

Dr. John G. Groppo, Jr.

Professional Preparation

Virginia Tech	Blacksburg, VA	Mining and Minerals Engineering	B.S.	1979
Virginia Tech	Blacksburg, VA	Mining and Minerals Engineering	M.S.	1982
University of Kentucky	Lexington, KY	Mining Engineering	PhD	1992

Appointments

2016-present	Professor, University of Kentucky, Mining Engineering Department, Lexington, KY
2013-2016:	Director, Kentucky Energy Club, University of Kentucky, Lexington, KY
1985-2016:	Senior Engineer/Program Manager, University of Kentucky, Center for Applied Energy Research, Lexington, KY
1982-1985:	Mineral Processing Engineer, American Cyanamid Company, Stamford Research Laboratory, Stamford, CT
1981-1982:	Graduate Research Assistant, Virginia Tech, Mining and Minerals Engineering Department, Blacksburg, VA
1980-1981:	Mineral Processing Engineer, North Carolina State University, Minerals Research Laboratory, Asheville, NC

Products

Groppo, J., "An Introduction to the Nature of Coal", In *Coal Combustion Products (CCP's): Characteristics, Utilization and Beneficiation*, R. Jones et al. Eds., Elsevier, London, In Press.

Wilson, M., Mohler, D., Groppo, J., Grubbs, T., Kesner, S., Shea, A., Crofcheck, C. and Crocker, M., "Capture and Recycle of Industrial CO₂ Emissions using Microalgae", 5th KOPRC Forum Special Publication: "The Continuing Role of Fossil Fuels in the Transformation to a Sustainable Energy Future", *Applied Petrochemical Research*, 6(3), 279-293, 2016, DOI 10.1007/s13203-016-0162-1.

Hood, M.M., Groppo, J.G., Johnston, M.N., Hower, J.C., Clack, H.C., de Medeiros, D.S., Taffarel, S.R., Cutruno, C.M.N.L., Silva, L.F.O. "Influence of coal-fired power plant emissions regulations and consequent engineering controls and coal-supply modifications on fly ash chemistry and petrology: Examples from Kentucky power plants," *Coal Combustion & Gasification Products*, 8, 8-18, 2016.

Zhang, W., Rezaee, M., Bhagavatula, A., Li, Y., Groppo, J. and Honaker, R., "A Review of the Occurrence and Promising Recovery Methods of Rare Earth Elements from Coal and Coal Byproducts", *Intl. J. of Coal Preparation and Utilization*, Vol. 35 (6), pp. 295-330, 2015.

Hower, J., Groppo, J. Henke, K., Hood, M., Eble, C., Honaker, R., Zhang, W, and Qian, D., "Notes on the Potential for the Concentration of Rare Earth Elements and Yttrium in Coal Combustion Fly Ash", *Minerals*, Vol. 5 (2), pp. 356-366, 2015.

Wilson, M.H., Groppo, J.G., Placido, A., Graham, S., Morton, S.A., Santillan-Jimenez, E., Shea, A., Crocker, M., Crofcheck, C. and Andrews, R., "CO₂ Recycling Using Microalgae for the Production of Fuels", *Applied Petrochemical Research*, DOI 10.1007/s13203-014-0052-3 March 2014.

Hower, J.C., Groppo, J.G., Joshi, P., Dai, S., Moecher, D.P. and Johnston, M.N., "Location of Cerium in Coal-Combustion Fly Ashes: Implications for Recovery of Lanthanide", *Coal Combustion and Gasification Products J.*, 5, 73-78, doi: 10.4177/CCPG-D-13-00007.1, 2013.

Groppo, J., "Coal Combustion Waste Materials", *Conversion of Large Scale Wastes into Value-added Products*, J.S.J. Hargreaves, et. al. Eds., CRC Press, Taylor and Francis Group, Boca Raton, FL, pp. 69-105, 2013.

M.J. McCarthy, M.J., Jones, M.R., Zheng, L., Robl, T.L. and Groppo, J.G., “Characterising long-term wet-stored fly ash following carbon and particle size separation”, *Fuel*, 111, pp.430–441, 2013.

Method for Hydraulically Separating Carbon and Classifying Coal Combustion Ash, T. L. Robl and J.G. Groppo, U.S. Patent No. 7,963,398, June 21, 2011.

Method and System for Beneficiating Gasification Slag, C.E. Price, W.L. Barnwell and J.G. Groppo, U.S. Patent No. 7,328,805, Feb. 12, 2008.

Synergistic Activities

Director of Center for Applied Energy Research ‘Energy 101’ education outreach for local underserved elementary schools providing synergistic energy education with hands-on demonstrations in the classroom.

Director of Kentucky Energy Club, a statewide organization establishing student organizations at college campuses to increase energy awareness and promote exploration of energy careers.

Advisor and Mentor for numerous multi-disciplinary capstone and senior design projects that engage students in various aspects of energy development and utilization. Disciplines served include Architecture, Interior Design, Mechanical Engineering, Electrical Engineering, STEM Education and Art.

Developed multidisciplinary entitled Power Generation Technologies, providing students with a broad understanding of electrical power generation technologies, and how technologies must adapt to meet energy needs in the future.

Developed short course to increase understanding of scientific aspects pertaining to coal utilization byproducts. This course is now offered annually to serve broad audiences interested in the subject.

Collaborators & Other Affiliations

- **Collaborators and Co-Editors.**

R. Andrews, CAER, University of KY, B. Criswell, STEM Education, University of KY, M. Crocker, CAER, University of KY, C. Crofcheck, Biosystems and Agriculture Engineering, C. Hanley, Int’l Programs in Agriculture, University of KY., R. Honaker, Mining Engineering, University of KY, J. Hower, CAER, University of KY, R. Jones, University of Dundee, Scotland, P. Joshi, Physical Sciences, Inc., G. Luttrell, Mining and Minerals Engineering, Virginia Tech, M. McCarthy, Civil Engineering, University of Dundee, Scotland, S. Medina, CEAR, University of KY, D. Mohler, CAER, University of KY, S. Morton, Chemical Engineering, James Madison University, T. Robl, CAER, University of KY, E. Santillan-Jimenez, CAER, University of KY, A. Shea, Biosystems and Agriculture Engineering, University of KY, University of KY, M. Wilson, CAER, University of KY, R.H. Yoon, Mining & Minerals Engineering, Virginia Tech

- **Graduate Advisors and Postdoctoral Sponsors.**

Dr. R.H. Yoon, Virginia Tech, Dr. J. W. Leonard, University of KY (Retired).