (National University of Ireland Galway, Ireland); John Newell (National University of Ireland Galway, Ireland)

K-2 **Statistical Feature Extraction: What do Biostatistics, Seismology and Neurophysiology have in Common?**

Young K. Truong\* (The University of North Carolina, USA); Ruiwen Zhang (SAS Institute, USA); Haipeng Shen (The University of Hong Kong, China)

### 12:30 - 14:00 Lunch Time

14:00 - 16:00

## Invited Session 3: Causal Inference in Health Sciences

- Hall -

Chair: Yuantao Hao (Sun Yat-sen University, China)

I3-1 **Causal Inference for Treatment Effect on Medical Cost with Censored Data**

Xiao Hua Andrew Zhou\* (University of Washington, USA); Xuan Wang (University of Washington, USA)

I3-2 **Exact Tests for the Weak Causal Null Hypothesis on a Binary Outcome in Randomized Trials**

Yasutaka Chiba\* (Kinki University Hospital, Japan)

I3-3 **Selecting Confounding Variables via the Lasso**

Wang Miao (Peking University, China); Jinzhu Jia\* (Peking University, China); Zhi Geng (Peking University, China)

I3-4 **Decomposition of the Population Attributable Fraction for Two Exposures**

Masataka Taguri\* (Yokohama City University, Japan); Aya Kuchiba (National Cancer Center, Japan)

I3-5 **Surrogate Endpoint Evaluation**

Zhi Geng\* (Peking University, China)

## Contributed Session 3: Clinical Trials

- Room A+B -

Chair: Seung-Ho Kang (Yonsei University, Korea)

C3-1 **New Repeated Measures Designs Based on Generalized Linear Mixed-Effects Models for RCTs**

Toshiro Tango\* (Center for Medical Statistics, Japan)

C3-2 **Primary Effectiveness Analysis in Non-Inferiority Study When Longitudinal Data May be Missing**

Masako Nishikawa\* (The Jikei University School of Medicine, Japan); Fumiaki Kiyomi (Fukuoka University Hospital, Japan); Toshiro Tango (Center for Medical Statistics, Japan)

C3-3 **Optimizing Hypothesis Weights in Confirmatory Adaptive Enrichment Clinical Trials with a Pre-Specified Subgroup**

Toshifumi Sugitani\* (Kyoto University, Japan); Martin Posch (Medical University of Vienna, Austria); Franz Koenig (Medical University of Vienna, Austria); Frank Bretz (Novartis Pharma AG, Switzerland)

C3-4 **Pragmatic Flexible Two-Stage Designs for Phase II Clinical Trial**

Shigeyuki Toyozumi\* (Pfizer Japan Inc, Japan); Chikuma Hamada (Tokyo University of Science, Japan)

C3-5 **Bias Reduction in Estimation of Survival Function for Interval Censored Data**

Yuki Nakagawa\* (Tokyo University of Science, Japan); Masataka Sano (Tokyo University of Science, Japan); Takashi Sozu (Tokyo University of Science, Japan); Chikuma Hamada (Tokyo University of Science, Japan)

C3-6 **Point and Interval Estimation of Subgroup Treatment Effects in Randomized Clinical Trials with a Significant Treatment-by-Subgroup Interaction**

Kiichiro Toyozumi\* (Nagoya University, Japan); Shigeyuki Matsui (Nagoya University, Japan)

**16:00 - 16:30 Poster Session 3 / Coffee Break**

**16:30 - 17:50**

## Invited Session 4: Screening in Omics Studies

- Hall -

Chair: Masaaki Matsuura (Teikyo University, Japan)

I4-1 **Wavelet and Empirical Bayes-Based Batch Effect Removal Method in Metabolomics**

Kang Li\* (Harbin Medical University, China)

I4-2 **Feature Selections and Statistical Inferences for High-Order Interaction Models and Its Application to Genome Data Analysis**

Ichiro Takeuchi\* (Nagoya Institute of Technology, Japan); Shinya Suzumura (Nagoya Institute of Technology,

Japan); Kazuya Nakagawa (Nagoya Institute of Technology, Japan); Koji Tsuda (The University of Tokyo, Japan); Masayuki Karasuyama (Nagoya Institute of Technology, Japan)

I4-3 ***Detecting Gene-Gene Interactions Using a Unified Multifactor Dimensionality Reduction Analysis***

Wenbao Yu (University of Pennsylvania, USA); Seungyeoun Lee (Sejong University, Korea); Yongkang Kim (Seoul National University, Korea); Taesung Park\* (Seoul National University, Korea)

