

BASSAM J. JODY

Energy Systems Scientist
Energy Systems Division
Argonne National Laboratory

Education

- Ph.D. 1977, University of Illinois-Chicago, Thermo-mechanical Engineering (Thermodynamics and Heat Transfer)
- M.S. 1973, Chemical Engineering, University of Illinois-Chicago
- B.S. 1970, Mathematics/Chemistry (minor), University of Illinois-Chicago

Professional Experience

2/89–present Principal Engineer/Project Manager, Energy Systems Division
Argonne National Laboratory

Manage and conduct research to develop and commercialize cost-effective processes in the separations and energy areas. Accomplishments include:

- Presently working on a project to develop and evaluate chemical energy carrier fluids for the capture of high temperature geothermal energy for power generation
 - Thermodynamic analysis of reversible chemical reaction systems for the capture, storage and release of geothermal energy from enhanced geothermal systems (EGS)
 - Exergy analysis of the recovered thermal energy to maximize power generation
- Developed and evaluated novel chemical/mechanical technologies for separating solid mixtures, including
 - A mechanical/chemical process for the separation of polyurethane foam, thermoplastics, and iron-oxide from automobile shredder residue. The process was successfully tested at an industrial site. The process was licensed to Salyp N.V. in Belgium.
 - A mechanical/chemical process for the separation and recovery of individual plastics from mixed plastics streams using froth flotation principles. The process was successfully tested at an industrial site.
 - A process for separation and recovery of aluminum, sodium chloride, and potassium chloride from secondary aluminum smelting salt cake waste. Developed and analyzed several energy-saving and cost-cutting designs.
 - Separation processes for the recovery of:
 - Carbon fibers from polymer matrix composites
 - Glass fibers from glass manufacturing and fiberglass insulation waste
 - PVC from wire chopper fluff
 - Nylon from nylon/polyethylene waste, and
 - Metals and fiberglass from integrated circuit boards.

- Developed and evaluated novel technologies for separating gaseous mixtures.
 - Processes for CO₂ recovery from combustion flue gases including:
 - Freezing of CO₂ out of a nitrogen/ CO₂ mixture
 - Integration of thermo-chemical cycles, for water splitting and air separation, with power generation systems to facilitate CO₂ recovery
 - Integration of chemical cycles for air separation with power plants to facilitate the removal of CO₂
 - A hybrid (refrigeration / chemical absorption) process for the separation of nitrogen and CO₂ from sub-quality (low-Btu) natural gas to upgrade it to pipeline quality.
- Development of novel energy conversion, storage, and transport concepts.
 - Integration of a desiccant with a steam/gas turbine for efficient power, thermal energy, and refrigeration production.
 - Integration of a desiccant with a gas turbine for drying applications.
 - Utilization of off-peak electric power to produce ice for use as a heat sink during peak periods.

6/81–2/89

Manager, Chemical Engineering Research
IIT Research Institute

I managed teams of engineers and scientists. I also managed a seven-year program to develop novel and cost-effective technologies for the scrubbing and treatment of gaseous emissions and wastewater produced during the servicing of the space shuttle. This program resulted in the construction and successful operation of two full-scale scrubber systems and a mobile wastewater treatment system. I was also in charge of a major effort to develop treatment processes for hazardous chemicals.

1/79–6/81

Principal Engineer,
Institute of Gas Technology (presently Gas Technology Research)

My research activities were directed toward developing novel energy-conversion systems and evaluating their technical feasibility and economic competitiveness including fuel cells, high-temperature-water electrolysis, heavy-oil steam reforming, thermodynamic cycles for cogeneration, thermal energy storage, transport of high-temperature thermal energy, and chemical heat pipes.

5/77-1/79

Sr. Applications Engineer,
International Energy Management, A Schindler Haughton Division

I developed cost-effective energy conservation programs for large industrial and commercial facilities, conducted energy audits, and trained energy conservation managers.

1/81-Present

Adjunct Professor,
Illinois Institute of Technology

I teach (graduate and undergraduate level) courses in Thermodynamics, Heat Transfer, Energy Conversion, Internal Combustion Engine Engineering, Power Generation, Thermal Systems Design, Combustion and Thermal Environmental Engineering Design (HVAC).

