

NOISECON 2010 Short Courses

Course #2: Aircraft Noise Modeling

Instructors: Kenneth Plotkin. Wyle Laboratories. kenneth.plotkin@wyle.com
Other Wyle Laboratories staff members

Day: 18 April 2010

Time: 9:00 am – 5:00 pm

Location: Baltimore Marriott Waterfront Hotel

Cost: \$200 INCE members. \$250 non-members (early registration, before 19 March 2010)
\$250 INCE members. \$300 non-members (after 19 March 2010)

Description: Aviation noise planning relies heavily on semi-empirical noise models, which begin with measured source levels and use varying degrees of analytic relations to propagate noise into the community. This course examines the structure and algorithms of traditional integrated noise models (such as the FAA's INM, AEDT and NIRS, and the Department of Defense's NOISEMAP model), and those of modern time simulation models (such as Wyle Laboratories' NMSim and the Department of Defense's Advanced Acoustic Model). Assumptions, evolution and practical considerations of noise models will be reviewed. The course will address the following topics:

- The nature of aircraft noise, and how it is measured and packaged for noise modeling
- Practical representation of aircraft operations and trajectories
- Propagation of sound from the aircraft to the ground
- Algorithms of integrated noise models
- Algorithms of simulation models
- Unique models for military airspace
- Noise metrics

Kenneth Plotkin is Chief Scientist, Wyle Acoustics and Research Group. He has over 35 years experience in measuring, modeling and analyzing aircraft noise. He is the author of NMSim, a noise simulation model, and SVERIM, an integrated model used in Sweden, and has participated in the development of a number of other transportation noise models. He is one of the originators of the L_{dnmr} noise metric used for analysis of noise from low altitude military aircraft, and has served his time recording aircraft noise and deciphering the results into useful source models. He has applied noise models to environmental assessments of numerous projects.

Other instructors will include members of Wyle Laboratories Research Staff who have written and maintained noise models, who have collected aircraft noise source data, and who have used the models in real life.