**Contributed Session 4: Spatial and Environmental Epidemiology - Room A+B -**

Chair: Inkyung Jung (Yonsei University College of Medicine, Korea)

C4-1 ***A Modified Generalized Lasso Algorithm to Detect Local Spatial Clusters for Count Data***

Hosik Choi (Kyonggi University, Korea); Eunjung Song\* (Inha University, Korea); Seungsik Hwang (Inha University, Korea); Woojoo Lee (Inha University, Korea)

C4-2 ***Optimizing Maximum Window Size in Spatial Scan Statistic for Ordinal Data***

Sehwi Kim\* (Yonsei University, Korea); Inkyung Jung (Yonsei University College of Medicine, Korea)

C4-3 ***Causal Mediation Analysis in Nested Case-Control Studies Using Conditional Logistic Regression***

Young Min Kim\* (Radiation Effects Research Foundation, Japan); John B. Cologne (Radiation Effects Research Foundation, Japan); Yoshimi Tatsukawa (Radiation Effects Research Foundation, Japan); Waka Ohishi (Radiation Effects Research Foundation, Japan); Michiko Yamada (Radiation Effects Research Foundation, Japan); Kataro Ozasa (Radiation Effects Research Foundation, Japan); Mai Utada (Radiation Effects Research Foundation, Japan)

C4-4 ***Statistical Methods for Environmental Time Series Studies: Focusing on Non-Linear Models***

Whanhee Lee (Seoul National University, Korea); Sunghee Hwang (Seoul National University, Korea); Soohyun Lee (Seoul National University, Korea); Ho Kim\* (Seoul National University, Korea)

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**19:00 – 21:00 Conference Dinner**

**Granada Suite (5-3-8 Nakasu, Hakata-ku, Fukuoka-city, Fukuoka, Japan)**

**Tuesday, December 22**

**08:00 - 08:30 Registration**

**08:30 - 09:50**

**Invited Session 5: Prediction Analysis of High-Dimensional Data - Hall -**

Chair: Seiya Imoto (The University of Tokyo, Japan)

I5-1 ***Machine Learning Approaches for Feature Extraction and Feature Selection in High Dimensional Databases***

P. Venkatesan\* (Sri Ramachandra University, India)

I5-2 **Multivariate Smooth-Threshold Genetic Prediction with Unbiased Model Selection**

Masao Ueki\* (Kurume University, Japan); Gen Tamiya (Tohoku University, Japan)

I5-3 **Edge Selection for Undirected Graph**

Meng Hwee Victor Ong\* (National University of Singapore, Singapore); Sanjay Chaudhuri (National University of Singapore, Singapore); Berwing A. Turlach (University of Western Australia, Australia)

**Contributed Session 5: Analysis of Survival / Categorical Data**

- Room A+B -

Chair: Manabu Iwasaki (Seikei University, Japan)

C5-1 **On the Overdispersion in Binomial and Poisson GLMs**

Donghwan Lee (Ewha Womans University, Korea); Jeonghwan Kim\* (Inha University, Korea); Woojoo Lee (Inha University, Korea)

C5-2 **A Goodness-of-Fit Test for Multinomial Logit Regression Model**

Mi Kyung Song\* (Yonsei University, Korea); Inkyung Jung (Yonsei University College of Medicine, Korea)

C5-3 **A Simple to Implement Algorithm for Natural Direct and Indirect Effects in Survival Studies with a Repeatedly Measured Mediator**

Theis Lange\* (University of Copenhagen, Denmark); Susanne Strohmaier (University of Oslo, Norway)

C5-4 **Doubly Robust Estimator for Net Survival Rate in Analyses of Cancer Registry Data**

Sho Komukai\* (Kurume University, Japan); Satoshi Hattori (Kurume University, Japan)

**09:50 - 10:20 Poster Session 4 / Coffee Break**

**10:20 - 12:20**

**Invited Session 6: Meta-Analysis**

- Hall -

Chair: Koji Oba (The University of Tokyo, Japan)

Kunihiko Takahashi (Nagoya University, Japan)

I6-1 **Avoiding Zero Between-Study Variance Estimates in Random-Effects Meta-Analysis**

Yejin Chung\* (Kookmin University, Korea); Sophia Rabe-Hesketh (University of California, USA); In-Hee Choi (University of California, USA)

I6-2 **Combined Effect Estimation of Weighted Youden Index in Meta-Analysis**

Pingyan Chen\* (Southern Medical University, China); Jiangmei Liu (Southern Medical University, China)

I6-3 **Issues in Meta-Analysis of Complex Public Health Interventions**

**Sreekumaran N Nair\*** (Manipal University, India); **Ravishankar N** (Manipal University, India); **Melissa G Lewis** (Manipal University, India)