Professional Affiliations

Marquis Who's Who in Science and Engineering, 2006
 Marquis Who's Who in the World, 2006
 Marquis Who's Who in America, 2005
 Who's Who — Execulink; Member Number 504193-J; 1996
 Who's Who Worldwide, 1995

Patents (9), plus (1) patent applications

Spangenberg, J.S., E.J. Daniels, B.J. Jody and J. A. Pomykala, Jr., "Friction Bases Material Sorter." U.S. Patent No. 7,766,172 B2, August 2010.

Jody, B.J., J.A. Pomykala, Jr., E.J. Daniels, and J. S. Spangenberg "Process to wash polymers contaminated with polychlorinated biphenyls (PCBs)," U.S. Patent No. 7,525,010, April 2009

Jody, B.J. and E.J. Daniels, "Efficient Process for Making Tackifiers and Adhesives" U.S. Patent No. 7,410.110, August 2008

Daniels, E.J., B. J. Jody, and B.J., J.A. Pomykala, Jr., "Method and Apparatus for Separating Mixed Plastics Using Flotation Techniques" U. S. Patent No. 7,255,233, August 2007

Jody, B.J., J.A. Pomykala, Jr., and E.J. Daniels, "Process for the Recovery and Separation of Plastics," U.S. Patent No. 6,599,950, July 2003

Jody, B.J., E.J. Daniels, and P.V. Bonsignore, "Process to Recycle Shredder Residue," U.S. Patent No. 6,329,436, December 2001

Jody, B.J., E.J. Daniels, and J. Libera, "Efficient Continuous Dryer for Flexible Polyurethane Foam and Cleaning Apparatus," U.S. Patent No. 5,882,432, March 1999.

Jody, B.J., B. Arman, D.E. Karvelas, J.A. Pomykala, Jr., and E.J. Daniels, "Method for the Separation of HIPS and ABS Plastics," U.S. Patent No. 5,653,867, August 1997.

Daniels, E.J., B.J. Jody, and P.V. Bonsignore, "A Process for Separating Dissolved Solids from a Liquid Using an Anti-Solvent and Multiple Effect Evaporators," U.S. Patent No. 5,330,618, July 1994.

Pomykala, J.A. Jr., B.J., Jody, E.J. Daniels, and S. J. Spangenberg, and S. T. Lockwood, "Method for the Separation of Overlapping Density Porous Materials from Less Porous Materials" ANL-IN-05-123, filed April, 2007. Published patent application No. 20080251426

Awards

2003 "Inventor of the Year" award by The Intellectual Property Law Association of Chicago.
 2000 R&D 100 Award Winner, "Process to Recover and Clean Flexible Polyurethane Foam from Automobile Shredder Residue", June 2000.

2000 DISCOVER Magazine Award for Technological Innovation, Humanitarian Category Finalist, "Process for Recovering Usable Plastics from Mixed Plastics Waste", March 2000.

2000 Federal Laboratory Consortium (FLC) Technology Transfer Recognition

The process for the "Recovery and Cleaning of Polyurethane Foam (PUF) From ASR" was selected by U.S. DOE as one of the "best scientific and technological accomplishments of the Department of Energy during this century".

2002 SAE Arch T. Colwell Merit Award. Award presented at the Honors Convocation during the SAE 2004 World Congress.

GPEC Award for 2007, Enabling Technologies in Processes & Procedures, Environmental Division, Society of Plastics Engineers. (Award was for the research team)

The 2009 Technology Award of the Extraction and Processing Division of the Minerals, Metals and Materials Society (TMS).

Peer Reviewed Journal Publications (26)

J. A. Pomykala Jr., B. J. Jody, J. S. Spangenberg and E. J. Daniels, "Mass Balance and Composition Analysis of Shredder Residue" SAE Paper No. 2007-01-0527, 2007 SAE Transactions Journal of Materials & Manufacturing, August, 2008

B. J. Jody, J. A. Pomykala Jr., J. S. Spangenberg and E. J. Daniels, "Automotive Recycling in the United States: Energy Conservation and Environmental Benefits," The Journal of Metals, Vol. 59, No. 11, Nov. 2007, PP 41-45.

B. J. Jody, J. A. Pomykala Jr., J. S. Spangenberg and E. J. Daniels, "Recovery and Recycling of Polymers from Shredder Residue," The Journal of Solid Waste Technology and Management, Vol. 23, No. 4, Nov 2006, PP 228-236.

