

Graphene and Brain Modeling Project Win Billion Euro **Science Contest**

by Kai Kupferschmidt on 24 January 2013, 11:25 AM | 0 Comments



International proposals to study graphene and the human brain have won the biggest funding contest the European Union has ever hosted. The European Commission will officially announce the winners, each of which stands to receive up to a billion euros, at a press conference on Monday morning in Brussels. "This was the hardest scientific competition Europe has ever seen and we congratulate the winners," says Dirk Helbing, coordinator of FuturICT, one of the losing projects.

Six projects made it into the last round of the Future and Emerging Technologies Flagship Initiative, but last week, the European Commission confirmed to ScienceInsider that only four projects were still in the running. Today, $members \ of \ two \ of \ these \ projects, \ \underline{Guardian} \ \underline{Angels} \ \underline{for} \ \underline{a} \ \underline{Smarter} \ \underline{Life} \ \underline{and} \ \underline{FuturICT}, \ \underline{confirmed} \ \underline{in} \ \underline{interviews} \ \underline{with}$ ScienceInsider that they are not among the winners. That leaves a project on graphene, a material made of carbon atoms arranged in a single layer, and the Human Brain Project, which aims to recreate the human brain in a computer, as the winners.

According to the Flagship plan, the two winning teams will receive €108 million together for the first 2.5 years. Because universities and industrial partners have to contribute money as well, that translates to more than €70 million in funding per project. "Typically, a researcher costs about €100,000 a year in Europe, so this translates into 700 person-years," says Jari Kinaret of Chalmers University of Technology in Gothenburg, Sweden, who coordinates the graphene project. "That is substantial funding." After this start-up phase, funding for the two projects is supposed to go up to €100 million each per year.

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Graphene is a relatively new material that is interesting to scientists because it conducts both light and electricity. The project aims to develop applications in energy and digital technology, among other things. Although he declined to confirm that his project has won ahead of Monday's announcement, Kinaret did discuss today, hypothetically, what a win would mean. "We would start with applications in communication technology, like a fancy radio that operates at frequencies that cannot be used today," he says. Other goals, such as artificial retinas and other "bio-implants" would be pursued at a later time.

The Human Brain Project aims to model everything scientists have learned about the brain, its cells, chemistry, and connectivity, using a supercomputer. The project is coordinated by neuroscientist Henry Markram of the Swiss Federal Institute of Technology in Lausanne. Scientists have criticized Markram for promising things the project cannot deliver, such as insights into how neurodegenerative diseases could be better treated.

Even projects that did not win funding profited from the initiative, says Helbing, a physicist and social scientist at the Swiss Federal Institute of Technology in Zurich. His own project, FuturICT, envisioned a "planetary nervous system" to collect and analyze data on a large scale in order to model society and predict epidemics or the next financial crisis. "This has brought together social scientists, engineers, and other scientists in an unprecedented way." Helbing says. "But the most important thing was that Europe dared to do this at all."

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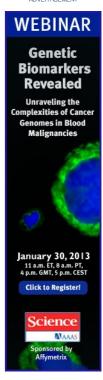
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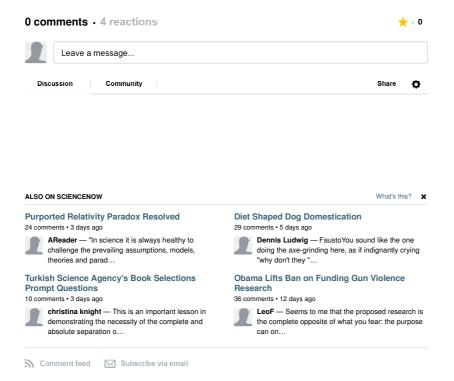
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