I6-4 **Implementation of Bayesian Network Meta-analysis to Improve Medical Product Development**

Tomonori Oura\* (Eli Lilly Japan, Japan); Karen L. Price (Eli Lilly & Company, USA); Brenda L. Gaydos (Eli Lilly & Company, USA)

16-5 ***Quantifying Indirect Evidence in Network Meta-Analysis***

Hisashi Noma\* (The Institute of Statistical Mathematics, Japan); Shiro Tanaka (Kyoto University, Japan); Shigeyuki Matsui (Nagoya University, Japan); Andrea Cipriani (University of Oxford, UK); Toshi A. Furukawa (Kyoto University, Japan)

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**12:20 - 12:30**

**Closing Remarks**

- Hall -

Shigeyuki Matsui (Chair, EAR-BC 2015 Scientific Programme Committee)

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## Poster Session, December 20-22

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- P-01 ***Dose Finding Design for Two-Agent Combination Trials***  
Fumiya Shimamura\* (Tokyo University of Science, Japan); Akihiro Hirakawa (Nagoya University, Japan); Chikuma Hamada (Tokyo University of Science, Japan)
- P-02 ***Hierarchical Bayesian Approach to Phase I/II Oncology Trials for Combination Therapy***  
Shinjo Yada\* (A2 Healthcare Corporation, Japan); Chikuma Hamada (Tokyo University of Science, Japan)
- P-03 ***Power and Sample Size in Randomized Clinical Trials with Over-Dispersed Count Data: An Approach Based on a Quasi-Likelihood Test with Sandwich-Type Robust Variance Estimator***  
Masataka Igeta\* (Takeda Pharmaceutical Company Limited / Nagoya University, Japan); Shigeyuki Matsui (Nagoya University, Japan)
- P-04 ***Regression Diagnostics for Parametric Accelerated Failure Time Model with Interval-Censored Observations***  
Rieko Sakurai\* (Kurume University, Japan); Satoshi Hattori (Kurume University, Japan)
- P-05 ***A Proposal for Progression-Free Survival Assessment in Patients with Early Progressive Cancer***  
Takanori Tanase\* (Tokyo University of Science, Japan); Chikuma Hamada (Tokyo University of Science, Japan)
- P-06 ***Comparison of Measures Evaluating Performance for a New Factor in Survival Data***  
Soon Gyu Chu\* (Yonsei University, Korea); Inkyung Jung (Yonsei University College of Medicine, Korea)
- P-07 ***Determination of Prognostic Factors of Cervical Cancer Patients: Application of a Competing Risk Model***  
Shengnan Guo (Southern Medical University, China); Yawen Hou\* (Jinan University, China); Zheng Chen (Southern Medical University, China)
- P-08 ***External Validation and Comparison of Six Prognostic Models in a Prospective Cohort of HBV-ACLF in China***  
Yi Shen (Nantong University, China); Yan-mei Liu\* (Nantong University, China); Bin Wang (Nantong University, China); Yan Qin (Singapore General Hospital, Singapore); Gang Qin (Nantong University, China)
- P-09 ***Censored Cumulative Residual Independent Screening for Ultrahigh-Dimensional Survival Data***  
Jing Zhang (Wuhan University, China); Guosheng Yin (University of Hong Kong, China); Yanyan Liu\* (Wuhan University, China); Yuanshan Wu (Wuhan University, China)
- P-10 ***A Classification Method Based on Nested Normal Mixture Models with Cancer Outlier Profiles***  
Kota Matsui\* (Nagoya University / CREST, Japan); Tomonori Oura (Eli Lilly Japan K.K., Japan); Shigeyuki Matsui (Nagoya University / CREST, Japan)
- P-11 ***Establishing Individualized Treatment Rules Based on Bayesian Model Averaging Approach***  
Shuhei Kaneko\* (Tokyo University of Science, Japan); Akihiro Hirakawa (Nagoya University, Japan); Chikuma Hamada (Tokyo University of Science, Japan)
- P-12 ***Re-Evaluation of the Multiple Testing Strategy for Detecting Disease-Related Genetic Variants in Genome-Wide Association Studies***  
Takahiro Otani\* (The Institute of Statistical Mathematics / CREST, Japan); Hisashi Noma (The Institute of Statistical Mathematics / CREST, Japan); Jo Nishino (Nagoya University / CREST, Japan); Shigeyuki Matsui (Nagoya University / CREST, Japan)