B. J. Jody, J. A. Pomykala Jr., E. J. Daniels and Jessica L. Greminger, "A Process to Recover Carbon Fibers From Polymer-Matrix Composites in End-of-Life Vehicles" Journal of Metals (JOM), Vol. 56No. 8, August 2004, pp 43-47

B. J. Jody, J. A. Pomykala Jr., and E. J. Daniels, "A Process to Recover Carbon Fibers From Polymer Matrix Composites" SAE 2002 Transactions-Journal of Materials & Manufacturing, SAE paper #No. 2002-01-1967, ISBN Number 0-7680-1289-9, published September 2003. (This paper received the 2002 SAE Arch T. Colwell Merit Award)

Jody, B. J., J. A. Pomykala, Jr. and E. J. Daniels, *Cost Effective Recovery of Thermoplastics From Mixed Scrap*, Materials Technology, Volume 18 Number 1, March 2003, pp 18-24.

Jody, B.J., D. Karvelas, and E. J. Daniels, *Hybrid Community Energy Systems*, Public Works Management & Policy Journal, Vol. 4, No. 3, pp. 237–242, January 2000.

Daniels, E.J., B.J. Jody, N.F. Brockmeier, and A.M. Wolsky, "Carbon Dioxide Capture From Fossil Fueled Power Plants," in the *Encyclopedia of Environmental Analysis and Remediation*, ISBN 0-47-11708-0, 1998, pp. 890–913. *invited*

Jody, B.J., A. Cherif, and M.A. Alfahhad, "Plastics Recycling Opportunities in Economically Depressed Areas", Journal of Review of Human Factor Studies, Vol. 4 No. 2, pp.114-122, 1998. *invited*

Jody, B.J., E.J. Daniels, and A.M. Wolsky, *Integrating O₂ Production with Power Systems to Capture CO₂*, Energy Conversion and Management Journal, Volume 38, Supplement, pp. 135–40, April 1997.

Jody, B.J., E.J. Daniels, and A.P. Teotia, "Recycling of Automotive Polymers," in *Conversion and Utilization of Waste Materials* (chapter 5), by Taylor and Frances for the American Chemical Society (ACS), pp. 77–104. May 1996. *invited*

Jody, B.J., E. J. Daniels, P.V. Bonsignore, and F.B. Brockmeier, *Recovering Recyclable Materials from Shredder Residue*, *Journal of Metals*, pp. 40–43, February 1994.

Wolsky, A.M., E.J. Daniels, and B.J. Jody, *CO₂ Capture form the Flue-Gas of Conventional Fossil-Fuel-Fired Power Plants*, *Environmental Progress Journal*, Vol.13, No.3, pp. 214–219, Aug. 1994.

Daniels, E.J., B.J. Jody, P.V. Bonsignore, *Alternatives for Recycling of Auto Shredder Residue*, *The Journal of Resource Management and Technology*, Vol. 20, No. 1, pp. 14–26, 1992.

Jody, B.J., E.J. Daniels, P.V. Bonsignore, and D.E. Karvelas, *Recycling of Aluminum Salt Cake*, *The Journal of Resource Management and Technology*, Vol. 20, No. 1, pp. 38–49, 1992.

Jody, B.J., and E.J. Daniels, *Automobile Shredder Residue: Treatment Options*, *Hazardous Waste & Hazardous Materials Journal*, Vol. 8, No. 3, pp. 219–230, 1992.

Bonsignore, P.V., B.J. Jody, and E.J. Daniels, *Separation Techniques for Auto Shredder Residue*, SAE Technical Paper Series No. 910854, pp. 59–63, 1991.

Wolsky, A.M., E.J. Daniels, and B.J. Jody, *Recovering CO₂ from Large and Medium Size Stationary Combustors*, *Journal of the Air & Waste Management Association*, Vol. 41, No. 4, pp. 449–549, April 1991.

Jody, B.J., *Adsorption of Gases on Solids*, contribution to Chapter VI in *Thermal Accommodation and Adsorption Coefficients of Gases*, S.C. Saxena and R.K. Joshi, editors, McGraw-Hill, New York, pp. 309–401, 1981.

Jody, B.J., and S.C. Saxena, *Thermal Conductivity of Helium: A Probe for the Repulsive Wall of the Interatomic Potential*, *Chem. Phys.*, Vol. 22, pp. 53–58, 1977.

Jody, B.J., and S.C. Saxena, *Thermal Accommodation Coefficients of Neon and Krypton on Gas Covered Platinum*, *Chem. Phys. Lett.*, Vol. 48, pp. 545–549, 1976.

