Vol.5 table of contents (2012)

Vol.5 No.1

Research papers

Construction of a traceability matrix for high quality project management
— A proposal of a basic theory toward a change from process-centric management to information-centric project management —
- - - A. SAKAEDANI, Y. OHKAMI and N. KOHTAKE 1-16

Research and development of a monopivot centrifugal blood pump for clinical use
— Collaboration for a product between medical and engineering teams —
- - - T. YAMANE, O. MARUYAMA, M. NISHIDA and R. KOZAKA 17-24

An analysis method for oxygen impurity in magnesium and its alloys
— International standardization activity in parallel with R&D —
- - - A. TSUGE and W. KANEMATSU 25-36

Analysis of synthetic approaches described in papers of the journal Synthesiology
— Towards establishing synthesiological methodology for bridging the gap between scientific research results and society —
- - - N. KOBAYASHI, M. AKAMATSU, M. OKAJI, S. TOGASHI, K. HARADA and N. YUMOTO 37-55

Durable polymer electrolyte fuel cells (PEFC) for residential co-generation application
— Elucidation of degradation mechanism to establish an accelerated aging test method of PEFC —
- - - T. TANIMOTO, K. YASUDA, Z. SIROMA, T. AKITA and T. KOBAYASHI 56-64

Report

Synthesiology Workshop at the Annual Meeting of the Japan Society for Science Policy and Research Management (JSSPRM)
— Synthesiology through knowledge integration to innovation —
65-72

Vol.5 No.2

Research papers

Paleoclimate reconstruction and future forecast based on coral skeletal climatology
— Understanding the oceanic history through precise chemical and isotope analyses of coral annual bands —
- - - A. SUZUKI 78-87

Development of methane hydrate production method
— A large-scale laboratory reactor for methane hydrate production tests —
- - - J. NAGAO 88-95

Toward the integrated optimization of steel plate production process
— A proposal for production control by multi-scale hierarchical modeling —
- - - K. NISHIOKA, Y. MIZUTANI, H. UE NO, H. KAWASAKI and Y. BABA 96-113

Information sharing platform to assist rescue activities in huge disasters
— System linkage via data mediation —
- - - I. NODA 114-127

Round-table Talks

Science and technology policy and synthesiology – Bridging science and values 128-133
## Table of contents

### Vol.5 No.3

#### Research papers

- Developing an evaluation system of visually induced motion sickness for safe usage of moving images
  - *Fermentation of a social understanding to supply secure and comfortable images through integration of researches on human characteristics, image analysis technique and image production technique* —- H. Uike 139 - 149

- Spinning process using robot technology
  - *Field-based bricolage of manufacturing technology* —
  - - - H. Arai 150 - 159

- International cooperation for the utilization of earth observational data in an integrated manner
  - *Development of de jure standardization of the common infrastructure for the global earth observation system of systems* —
  - - - K. Iwao 160 - 170

- Development of a pressure sensor using a piezoelectric material thin film
  - *Application to a combustion pressure sensor for mass-produced cars* —
  - - - M. Akiyama, T. Tabaru and K. Kishi 171 - 180

- Novel functional gels and their commercial distribution as chemical reagents
  - *New development of functional soft-materials* —
  - - - M. Yoshida 181 - 189

- Evaluating the effects of actions taken to attract visitors to sightseeing areas
  - *An Open Service Field behavior survey technology* —
  - - - Y. Yamamoto 190 - 200

- Development of basic tools for glycoscience and their application to cancer diagnosis
  - *A 10-year strategy of the Research Center for Medical Glycoscience of AIST* —
  - - - H. Narimatsu 201 - 215

#### Round-table Talks

- Creation of values and synthesis
  - 216 - 222

### Vol.5 No.4

#### Research papers

- Dose standards for safe and secure breast cancer screening
  - *Establishment of X-ray dose standards for mammography and construction of a calibration service system* —
  - - - T. Tanaka, T. Kurosawa and N. Saito 228 - 240

- Reconstruction of the 869 Jogan tsunami and lessons from the 2011 Tohoku earthquake
  - *Significance of ancient earthquake studies and problems in announcing study results to society* —
  - - - Y. Okamura 241 - 250

- Evaluating uncertainty for the standardization of single cell/stack power generation performance tests for SOFC
  - *Standardizing test methods and ensuring reliability of test results for the commercialization of SOFC* —
  - - - A. Momma, K. Takano, Y. Tanaka and T. Kato 251 - 261

- Development of switchable mirror glass
  - *R&D strategy toward its practical use* —
  - - - K. Yoshimura, K. Tajima and Y. Yamada 262 - 269

- Standardization of environmental analysis methods of hazardous chemicals
  - *Contributions to international control of hazardous chemicals by using advanced technologies* —
  - - - S. Taniyasu, N. Hanari, Y. Horii and N. Yamashita 270 - 286