- P-13 ***Strong Association of the Polymorphisms in PBEF1 and Knee OA Risk: A Two-Stage Population-Based Study in Northern China***  
Minjie Chu\* (Nantong University, China); Yidan Wang (Nantong University, China); Liying Jiang (Nantong University / Harbin Medical University, China)
- P-14 ***Meta-Analysis of J-shaped Dose-Response Curves on Alcohol Dosing and Total Mortality***  
Hiroyuki Nakao\* (Miyazaki Prefectural Nursing University, Japan); Kunihiko Takahashi (Nagoya University, Japan); Satoshi Hattori (Kurume University, Japan)
- P-15 ***Meta-Analysis of Regression Results under Different Categorization of Covariates***  
Daisuke Yoneoka\* (The Graduate University for Advanced Studies, Japan); Masayuki Henmi (Institute of Statistical Mathematics, Japan)
- P-16 ***A Method for Comparing Two Binary Diagnostic Tests with a Mix of Patients with Definitive and Non-Definitive Diagnoses***  
Kenta Murotani\* (Aichi Medical University, Japan)
- P-17 ***Sensitivity Analysis for the Misclassification of Competing Outcomes in a Cohort Study in Japan***  
Makiko Mieno\* (Jichi Medical University, Japan); Noriko Tanaka (National Center for Global Health and Medicine, Japan); Motoji Sawabe (Tokyo Medical and Dental University, Japan); Tomio Arai (Tokyo Metropolitan Geriatric Hospital, Japan); Shizukiyo Ishikawa (Jichi Medical University, Japan)
- P-18 ***A Data-Driven Clustering Method Using a Mixture Approach of Nonlinear Mixed-Effects Model for Longitudinal Functional Rating Scale in Amyotrophic Lateral Sclerosis Patients***  
Akihiro Hirakawa\* (Nagoya University, Japan)
- P-19 ***Evaluation of the Effects of Selection Pattern of Internal Cohort Study from a Disease Registry***  
Akiko Kada\* (National Hospital Organization Nagoya Medical Center, Japan); Akiko M. Saito (National Hospital Organization Nagoya Medical Center, Japan)
- P-20 ***Statistical Method to Detect a Local Birth Cohort Effect in Cancer Mortality***  
Tetsuji Tonda\* (Prefectural University of Hiroshima, Japan); Kenichi Satoh (Hiroshima University, Japan); Ken-ichi Kamo (Sapporo Medical University, Japan)
- P-21 ***An Assessment of Closeness Between Propensity-Score-Matched Individuals in Causal Inference***  
Fumiya Sano\* (Keio University, Japan); Sakura Hosoya (Seikei University, Japan); Manabu Iwasaki (Seikei University, Japan)
- P-22 ***Estimating Regression Coefficients for Balanced Growth Curve Model When Time Trend of Baseline is not Specified***  
Kenichi Satoh\* (Hiroshima University, Japan); Tetsuji Tonda (Prefectural University of Hiroshima, Japan)
- P-23 ***A Non-Iterative Optimization of Smoothing Parameter in Penalized Spline Regression by Minimizing GCV***  
Keisuke Fukui\* (Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan); Hirokazu Yanagihara (Hiroshima University, Japan)
- P-24 ***A Class Extension of Adequate Adjustment Factor for Small Area Inference***  
Masayo Y. Hirose\* (Institute of Statistical Mathematics, Japan)
- P-25 ***Comparison of Behavior of Convergence Diagnostics for Markov Chain Monte Carlo Methods When Analyzing the Circular Data***  
Kazuya Ikehara\* (Waseda University, Japan); Takashi Akiyama (Waseda University, Japan)

P-26 ***Effectiveness of Dietary Lifestyle Education Program for Adolescents in Middle Schools: A Cluster Randomized Controlled Trial***

Junko Watanabe\* (Kumamoto University, Japan); Mariko Watanabe (Showa Women's University, Japan); Kazue Yamaoka (Teikyo University, Japan); Misa Adachi (Nutrition Support Network LLC, Japan); Asuka Nemoto (Teikyo University, Japan); Toshiro Tango (Center for Medical Statistics, Japan)

P-27 ***Analytical Modeling to Study Food Availability with Food Production Factors***

Chanchal Pramanik\* (Tata Consultancy Services, India); Srinivasu Pappula (Tata Consultancy Services, India)

P-28 ***Genetic Parameters of Wood Properties for Pinus Kesiya in Malawi***

Edward Missanjo\* (Kyushu University, Japan); Junji Matsumura (Kyushu University, Japan)

P-29 ***Bioinformatics Informatics Training & Education Center MOOC***

Taerim Lee\* (Korea National Open University, Korea); Juhan Kim (Seoul National University, Korea)

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