Jody, B.J., and S.C. Saxena, *Transport Properties and Interatomic Potentials for Xenon*, *High Temp. Sci.*, Vol. 8, pp. 343–352, 1976.

Jody, B.J., and S.C. Saxena, *Hemispherical Total Emittance of Platinum*, *J. Phys. E: Scientific Instruments*, Vol. 9, pp. 359–362, 1976.

Jody, B.J., P.C. Jain, and S.C. Saxena, *Determination of Thermal Properties from Steady State Heat Transfer from a Heated Tungsten Wire in Vacuum and Helium Gas*, *J. Heat Transfer (Trans. ASME, Ser. C)*, Vol. 97, pp. 605–609, 1975.

Jain, P.C., B.J. Jody, and S.C. Saxena, *Principle of Corresponding States and Thermal Conductivity Data for Noble Gases*, *Chem. Phys. Lett.*, Vol. 33, pp. 93–94, 1975.

Jody, B.J., and S.C. Saxena, *Thermal Conductivity of Neon from Heat Transfer Measurements in the Continuum and Temperature-Jump Regimes*, *Physics of Fluids*, Vol. 18, No., 1, pp. 20–27, 1975.

Peer Reviewed Conference Papers (27)

B. J. Jody, J. A. Pomykala Jr., J. S. Spangenberg and E. J. Daniels, "Impact of Recycling Automotive Lightweighting Materials , on Sustainability," 2009 SAE World Congress, Detroit, MI, April 20-23, 2009.

B. J. Jody and E. J. Daniels, "Technologies for Recycling Shredder Residue," SAE Paper No. 2007-01-0526, 2007 SAE World Congress, Detroit, Michigan, April, 2007

J. A. Pomykala Jr., B. J. Jody, J. S. Spangenberg and E. J. Daniels, "Mass Balance and Composition Analysis of Shredder Residue" SAE Paper No. 2007-01-0527, 2007 SAE World Congress, Detroit, Michigan, April, 2007

J. A. Pomykala Jr., B. J. Jody and E. J. Daniels, "Thermoplastic Separation and Recovery from Various Mixed Scrap by the Argonne Developed Froth Flotation Technology" Proc. Of the 13th Annual Global Plastics Environmental Conference (GPEC), Orlando, Florida, March 6-7, 2007. (Selected as the "Lead Technical Article" -- see SPE Environmental Division Newsletter, May 2007 issue.

J. A. Pomykala Jr., B. J. Jody, E. J. Daniels, J. Yang and J.S. Spangenberg, "A mechanical Separation Process to Recover Metals and Polymers from Shredder Residue," TMS 2007 Annual Meeting & Exhibition, Orlando, Florida, Feb 25-Mar 1.

B. J. Jody, J. A. Pomykala Jr., E. J. Daniels, F. L. Paulauskas, and M. G. Abdallah, "A Process to Recover Carbon Fibers from Polymer Matrix Composite Scrap," Presented at and published in the proceedings of the 2004 SAMPE Conference, Long Beach CA, May 2004.

B. J. Jody, J. A. Pomykala Jr., E. J. Daniels, J. C. Wells, and C. E. Davis, "A Process to Recycle Glass Fibers From Glass-Manufacturing Waste" presented at and published in the proceedings of the 2003 TMS Conference- EPD Congress, San Diego, Ca, March 3-6, 2003, pp 337-346

J. A. Pomykala Jr., B. J. Jody, E. J. Daniels, and J. Greminger, "Separation and Recovery of Thermoplastics From Mixed-Scrap Plastics" presented at and published in the proceedings of the 9th Annual Global Plastics Environmental Conference (GPEC), Detroit, Mi, February 26-27, 2003, PP 7-16.

B. J. Jody, J. A. Pomykala Jr., and E. J. Daniels, "A Process to Recover Carbon Fibers From Polymer Matrix Composites" presented at and published in the proceedings of the 2002 Future Car Congress, June 3-5, 2002 in Arlington, VA. ([This paper received the 2002 SAE Arch T. Colwell Merit Award, SAE paper #No. 2002-01-1967](#))

Jody, B.J., E.J. Daniels, and J.A. Pomykala, "A Process to Recover Fibers from Polymer Matrix Composites" presented at and published in the proceedings of the SAMPE Midwest Advanced Materials and Processing Conference, Detroit, Sep. 12-14, 2000, pp 45-50.

