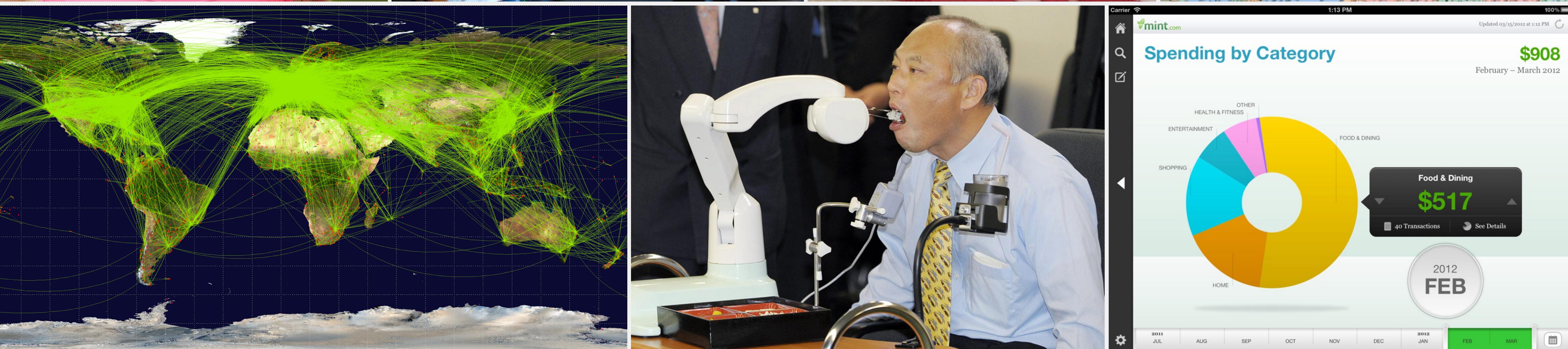


Bringing Computational Thinking to K-12: What is Involved and What is the Role of the Computer Science Education Community?

