Welcome to a paradise for science geeks! Flexible organization

Theoretical Mathematical Sciences (THEMS) program is an international research platform applying mathematics as a common language in collaborations at the forefront of research in physics, chemistry, biology, medical science, engineering, information science, computational science and mathematics. Our mission is to develop fundamental ideas based on free thinking.

What is the future of humanity? What will be the mathematics of the 22nd century? How did the Universe begin? Will artificial intelligence ever be able to surpass the human brain? These are some of the questions that drive the research at iTHEMS.

At iTHEMS, we are working toward the full-scale promotion of research in theoretical and mathematical sciences. Rather than having a solid team or group structure, scientists within iTHEMS carry out high-level research independently based on their own interests. The most important element of iTHEMS is the ideas of individual researchers who drive the evolution of the research.

Utilizing modern mathematics

At iTHEMS, we are working toward the full-scale promotion of modern mathematics to accelerate interdisciplinary research. Currently, most of the mathematics used in these fields was created in the 19th century to explain their work in plain terms. One of the efforts to make them accessible to researchers in other fields is to present the research independently based on their own interests. The most important element of iTHEMS is the ideas of individual researchers who drive the evolution of the research.

Flexible organization

At iTHEMS, researchers are free to work independently based on their own interests. Research at iTHEMS includes the “Research Coffee”. At this meeting, we ask one iTHEMS member to give a 15-minute presentation, followed by a discussion and comments. The research presentations can be on different fields, and can be easily understood by non-specialists.

Facilitating daily interactions

Collaboration among researchers beyond disciplines is a challenging task. Sometimes the technical terms used in a field may sound like a foreign language to researchers in other fields, making it difficult for them to communicate effectively. One way to overcome these barriers is to have a place for researchers to interact on a friendly basis and talk about each other’s research in an easy-to-understand terms. One of the efforts to facilitate daily interactions is to have a place where researchers can meet and exchange ideas, which is key to effective communication. The key is to have a place where researchers can meet and exchange ideas, which is key to effective communication. The key is to have a place where researchers can meet and exchange ideas, which is key to effective communication. The key is to have a place where researchers can meet and exchange ideas, which is key to effective communication.
iTHEMS is an international research center where researchers conduct activities beyond disciplines using mathematics as a common language.
iTHEMS has a new type of research platform called a "Research Cell", where researchers from various fields engage in challenging research themes. At the weekly coffee meeting, you can see experts from different fields engage in heated debates.

Extreme Universe Cell
Life and Evolution Cell
Future Geometry Cell
Mathematics and AI Cell