Daniels, E.J., B. J. Jody and J.A. Pomykala, "Materials Recovery from Shredder Residues," Fourth International Symposium on Recycling Metals and Engineered Materials, Proceedings of a symposium organized by the recycling committee of the extraction and Processing Division and the Light Metals Division of TMS, pp 1277-1284, October 22-25, 2000.

Jody, B.J., E.J. Daniels, and A.M. Wolsky, "Methods to Reduce CO₂ Release to the Atmosphere," presented at and published in the proceedings of the 60th Annual American Power Conference, Vol. 60-1, April 1998. *invited*

Jody, B.J., E.J. Daniels, and A.M. Wolsky, "Integration of Chemical Cycles for Oxygen Production with Advanced Power Systems to Facilitate the Capture of Commercial Grade CO₂," presented at and published in the proceedings of the Third International Conference on Carbon Dioxide Removal (ICCD-3), Sept. 9-11, 1996, Boston.

Jody, B.J., E.J. Daniels, and J.A. Pomykala, Jr., "Progress in Recycling of Automobile Shredder Residue," *Proceedings of the 1996 International Minerals, Metals, & Materials Conference*, EPD Congress, Feb. 1996, Anaheim.

Brockmeier, N.F., B.J. Jody, A.M. Wolsky, and E.J. Daniels, "Cryogenic Separation of CO₂ from the Flue Gas of Conventional Coal-Fired Power Plants," presented at and published in the proceedings of the Aspenworld '94 Conference, Nov. 9, 1994 Cambridge, Massachusetts (also available as Argonne Technical Memo ANL/ESD/TM-75, Oct. 1994).

Jody, B.J., E.J. Daniels, D.E. Karvelas, and A.P.S. Teotia, "A Desiccant/Steam-Injected Gas-Turbine Industrial Cogeneration System," *Proceedings of the Energy-Sources Technology Conference & Exhibition*, ASME Paper # 93-PET-14, Jan. 31–Feb. 4, 1993, Houston.

Wolsky, A.M., E.J. Daniels, and B.J. Jody, *Technologies for CO₂ Capture from Advanced Power Generation Systems*, presented at and published in the proceedings of the 1993 Summer National AIChE Conference, August 15–18, 1993, Seattle.

Jody, B.J., E.J. Daniels, P.V. Bonsignore and N.F. Brockmeier, "A Process to Recover Plastics from Obsolete Automobiles Using Solvents at Ambient Pressure," presented at and published in the proceedings of the 206th American Chemical Society National Meeting, Aug. 22–27, 1993, Chicago.

Wolsky, A.M., E.J. Daniels, and B.J. Jody, "CO₂ Capture from Fossil-Fuels-Fired Power Plants," presented at Extended Abstracts of the 1992 AIChE Summer National Conference, Aug. 9–12, 1992, Minneapolis.

Jody, B.J., E.J. Daniels, P.V. Bonsignore, and D.E. Karvelas, "Recycling of Aluminum Salt Cake," presented at and published in the proceedings of the 7th International Conference on Solid Waste Management and Secondary Materials, Dec. 1991, Philadelphia.

Bonsignore, P.V., B.J. Jody, and E.J. Daniels, "Separation Techniques for Auto Shredder Residue," presented at the 1991 SAE International Congress and Exposition, published as SAE Technical Paper No. 910854, Detroit.

Daniels, E.J., B.J. Jody, and P.V. Bonsignore, "Automobile Shredder Residue: Process Development for Recovery of Recyclable Constituents," presented at and published in the proceedings of the 6th International Conference on Solid Waste Management and Secondary Materials, Dec. 1990, Philadelphia.

Jody, B.J., and R.J. Dihu, *Catalytic Oxidation and Reduction of Chlorinated Hydrocarbons*, presented at and published in the proceedings of the 1989 6th National RCRA/Superfund Hazardous Wastes & Hazardous Materials Conference, April 12–14, 1989, New Orleans.

Jody, B.J., H.S. Judeikis, H. Takimoto, and M.J. Klein, "Catalytics O₃/UV, Treatment of Wastewater Containing Mixtures of Organic and Inorganic Pollutants," presented at and published in the proceedings of the 1989 International Ozone Congress, June 1989, New York.

Jody, B.J., E.J. Daniels, and A.M. Wolsky, "Methods to Reduce CO₂ Release to the Atmosphere," presented at and published in the proceedings of the 60th annual American Power Conference, Vol. 60-1, April 1988.

