



## France and Chicago Collaborating in The Sciences 2018 – Meet the laureates

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### FACCTS in a few words

Initiated in 2007 and administered by the [France Chicago Center](#), the FACCTS program aims at strengthening cooperation between researchers from the Physical Sciences and Biological Sciences Divisions of the [University of Chicago](#) with research teams in France. It seeks to accomplish this goal by offering seed funding for new projects that promote innovation as well as productive academic and scientific exchanges and that show potential for further fruitful and sustainable collaborations. Since 2014, the [Argonne National Laboratory](#) and the [Fermilab](#) took part in this program. The [Office for Science and Technology](#) in the US is deeply involved in this program both as a financial contributor and as a member of the jury.

Through the ten-year life of the program, more than \$1.5 million dollars have been awarded to support 121 different projects. Over that period, FACCTS-sponsored research has led to enhanced relationships between the University of Chicago and 40 different institutions in France, such as INSERM, CNRS, INRA, and several universities, hundreds of publications jointly co-authored by the University of Chicago and French scientists and transatlantic circulation of dozens of graduate students and postdocs.

### One of the FACCTS candidates will carry out her research in France thanks to the "Make Our Planet Great Again" initiative

One of the FACCTS candidates has not been selected by the FACCTS jury, but she will have the chance to carry out her research in France thanks to the "Make Our Planet Great Again" initiative. President Macron launched this program in July 2017. It supports researchers who do not reside in France and who wish to continue their research with French partners on climate change issues. Julie Bessac is working on "Statistical data fusion for large heterogeneous datasets". Her research is about developing statistical methods that will measure the impact of a number of factors on the evolution of climate and weather. Thanks to this funding, she will conduct her research with the Laboratory for Sciences of Climate and Environment (CNRS) in France.

### Meet the 2018 FACCTS laureates

In 2018, among the 20 applications, 13 received awards by the FACCTS jury. Excellent science, complementarity between the collaborating partners, likelihood of a future high reward relative to the amount of funding requested and the potential for continued collaboration in the medium and long term were the main selection criteria. The jury also paid a special attention to the involvement of students or young scientists in the projects.

The awarded projects deal with a wide variety of subjects, related to biology, physics or mathematics. This year, once again, several research centers in France are involved in these new collaborations such as Institut de Mathématiques de Jussieu and the Collège de France.

2018 FACCTS laureates

<b>Project title</b>	<b>Laureate</b>	<b>French partner</b>
Conormal and Arc Spaces in the Deformation Theory of Singularities	Antoni Rangachev (Department of Mathematics, PSD, U Chicago)	Institut Mathématique de Jussieu
Hybrid Quantum Many-Body Light-Matter Systems: From Theory to Quantum Simulation	Aashish Clerk (Institute for Molecular Engineering, PSD, U Chicago)	CEA Saclay
Laser-Driven Experiments of Compressible Magnetized Turbulence	Petros Tzeferacos, PSD, U Chicago	University of Bordeaux
Joint Research on the Novel Quantum Materials in the Gaseous Phase	Cheng Chin, PSD, U Chicago	Collège de France
Discovering Common Principles for Biological Prediction	Stephanie Palmer, BSD, U Chicago	Ecole Normale Supérieure
Random Monoallelic Inactivation and Human Autosomal Dominant Diseases	Marcelo Nobrega, BSD, U Chicago	Collège de France
A Novel Collaborative Approach to Studying Parasite Invasion	Aaron Turkewitz, BSD, U Chicago	Université de Montpellier
Hard X-ray Window on Ultrafast Charge Transfer in the Liquid Phase	Linda Young, PSD, U Chicago	Université Pierre et Marie Curie & Sorbonne Universités
Climate Calculations to Identify the Best Target Planets to Search for Life in the Next Two Years	Dorian Abbot, PSD, U Chicago	Institut Pierre Simon Laplace
Structural and Biochemical Characterization of RomR, a Regulator of Bacterial Cell Motility	Sean Crosson, BSD, U Chicago	Institut de Microbiologie de Méditerranée Aix-Marseille University
Binominal Checkpointing for Machine Learning	Paul Hovland, Department of Mathematics, Argonne Laboratory	INRIA Bordeaux
Negative Capacitance in Ferroelectric Nanostructures	Saidur Bakaul, PSD, Argonne Laboratory	CNRS Caen
Broadband Higher-Order Mode-Based Beam Diagnostics at IOTA/FAST	Daniel Broemmelsiek, PSD, FermiLab	CEA Saclay