

# 2015 年美国大学生数学建模竞赛 MCM、ICM 试题

## 2015 MCM A: Eradicating Ebola

The world medical association has announced that their new medication could stop Ebola and cure patients whose disease is not advanced. Build a realistic, sensible, and useful model that considers not only the spread of the disease, the quantity of the medicine needed, possible feasible delivery systems, locations of delivery, speed of manufacturing of the vaccine or drug, but also any other critical factors your team considers necessary as part of the model to optimize the eradication of Ebola, or at least its current strain. In addition to your modeling approach for the contest, prepare a 1-2 page non-technical letter for the world medical association to use in their announcement.

## 2015 MCM B: Searching for a lost plane

Recall the lost Malaysian flight MH370. Build a generic mathematical model that could assist “searchers” in planning a useful search for a lost plane feared to have crashed in open water such as the Atlantic, Pacific, Indian, Southern, or Arctic Ocean while flying from Point A to Point B. Assume that there are no signals from the downed plane. Your model should recognize that there are many different types of planes for which we might be searching and that there are many different types of search planes, often using different electronics or sensors. Additionally, prepare a 1-2 page non-technical paper for the airlines to use in their press conferences concerning their plan for future searches.

## 2015 ICM C: Managing Human Capital in Organizations

[Managing Human Capital in Organizations](#)

## 2015 ICM D: Is it sustainable?

[Is it sustainable?](#)