Jody, B.J., P. Kosenka, S. Lewis, H. Takimoto, H. Judeikis, and E. Hagan, "Effect of pH on the Product Mix Resulting from the Ozonation of Hydrazine, Monomethylhydrazine, and Unsymmetrical Dimethylhydrazine," presented at and published in the proceedings of the 193rd National ACS Meeting, Denver, April 1987.

Jody, B.J., S.C. Saxena, A.G. Shashkov, F.P. Kamchatove, and O.A. Kolenshits, "Thermal Accommodation Coefficient for Helium on Partially Gas-Covered Platinum in the Temperature Range

300–1400 K,” presented at and published in the proceedings of the Symposium on Thermophysical Properties, National Bureau of Standards, Gaithersburg, Maryland, May 10–12, 1977.

Jody, B.J., and S.C. Saxena, “Heat Transfer at the Solid-Gas Interface: Thermal Accommodation Coefficients for Helium on Gas Covered Tungsten,” presented at the Fifth All Union Heat and Mass Transfer Conference, Minsk, USSR, 1976.

Peer Reviewed ANL Reports (7)

Jody, B.J., J. A. Pomykala, Jr., and J. S. Spangenberg, J. S., *Recycling End-of-life-Vehicles of the Future*, Energy Systems Division, Argonne National Laboratory, December 1, 2009, Report # ANL/ES-C0201801.

Jody, B. J. and E. J. Daniels, *End-of-life Vehicle Recycling,: The State of the Art Resource Recovery from Shredder Residue*, Energy Systems Division, Argonne National Laboratory, September 25, 2006, Report # ANL/ESD/07-8

B. J. Jody and E. J. Daniels, *Recovery of Flexible Polyurethane Foam from Shredder Residue*, ANL/ESD-152, June 1999.

Brockmeier, N.F., B.J. Jody, A.M. Wolsky, and E.J. Daniels, *Cryogenic Separation of CO₂ from the Flue Gas of Conventional Coal-Fired Power Plants*, ANL/ESD-75 (1995).

Jody, B.J., E.J. Daniels, and P.V. Bonsignore, *Treatment and Recycling of Shredder Fluff: Final Report on Phase I, Proof of Concept*, ANL/ESD-13 (February 1992).

Karvelas, D.E., E.J. Daniels, B.J. Jody, and P. Bonsignore, *An Economic and Technical Assessment of Black-Dross and Salt-Cake-Recycling Systems for Application in the Secondary Aluminum Industry*, ANL/ESD-11 (December 1991).

Jody, B.J. and E.J. Daniels, *End-of-Life Vehicle Recycling: The State of the Art of Resource Recovery from Shredder Residue*, ANL/ESD/07-8 (September 2006).

Other Publications

Trade Journals

Jody, B.J., E.J. Daniels, and N.F. Brockmeier, *Recovering Plastics from Cars*, ChemTech, Vol. 24, No. 11, pp. 41-44 (November, 1994).

Conference Papers (29)

Daniels, E.J., B.J. Jody, and J.A. Pomykala “Market Driven Technology Development for Sustainable End-of-Life Vehicle Recycling: A Perspective from the United States,” presented at and published in the proceedings of the International Automobile Recycling Congress (IARC), Amsterdam, Netherlands, March 15-17, 2006.

Jody, B.J., E.J. Daniels, and J.A. Pomykala, “Thermal Decomposition of PMC for Fiber Recovery,” presented at SPE Recycling Division 6th Annual Recycling Conference (ARC 99), Detroit, Nov. 9–11, 1999, pp. 269–274.

Karvelas, D., B.J. Jody, J.A. Pomykala, and E.J. Daniels, “Froth Flotation for Separation and Recovery of Mixed Plastics,” SPE Recycling Division 6th Annual Recycling Conference (ARC 99), Detroit, Nov. 9–11, 1999, pp. 231–237.

Jody, B.J., E.J. Daniels, and A.M. Wolsky, "Methods to Reduce CO₂ Release to the Atmosphere," presented at and published in the proceedings of the 60th Annual American Power Conference, Vol. 60-1, April 1998. *invited*

Richardson, D., D.E. Karvelas, and B.J. Jody, "The Applications of ABS Resin Used to Modify Recycled Polymers," presented at and published in the proceedings of the 3rd Annual Recycling Conference, sponsored by The Society of Plastics Engineers, Nov. 7-8 1996, Chicago.

