William Church

Assistant Professor
Department of Mechanical Engineering
WVU Tech

Professional Preparation

University of Wisconsin, Madison WI,	Ph.D.	Mechanical Engineering 2007
University of Wisconsin, Madison WI,	M.S.	Mechanical Engineering 1997
West Virginia University, Morgantown WV,	B.S.	Mechanical Engineering 1995

Dr. William Church took part in many projects relating to engine performance and emissions in a wide-ranging career. While at Argonne National Labs, he conducted research on a dual fuel platform for a project that was jointly sponsored by the Department of Energy and Chrysler. The scope of this project assessed the feasibility of making a large jump forward in fuel economy by use of an engine design that incorporated both spark and kinetically triggered combustion regimes. In addition to the base fuels of diesel and gasoline, alternative fuels were tested in this engine to study their behavior in this high compression environment. While at Argonne, Dr. Church also took part in studies of cold start emissions for automotive diesel applications and participated in a particulate study of alternative fuels. Prior to working at Argonne, Dr. Church incorporated flow and combustion simulation into the design of race engines as a member of Penske Racing. After leaving Argonne, Dr. Church worked for Polaris bringing transient flow and combustion simulation into the engine design process for their off-road ATVs and Indian Motorcycles.

Relevant Publications

William Church, Steve Ciatti, Stephen McConnell, et al. Chrysler Multi Air Multi Fuel Project – Final Report. Lead author on the proprietary ANL final report which is included as the experimental portion of the DOE final report: A MultiAir®/MultiFuel Approach to Enhancing Engine System Efficiency

Kyeong Lee, William Church, Stephen McConnell. Examination of Particulate Emissions From Alcohol Blended Fuel Combustion in a Gasoline Direct Injection Engine. 8th International Modeling and Diagnostics For Advanced Engine Systems (COMODIA 2012)

Debbie Rosenblatt, Stephen McConnell, Jukka Nuottimaki. Particulate Measurements: Ethanol & Isobutanol in Direct Injection Spark Ignited Engines. (Listed in acknowledgements for running US portion of the experiment at ANL and writing the prelim report for this work) Report from IEA Advanced Motor Fuels Implementing Agreement 2012.

William Church. SAE 980484 - The Effects of Intake Geometry on Large Scale In-cylinder. SAE International.