

## C O N T E N T S

### Essay

- Early Establishment of the New Basic Energy Plan is Expected  
..... H. YOSHIDA ..... (509)
- Roles and Prospects of Coal in 21st Century  
..... T. ARAMAKI ..... (510)

### JIE Award (Academic Session)

- Evaluation of Coal Caking Property and De-chlorine Technology of Waste Plastics Recycling Process  
Using Coke Ovens  
..... K. KATO ..... (511)

### JIE Award (Technical Session)

- Development of JAPAN-GTL Process  
..... Japan Oil, Gas and Metals National Corporation, INPEX CORPORATION  
JX Nippon Oil & Energy Corporation, Japan Petroleum Exploration Co., Ltd  
Cosmo Oil Co., Ltd, Nippon Steel Engineering Co., Ltd, Chiyoda Corporation ..... (520)

### Special Articles : Unconventional Natural Gas

#### (Preface)

- The Impact of Unconventional Natural Gas  
..... M. HARADA ..... (526)

#### (Reviews)

- Review on the U.S. Shale Gas Development Casting off the Unconventional Gas  
..... K. FUJITA ..... (528)
- History of CBM Development and Actual CBM-LNG Projects in Australia  
..... S. SHIMADA, J. YOSHITAKE ..... (536)
- Novel Applications of Clathrate Hydrates - From Natural Gas Hydrate to Semi-Clathrate Hydrate  
..... S. TAKEYA ..... (545)
- Latest Technical Trend on Exploration and Development for Shale Gas and Oil  
..... Y. ISHISE, R. SATO, K. TSUSHIMA, M. YOSHIKAWA ..... (554)

### Special Articles : Energy crop: Erianthus

#### (Reviews)

- Perspective on Research of Cellulosic Raw Material Crops for Bioethanol  
..... S. MORITA, N. SEKIYA, J. ABE ..... (562)
- Development of the *Erianthus* Variety for the Production of Lignocellulosic Biomass Feedstocks  
..... N. UWATOKO, M. GAU ..... (571)
- Crop Management Approaches to Improve Erianthus Biomass Yield  
..... N. KATO, I. HATTORI, N. UWATOKO, M. GAU ..... (577)
- The Storage Technology of Biomass Energy Crops Utilizing Fodder Storage Method  
..... I. HATTORI, M. GAU, N. KATO ..... (583)
- Development of an Integrated System for Bioethanol Production from Cellulosic Energy Crops  
..... E. MORITA, S. MIHASHI, M. SUGIHARA ..... (590)
- Development of Small-Scale Systems for Bioethanol Production for Vitalizing Rural Areas  
- Expectation for Energy Crops as Advanced Feedstocks  
..... K. TOKUYASU ..... (599)

## Special Articles : Local revitalization and biomass resource utilization by redevelopment of agricultural and forest industries and local community

### (Reviews)

- Construction of Energy Productive Agriculture and Rural Area by Full Use of Regional Resources  
..... Y. YUYAMA ..... (605)
- Biomass Energy Production and the Evaluation of Its Environmental Impact  
..... S. UCHIDA ..... (612)
- Discussion on Utilization of Japanese Forest Using Social Network Service  
..... Y. MATSUMURA, M. YAMAZAKI, T. YOSHIOKA ..... (619)
- A Prospect for the Electric Power Generator Projects of Local Contribution Type  
through the Establishment of the Basic Ordinances on Local Renewable Energy  
..... K. SHIRAISHI ..... (627)
- A Study for the Implementation of Biomass/Biofuel in Japan Using SNS  
..... S. MORIMOTO ..... (633)

### Lecture Note

- Energy Conversion (3-13):  
Thermoelectric Generation  
..... H. HACHIUMA ..... (640)
- Coal (24):  
Coal and a Global Environmental Problem (CO<sub>2</sub>)  
..... M. KAWAMIYA ..... (648)

### Abstract of the refereed papers

- (Vol. 92, No. 6)  
A Study of Kuroshio Current as a Source of Hydroelectric Power Generation  
..... S. KISHIMOTO ..... (654)
- (Vol. 92, No. 7)  
Kinetic Study of Glucose Production from Cellobiose through Hydrolysis with Solid Acid Catalyst  
..... M. KITANO, K. SATO, K. NARAI, N. KANEKO, M. HARA ..... (655)
- Performance and Emission Characteristics of a Variable Compression Ratio Engine of Sardine Oil Using Methyl Esters  
..... V. NARASIMAN, S. JEYAKUMAR, M. MANI ..... (656)

- ~~~~~  
Introduction of Research Group (Department of Chemical Engineering, Institute of Engineering,  
Tokyo University of Agriculture and Technology, Chemical Engineering Field,  
Fushimi Laboratory) ..... (657)
- Entropy ..... (660)                      JIE Calendar ..... (661)
- Bulletin Board ..... (662)                      From the Editors ..... (667)
- ~~~~~