Jody, B.J., E.J. Daniels, and J.A. Pomykala, Jr., "Progress in Recycling of Automobile Shredder Residue," presented at and published in the proceedings of the 1996 DOE Pollution Prevention in the 21st Century Conference, July 9–11, 1996, Chicago.

Jody, B.J., E.J. Daniels, P.V. Bonsignore, and F.B. Brockmeier, "Recovering Recyclable Materials from Shredder Residue," presented at and published in the Proceedings of the 1994 Minerals, Metals, and Materials Conference (Extraction and Processing Division), Feb. 27–March 3, 1994, San Francisco.

Jody, B.J., E.J. Daniels, and P.V. Bonsignore, "A Chemical Approach to Recycling Mixed Plastics from Shredder Fluff," presented at and published in the proceedings of the 6th Annual Recycling Plastics Conference, May 22–23, 1991, Washington, D.C.

Jody, B.J., E.J. Daniels, P.V. Bonsignore, and E.L. Shoemaker, "Chemical and Mechanical Recycling of Shredder Fluff," presented at and published in the proceedings of Pollution Prevention Conference for Iron and Steel Industry, October 14–15, 1992, Chicago.

Jody, B.J., E.J. Daniels, D.E. Karvelas, and F.J. Dudek, *Integration of a Desiccant Cooling System with a STAG Turbine and an Absorption Refrigeration Cycle to Meet the Total Annual Energy Requirements of Small and Medium Size Communities*, presented at and published in the proceedings of the District Energy and the Environment Conference, June 1991.

Jody, B.J., and E.J. Daniels, "Utilization of Off-Peak Electric Power to Improve Cycle Efficiency during Peak Demand Periods," presented at and published in the proceedings of the 25th IECEC Conference, Aug. 1990, Reno.

Jody, B.J., and E.J. Daniels, "Recycling of Plastics in Automobile Shredder Residue," presented at and published in the proceedings of the 25th IECEC Conference, Aug. 1990, Reno.

Jody, B.J., and E.J. Daniels, *An Energy Conserving Process to Treat and Recycle Wastewater and Sludges*, presented at and published in the proceedings of the 25th IECEC Conference, Aug. 1990, Reno.

Dihu, R.J., B.J. Jody, P. Kosenka, S. Lewis, H. Takimoto, and K. Westberg, "Treatment of Wastewater Generated by a Sulfite/Caustic N₂O₄ Scrubber," presented to the 1988 JANNAF Safety and Environmental Protection Subcommittee Meeting, Monterey, May 23–27, 1988.

Jody, B.J., P. Kosenka, S. Lewis, H. Takimoto, H. Judeikis, and J. Betschard, "Ozonation of Hydrazine and Their Associated Impurities," presented at and published in the proceedings of the AFESC Third Conference on the Environmental Chemistry of Hydrazone Fuels, Panama City, Florida, Sept. 15–17, 1987.

Dihu, R.J., G. Chettur, B.J. Jody, N. Capasso, J. Thomas, T. Berenthien, and C. Gepp, "Evaluation of Manufacturing Processes for the Production of Pinacolone," presented at and published in the proceedings of the 1987 Scientific Conference on Chemical Defense Research, U.S. Army Chemical Research, Development and Engineering Center, Aberdeen Proving Ground, Maryland, Nov. 17–20, 1987.

Dihu, R.J., B.J. Jody, N. Capasso, T. Berenthien, J. Thomas, and C. Gepp, "Evaluation of Manufacturing Processes for the Production of 1-Methoxycycloheptatriene," presented at and published in the

proceedings of the 1987 Scientific Conference on Chemical Defense Research, U.S. Army Chemical Research, Development and Engineering Center, Aberdeen Proving Ground, Maryland, Nov. 17–20, 1987.

Dihu, R.J., and B.J. Jody, "Production of Trans-Rich 2-Methylcyclohexanol," presented at and published in the proceedings of the 1987 Scientific Conference on Chemical Defense Research, U.S. Army Chemical Research, Development and Engineering Center, Aberdeen Proving Ground, Maryland, Nov. 17–20, 1987.

Jody, B.J., H. Dev, E. Neuman, S. Lewis, H. Takimoto, J. Betschard, and E. Hagan, "Scrubbing of NO_x from N_2O_4 Vent Gas Mixtures," presented at and published in the proceedings of the 1985 JANAF Safety and Environmental Protection Subcommittee Meeting, Monterey, California, Nov. 4–8, 1985.

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