

Bibliography

- 1 Annaswamy, A.M., Ghoniem, A.F., "Active Control in Combustion Systems." *IEEE Control Systems Magazine*. Vol. 15, No.6, 1995, pp. 49-63.
- 2 Culick, F.E.C. "A Note on Rayleigh's Criterion." *Combustion Science and Technology*. Vol. 56, 1987, pp. 159-166.
- 3 Culick, F.E.C., et al. *Modeling for Active Control of Combustion and Thermally Driven Oscillations*. Proceedings of the American Control Conference. Boston, MA, 1993.
- 4 Fannin, C.A., Baumann, W.T., Saunders, W.R. *Thermoacoustic Stability Analysis for Multi-Port Fuel Injection in a Lean Premixed Combustor*. AIAA 2000-0711. Reno, NV, 2000.
- 5 Fannin, C.A. *Linear Modeling and Analysis of Thermoacoustic Instabilities in a Gas Turbine Combustor*. Dissertation. Virginia Polytechnic Institute and State University, 2000.
- 6 Fleifil, M., et al. *Reduced Order Modeling of Heat Release Dynamics and Active Control of Time-Delay Instability*. AIAA 2000-0708. Reno, NV, 2000.
- 7 Gutmark, E., et al. "Closed-Loop Amplitude Modulation Control of Reacting Premixed Turbulent Jet." *AIAA Journal*. Vol. 29, No. 12, 1991, pp. 2155-2162.
- 8 Gutmark, E., et al. *Combustion Characteristics and Passive Control of an Annular Dump Combustor*. AIAA-93-1772. Monterey, CA, 1993.
- 9 Gysling, D.L., et al. *Combustion System Damping Augmentation with Helmholtz Resonators*. ASME 98-GT-268. Stockholm, Sweden, 1998.
- 10 Huelsz, G. and Ramos, E. "A Physical Interpretation of the Thermoacoustic Effect." *Journal of Non-Equilibrium Thermodynamics*. Vol. 21, 1996. pp. 278-284.
- 11 Hubbard, S., Dowling, A.P. *Acoustic Instabilities in Premix Burners*. AIAA 98-2272. Toulouse, France, 1998.
- 12 Janus, M.C. and Richards, G.A. *A Model for Premixed Combustion Oscillations*. A Technical Note-U.S. Department of Energy, DOE/METC-96/1026, Morgantown, WV. 1996.
- 13 Kailasanath, K., and Gutmark, E.J. *Propulsion Combustion: Fuels to Emissions*. Taylor and Francis. 1997.
- 14 Kinsler, L.E. et al. *Fundamentals of Acoustics*. New York:John Wiley & Sons, 1982.

- 15 Krüger, U., et al. *Influence of Turbulence on the Dynamic Behaviour of Premixed Flames*. ASME 98-GT-323. Stockholm, Sweden, 1998.
- 16 Krüger, U., et al. *Prediction of Thermoacoustic Instabilities with Focus on the Dynamic Flame Behavior for the 3A-Series Gas Turbine of Siemens KWU*. ASME 99-GT-111. Indianapolis, IN, 1999.
- 17 Lieuwen, T., et al. *A Mechanism of Combustion Instability in Lean Premixed Gas Turbine Combustors*. ASME 99-GT-8. Indianapolis, IN, 1999.
- 18 Lovett, J.A., Chu, W., Shah, S.N., *Modeling of Combustion Chamber Acoustic and Control of Combustion Instabilities in Gas Turbines*. Sixth International Congress on Sound and Vibration. Copenhagen, Denmark, 1999.
- 19 McManus, K.R., Poinso, T., Candel, S.M. "A Review of Active Control of Combustion Instabilities." *Progress in Energy Combustion Science*. Vol. 19. 1993. pp. 1-29.
- 20 Murray, R.M., et al. *System Identification For Limit Cycling Systems: A Case Study For Combustion Instabilities*. Proceedings of the American Control Conference. Philadelphia, June 1998.
- 21 Padmanabhan, K.T., Bowman, C.T., and Powell, J.D. *An Adaptive Optimal Combustion Control Strategy*. Combustion and Flame. Vol. 100. 1995. pp. 101-110.
- 22 Paschereit, C.O., Polifke, W., *Investigation of the Thermoacoustic Characteristics in a Lean Premixed Gas Turbine Burner*. ASME 98-GT-582. Stockholm, Sweden, 1998.
- 23 Paschereit, C.O., Gutmark, E., Weisenstein, W. *Reduction of Pressure Oscillations by Direct Excitation of Gas-Turbine Burner's Shear Layer*. AIAA 2000-1028. Reno, NV, 2000.
- 24 Pierce, A.D., *Acoustics-An Introduction to Its Physical Principles and Applications*. Acoustical Society of America, 1989.
- 25 Richards, G.A., Janus, M., Robey, E.H. "Control of Flame Oscillations with Equivalence Ratio Modulation." *Journal of Propulsion and Power*. Vol. 15, No. 2, 1999, pp. 232-240.
- 26 Richards, G.A., et al. "Issues for Low-Emission, Fuel-Flexible Power Systems." Submitted to the *Progress in Energy and Combustion Science*.
- 27 Smith, C.E., and Cannon, S.M. *CFD Assessment of Passive and Active Control Strategies for Lean, Premixed Combustors*. AIAA 99-0714. Reno, NV, 1999.

- 28 Sood, V.M. *Gas Turbine Combustion System Technology*. Turbomachinery Technology Seminar-Solar Turbines Incorporated. San Diego, CA, 1992.
- 29 Steele, R.C. et al. *Passive Control of Combustion Instability in Lean Premixed Combustors*. ASME 99-GT-052. Indianapolis, IN, 1999.
- 30 Straub, D.L. and Richards, G.A. *Effect of Fuel Nozzle Configuration on Premix Combustion Dynamics*. ASME 98-GT-492. Stockholm, Sweden, 1998.
- 31 Timoshenko, S. *Vibration Problems in Engineering*. New York: D. Van Nostrand Company. 1937.
- 32 Turns, S.R. *An Introduction to Combustion*. McGraw-Hill, 1996.
- 33 Vaudrey, M.A. *A Test-Based Methodology for Apriori Selection of Gain/Phase Relationships in Proportional, Phase-Shifting Control of Combustion Instabilities*. ASME 2000-GT-530. Munich, Germany, 2000.
- 34 Zinn, B.T. and Neumeier, Y. *An Overview of Active Control of Combustion Instabilities*. AIAA 97-0461. Reno, 1997.

Vita

Scott Liljenberg was born on July 8, 1976 in Spokane Washington where he lived until the age of 18. After graduating from Mead Senior High School in June 1994, he started an undergraduate degree at Washington State University in Mechanical Engineering. During his time at WSU, Scott was a member of the University Honors Program. In the fall of 1996 and the summer of 1997, Scott interned at the Potlatch Corporation in Lewiston, ID where he was a maintenance engineer. During the summer of 1998 he interned for Sandia National Laboratory in Livermore, CA. In December of 1998, Scott graduated Summa Cum Laude with a B.S. in Mechanical Engineering. His work towards a Master's Degree began in January of 1999 at Virginia Tech. His Master's Degree topic involved modeling and stability analysis for thermoacoustic instabilities in gas turbine combustors. As part of his Master's Degree, Scott interned at Solar Turbines Inc. in San Diego, CA during the summer of 1999. In December of 2000, Scott will obtain a M.S. in Mechanical Engineering and move into the private sector workforce.