

1135-Q1-3155      **Neelesh Venkat Tiruvilumala\*** ([tiruvilu@usc.edu](mailto:tiruvilu@usc.edu)). *Mathematics for Earthling Ambassadors to Outer Space*. Preliminary report.

Let's not mince words. The aliens are coming and they're going to expect answers. Here are some of the things that they might want explained:

- How we organize and retrieve our knowledge (search engine algorithms)
- How we get places (global positioning systems)
- How we are training machines to think and to inevitably destroy us (artificial intelligence)
- What we find beautiful (friezes and symmetries)
- How our brains are tuned (musical frequencies and Fourier analysis)
- How we keep secrets (cryptography)

Wouldn't it be great if we had a socially intelligent (disqualifies mathematicians), friendly (disqualifies engineers), and stylish (disqualifies physicists) group of earth representatives to explain these mysteries to outsiders? USC students would make the perfect candidates!

Except for one thing. It is painfully evident that there is a lot of mathematics inherent in the above topics list and let's face it; you didn't really learn much of that in high school. It will be embarrassing for all of us if, when confronted with important questions, all that you can do is sing the quadratic formula song. Wait. You don't even remember that? We'll need to get to work immediately. (Received September 26, 2017)