Vol.6 table of contents (2013)

Vol.6 No.1

Round-table Talks
New research method in the age of science, technology, and innovation 1-11

Research papers
Progress towards realizing distributed power generation with highly efficient SOFC systems
— Development and standardization of performance evaluation methods targeting early market entry of SOFC systems —
- - - Y. TANAKA, A. MOMMA, A. NEGISHI, K. KATO, K. TAKANO, K. NOZAKI and T. KATO 12-26

Earthquake prediction research based on observation of groundwater
— Earthquake forecasting based on crustal deformation estimated from groundwater level change —
- - - N. KOIZUMI 27-37

Estimation of legible font size for elderly people
— Accessible design of characters in signs and displays and its standardization —
- - - K. SAGAWA and K. KURAKATA 38-49

Development of fiber optic broadband vibration-detection system
— Simultaneous measurement of both strain and acoustic emission using a fiber Bragg grating sensor —
- - - H. TSUDA, E. SATO, T. NAKAJIMA and A. SATO 50-59

Vol.6 No.2

Research papers
Training technology for auditory orientation by the persons with visual impairment
— Toward practical use in rehabilitation facilities —
- - - Y. SEKI 66-74

Separation of carbon nanotubes (CNTs) by the separation method for biomolecules
— Towards large-scale, low-cost separation of metallic and semiconducting CNTs —
- - - T. TANAKA and H. KATAURA 75-83

Construction of the Ceramic Color Database
— Database of more than 300,000 glaze test pieces and its application to industrial research —
- - - T. SUGIYAMA 84-93

A brief history of arcade video game display technologies
— From CRT displays to real time graphics —
- - - Y. SAMBE 94-104

A scientific challenge to the delineation of Japan’s continental shelf
— Contribution to validating the Japan’s rights over marine areas based on earth science —
- - - A. NISHIMURA, M. YUASA, K. KISHIMOTO and K. IIZASA 105-121

Article
An introduction to the Research Excellence Framework: A new research evaluation framework for universities in the UK
— A comparison with the status of research evaluation in Japan —
- - - R. OHTANI, M. KAMO and N. KOBAYASHI 122-128

Report
Lecture at the 27th Conference of the Japan Society for Science Policy and Research Management
Methodology of the introduction of technology to society from the analysis of papers published in Synthesiology 129-131
Vol.6 No.3

Research papers
A proposal for setting electric power saving rate to avoid risk of electric power shortage occurrence
— Probability evaluation system of electric power shortage occurrence under tight electric power supply —
- - - I. Arizono and Y. Takemoto 137 - 146

Development of diamond-based power devices
— Verification of its superiority as the ultimate power device —
- - - S. Shikata and H. Umezawa 147 - 157

Marine geological mapping project in the Okinawa area
— Geoinformation for the development of submarine mineral resources —
- - - K. Arai, G. ShimoDA and K. Ikehara 158 - 165

Measurement of input resources for standardization activities in basic research and applied and development research, and the difference of the measuring results between the research types
— Case studies of universities and technology licensing organizations, and the electric machinery industry —
- - - S. Tamura 166 - 176

Article
Portfolio structuring and social implementation in the development of complex technology
— Case study of the development of GERAS and its evolution —
- - - T. Komai 177 - 183

Vol.6 No.4

Research papers
Development of automatic cell culture system for cell therapy and regenerative medicine
— Robotized system for high quality cell product preparation —
- - - S. Wakitani, H. Tahara, K. Nakashima, H. Hasunuma, S. Shimodaira, M. Onodera and T. Uemura 189 - 199

Selection of next-generation low global-warming-potential refrigerants by using a risk trade-off framework
— Risk trade-off assessment for R-1234yf —
- - - H. Kajihara 200 - 211

Industrial safety and application of the chemical accidents database
— Relational Information System for Chemical Accidents Database and Progress Flow Analysis —
- - - Y. Wada 212 - 221

Capacitor devices for rapid charge/discharge storage
— R&D strategies of electrode materials for high performance capacitor devices —
- - - H. Hatori, O. TanaiKe, Y. Soneda and M. Kodama 222 - 231

Physical separation technology to support the strategic development of urban mining
— Development of unused/hard-to-use resources and a future vision of resources for Japan —
- - - T. Oki 232 - 240

Round-table Talks
System design management and Synthesiology
— Methodology to tackle the issues of modern society and to utilize the research results in society — 241 - 249