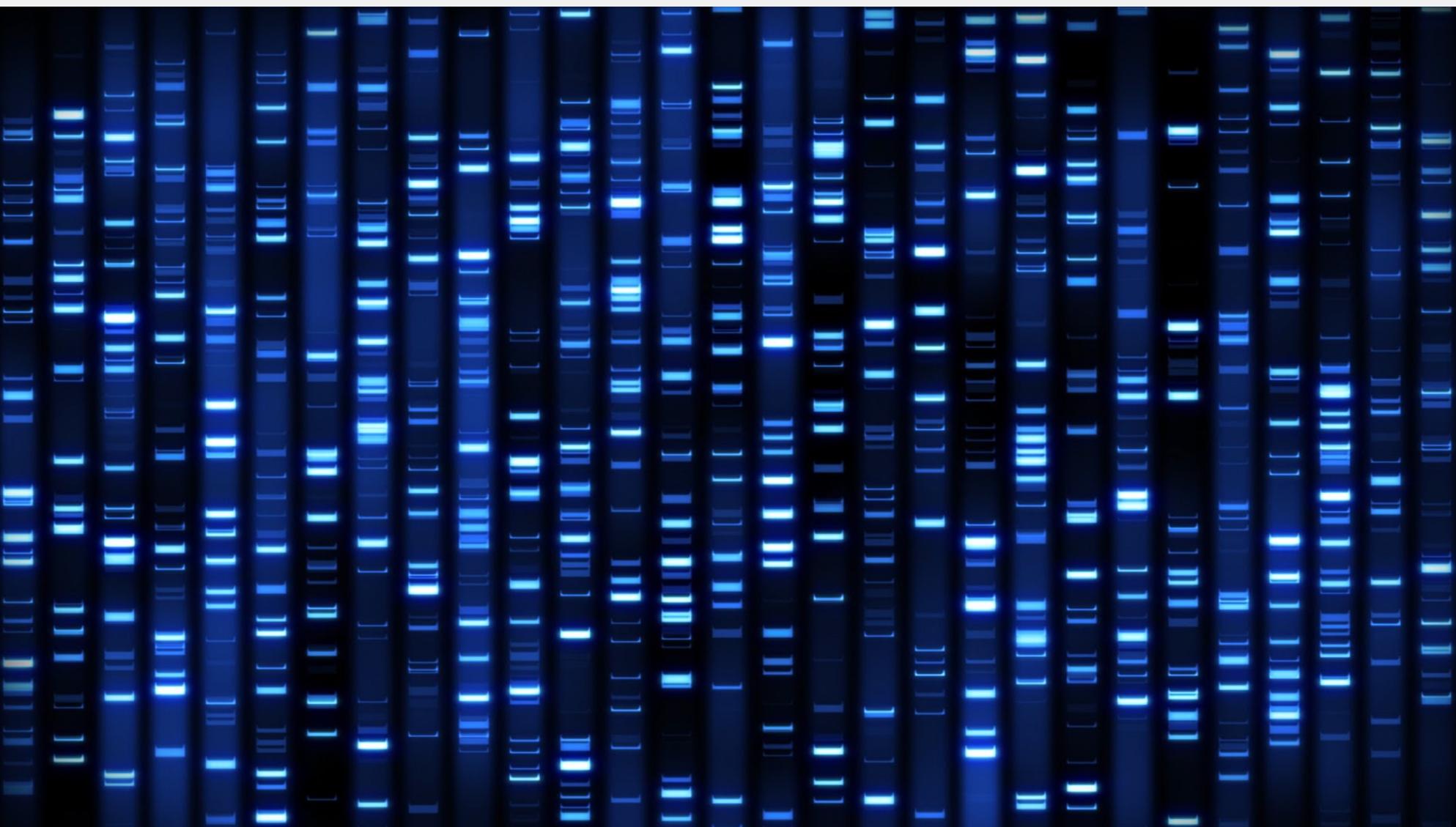
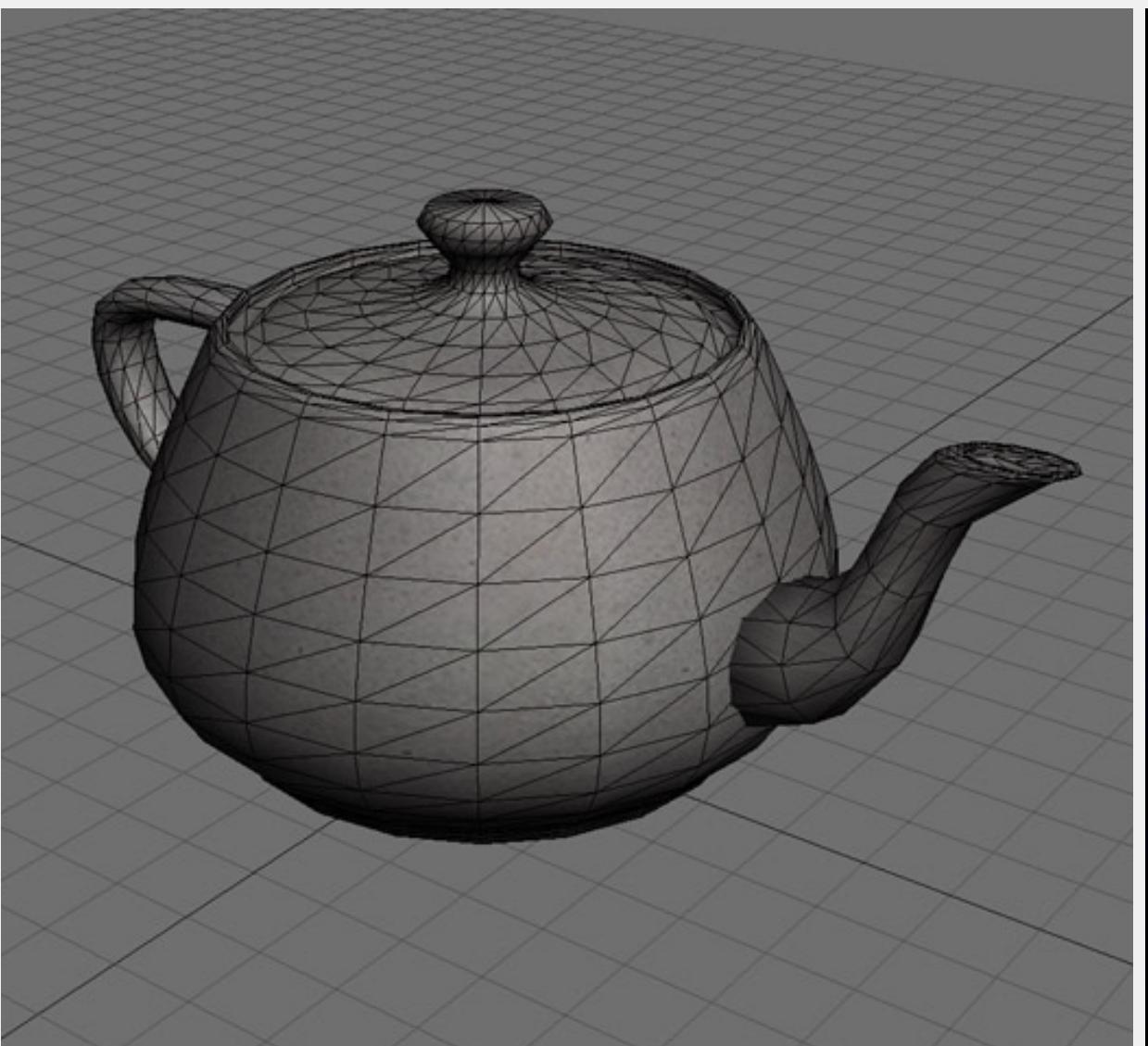
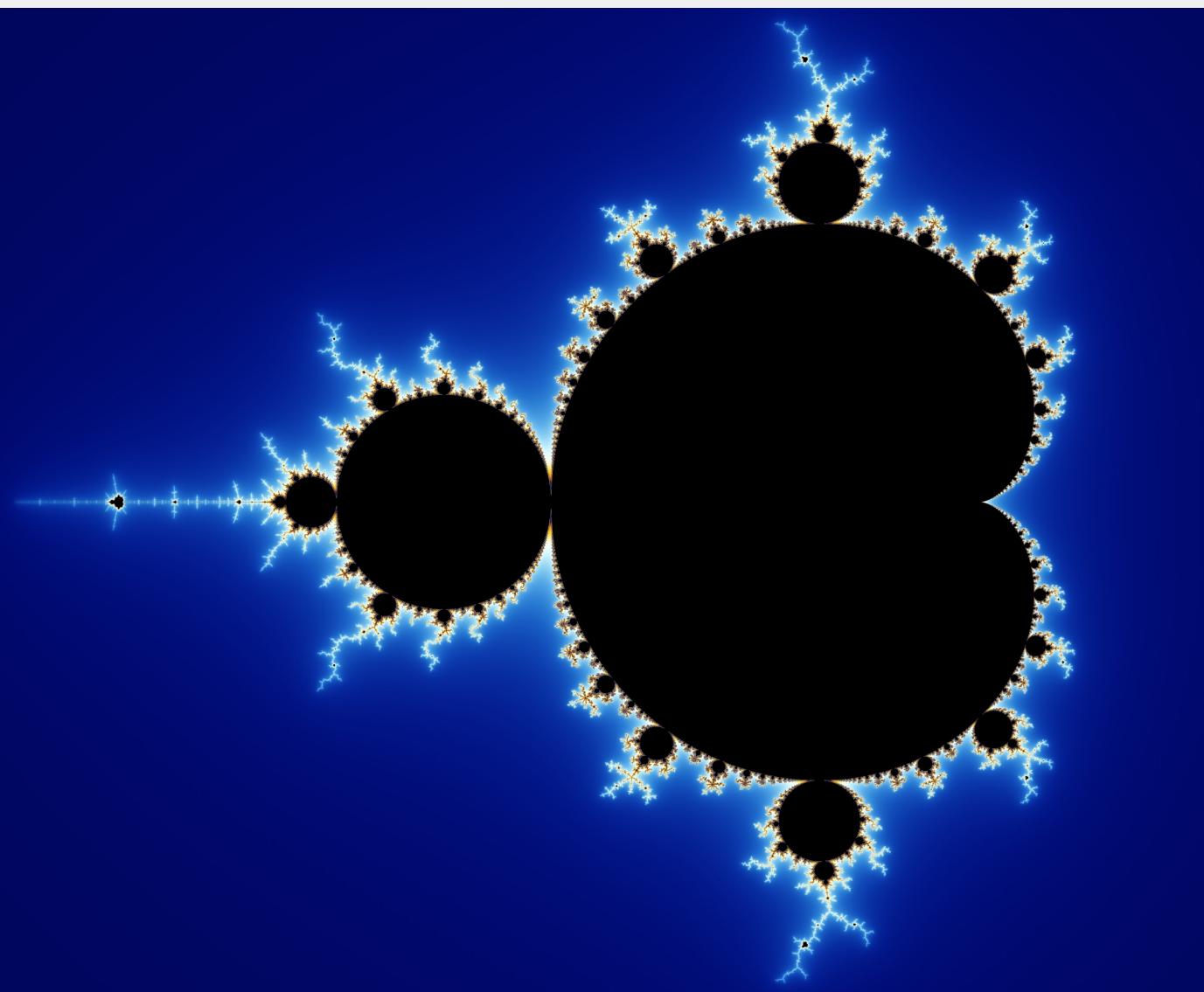
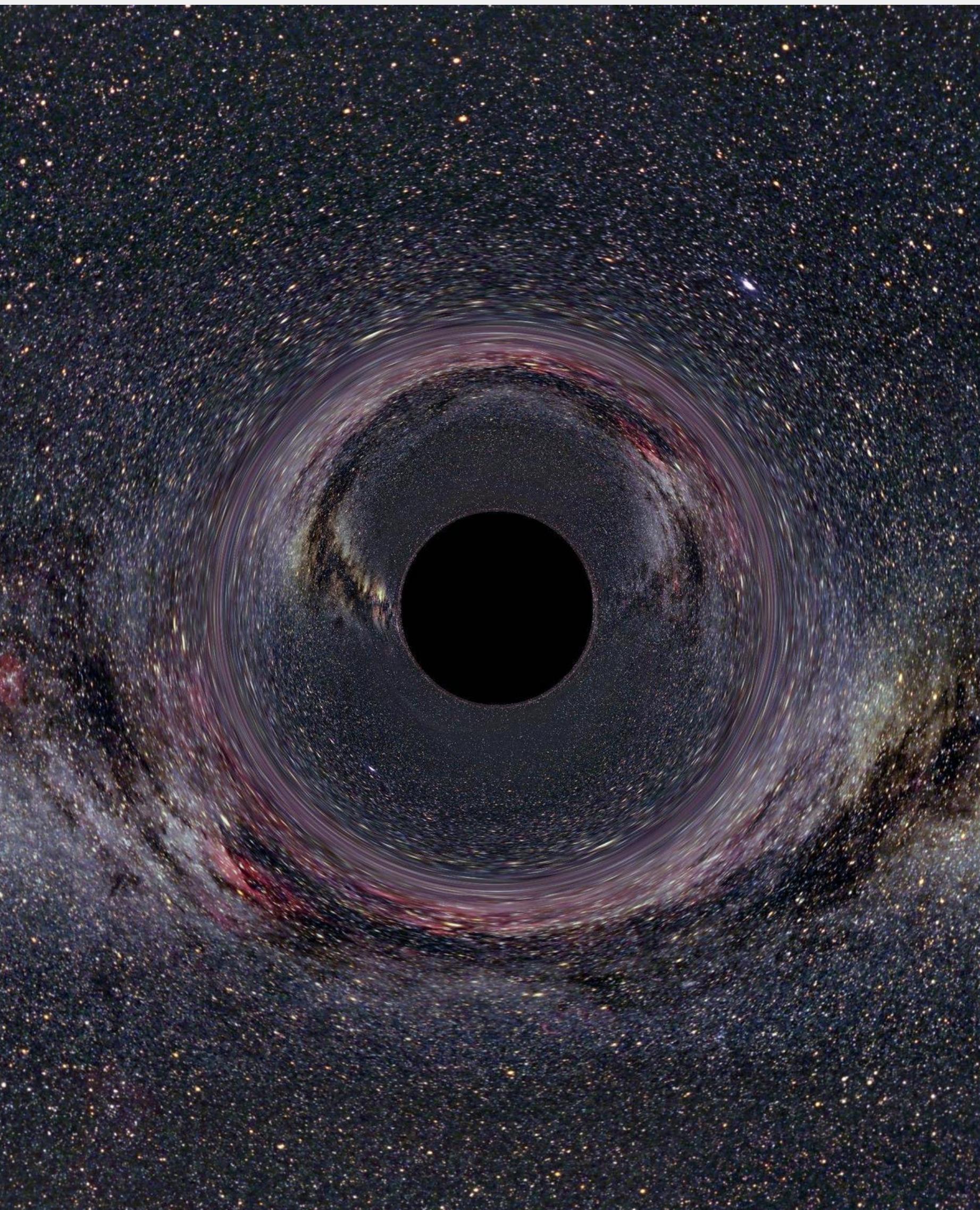
Allie Sauppé | CS4HS

October 15, 2016

Computers Revolutionizing Society



Computers in Scientific Work



How can we integrate
computational thinking as a
fundamental component of
K-12 education?

Reshaping K-12 Education

Requires changes to...

educational policy

resources

leadership

CS educators need to understand the complexities of K-12 education

computer science: “the study of computers and algorithmic processes...” (*ACM Model Curriculum*)

computational thinking: seeking algorithmic solutions to a problem; readiness to move between different levels of abstraction... (*Jeanette Wing*)

Computational Thinking for K-12

What would computational thinking look like in the classroom?

What are the skills that students would demonstrate?

What would a teacher need in order to put computational thinking into practice?

What are teachers already doing that could be modified and extended?

Achieving Change

Policies, vision, and language

messages at various levels of government

encourage pre-professional development

Inspiration, leadership

school administration/teachers

facilitate sharing of ideas

Discussion

How can we incorporate these ideas in the classroom?

What can we do to build community/leadership?

What resources are necessary?