

# When Math is Added Back to the Scientific Equation



The Institute for Pure and Applied Mathematics (IPAM)  
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## CURRENT RESEARCH

Bringing together an international community to address modern problems with sophisticated mathematics

Remember sitting in the back of your math class and wondering, "why does this matter?" Surprisingly, scientists investigating some of the most advanced technologies and pressing problems today continue to question the same thing. Many researchers can develop sophisticated tools for the future but lack a background in mathematics to integrate their work with math to create the best possible solution. The Institute for Pure and Applied Mathematics (IPAM) is an NSF Math Institute at the University of California, Los Angeles, that believes "math changes everything." IPAM holds workshops and programs that bring together scientifically diverse groups, who then develop new collaborations and new research directions. These include topics such as virtual surgery, digital humanities, new materials for energy, machine learning, and social networking. Thus, by answering the age-old questions of why math matters, and helping scientists from a variety of fields to come together, IPAM is the key component in many of the most exciting developments today.

IPAM begins by selecting topics that are important scientifically and where math is going to make a difference. In fact, often, math has not yet been applied to the questions investigated during their programs and workshops that last from one day to three months. By bringing in about 1000 people each year, from undergraduates to Nobel Prize Laureates from all over the world, IPAM offers the opportunity for cross-disciplinary and international discovery. With ongoing projects and new activities each day, projects typically take three to six years to mature and get significant results. Thus, IPAM is unique for initiating some of the most innovative fields of applied...

## AFFILIATION



University of California, Los Angeles

## AWARDS

- NSF Competition

## RESEARCH AREAS

Technology, Computational Sciences / Mathematics, Informational Sciences / Internet, Materials Science / Physics

## FUNDING REQUEST

Your contributions will support the continued collaboration promoted by IPAM at the University of California, Los Angeles, as mathematicians are teamed with scientists and industry leaders to use math to create novel technologies and insights. While each workshop costs about \$70K and a program costs about \$500K, donations of any amount will help to address questions that can be answered using sophisticated mathematics. Be a part of bringing together apparently unlikely teams that will achieve monumental results; support IPAM.

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