

ANNOUNCEMENTS

IGT's Seventh Annual Meeting on Energy from Biomass and Wastes

The Institute of Gas Technology (IGT) has issued a call for papers for *Fuels from Biomass and Wastes VII*, to be held in early 1983.

Dr. Donald L. Klass, symposium chairman, noted that energy from biomass continues to grow in importance and already supplies about 3.2% of US energy needs—the equivalent of over one million barrels of oil per day.

Program topics include: Biomass Production and Procurement • Combustion • Thermochemical and Biological Gasification • Thermochemical and Biological Liquefaction • Environmental Effects and Maintenance • Energy Modeling • Economics • Energetics • Commercialization • Chemical Production from Biomass and Wastes • Basic Research.

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Enzyme and Microbial Technology—Immobilized Biocatalysts

*Division of Microbial and Biochemical Technology Symposium,
American Chemical Society National Meeting, Kansas City, Missouri,
September 12-17, 1982*

Co-Chairman—R. A. Messing, J. J. Marshall

1st. Day: Introduction, R. A. Messing; K. Mosbach, Keynote Address; W. J. Jewell, Design Basis of The Anaerobic Attached Film Expanded Bed Process; T. Stineman, R. A. Messing, Immobilized Cell Anaerobic Digestion For Methane of Poultry Manure; L. F. Chen, G. T. Tsao, Columns of Immobilized Microbial Cells; G. E. Tong, K. B. Westmoreland, Potential Application of Immobilized Biocatalysts in Energy Related Industries; D. D. Y. Ryu, H. S. Sohn, S. B. Lee, Kinetic Studies on Enzymatic Synthesis of Beta-Lactam Antibiotics Using Immobilized Enzyme and/or Cells; J. F. Roland, Modification of Milk Using Immobilized Enzymes; D. A. Sirotti, A. H. Emery, Diffusion and Reaction In An Immobilized-Enzyme Starch Saccharification Catalyst; R. J. Linhardt, C. L. Cooney, A. K. Larsen, D. Tapper, R. S. Langer, An Immobilized Microbial Heparinase For

Blood Deheparinization; *E. Ziomek*, W. G. Martin, R. E. Williams, Entrapment of Cell-Associated and Purified Hydrogenase From *Desulfovibria desulfuricans* in Different Radiation Polymerized Polyacrylamide Gels.

2nd Day: Introduction, J. J. Marshall; *J. Bonaventura*, C. Bonaventura, Underwater Life Support Based on Immobilized Oxygen Carriers; *S. Hirose*, W. R. Vieth, Artificial Model of The Post-Synaptic Membrane Structure at The Neuromuscular Junction; *L. B. Wingard Jr.*, J. F. Costner, S. J. Yao, S. K. Wolfson, Jr., C. C. Liu, A. L. Drash, Immobilized Glucose Oxidase in The Potentiometric Detection of Glucose; *A. M. Klibanov*, B. N. Alberti, Unusual Catalytic Properties of Unusual Enzymes: The Preparative Potential; *G. B. Borglum*, J. J. Marshall, The Potential of Immobilized Biocatalysts For Production of Industrial Chemicals.