

## **STOCHASTIC MODELING OF AN AIRCRAFT IN DISTRESS WATER LANDING**

Charles H. Roche, PhD, PE

Professor, Western New England University

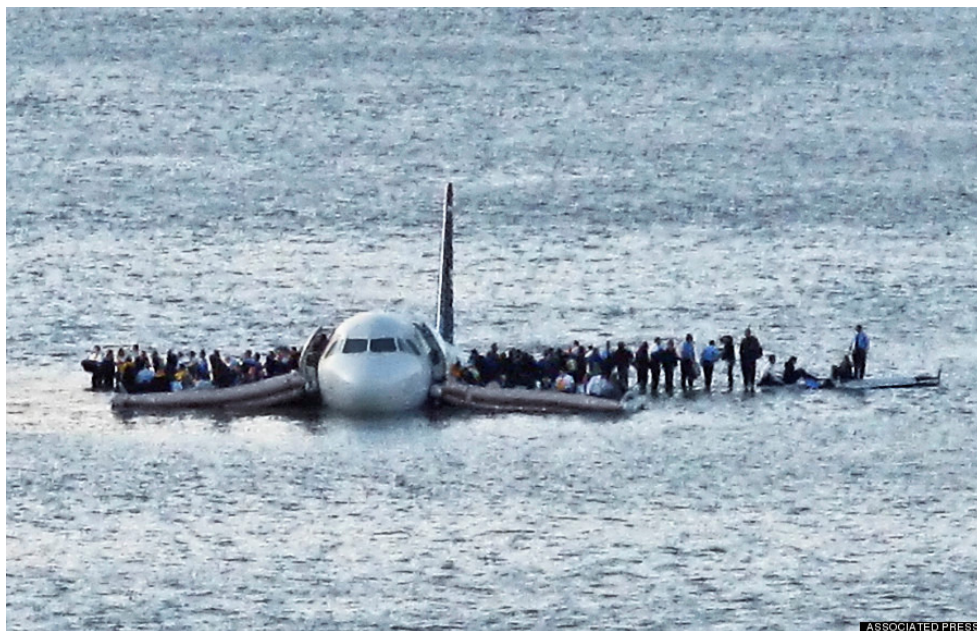
### **KEYWORDS**

Stochastic, probabilistic, aircraft, emergency landing

### **ABSTRACT**

The author shall attempt to model an aircraft in distress as it approaches water. Per FAA regulations, some aircraft are required to be able to land in water safely. The regulations fall short of defining the probability of a successful landing, how choppy the seas can be, what the air environment is like, how much damage the aircraft has incurred, and more.

The 2009 US Airways Flight 1549 will be shown in animation as it represents a more recent well documented aircraft in distress water landing.



The modelling shall be performed with a simple animation tool because the emphasis will be on the stochastic parameters. The author is seeking audience participation in the conference to capture the stochastic variation, the basic physics, and for feedback on a rules based evaluation system versus transient dynamic finite element analyse using LS-DYNA.

Author info:

Professor Charles Roche

Western New England University

1215 Wilbraham Road

Springfield, MA 0119