



ANNOUNCING **THE JEDI BILLION MOLECULES** AGAINST COVID19 GRANDCHALLENGE **SCIENTIFIC COMMITTEE**

#JEDICovid19Challenge

Berlin, Boston, Brussels, London, Paris, Rome, Seoul
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- The Joint European Disruptive Initiative is launching **on May 1st** the **Billion Molecules against Covid19 Grand Challenge**, with awards of **up to € 2 million** for the winners.
- Open to the best scientific & technology teams in the world, it has one objective: **to screen billions of molecules** with blocking interactions relevant to SARS-CoV-2, and **fast-track the route to a therapeutic treatment.**

- JEDI has brought together an **exceptional Scientific Committee** with 17 major scientific figures from Europe, Asia and the Americas, including the 2019 Nobel prize in Medicine
- In just 4 weeks, JEDI has structured **strategic partnerships with major organisations** for molecular libraries, supercomputers and highly-complementary Covid19 global initiatives, and first funding partners Axa Research Fund and Merck
- A leading scientist has been appointed as Program Manager

- **We call upon private and public partners to join** this unique and global initiative

<http://covid19.jedi.group>
www.jedicovid19.org

This 12-week Grand Challenge will be exceptionally launched on a global scale, with the precise objective to **identify molecules with blocking interactions relevant to SARS-CoV-2.**

The uniqueness of this JEDI GrandChallenge is :

1. to model a number of active molecules **at a scale never seen before**
2. the determination of a highly accurate list of active compounds **cross-correlated by the best teams in the world**
3. push for **ultra fast-track in-vitro** identification of molecules with 99% reduction in viral activity.
4. Identify the **best drug-cocktail** out of existing FDA-approved molecule

We are announcing today the names of the member of our scientific committee, who will judge whether a team/consortium has satisfied the conditions for the prize to be awarded. We are very honored to have brought together a multidisciplinary team with exceptional scientist as:

- Prof. Charles L. Brooks III, Research Group Leader, Department of Chemistry and Biophysics Program, **University of Michigan**
- Prof. John Chodera, Research Group Leader, **Memorial Sloan-Kettering Cancer Center**, Member of simulating protein dynamics project, **Folding@home**
- Prof. Babak Falsafi, founder and director of the consortium EcoCloud, Professor in Computer Sciences, **Ecole Polytechnique Federale de Lausanne (EPFL)**
- Prof. Bryan Ford, Associate Professor and Head of the Decentralized and Distributed Lab, **Ecole Polytechnique Federale de Lausanne (EPFL)**
- Prof. Adolfo Garcia-Sastre, Director of the Global Health and Emerging Pathogens Institute, **Mount Sinai**
- Dr. Marion Guillou, former CEO, **Institut National de la Recherche Agronomique (INRA)**, former chairwoman, **Ecole Polytechnique**
- Dr. Günter Klambauer, LIT AI Lab & Institute for Machine Learning, **Johannes Kepler University**
- Prof. Marion Koopmans, member of the advisory panel on COVID-19 of the European Commission, Director of a **WHO collaborating center**, Head of the department of Viroscience, **Erasmus Medical Center**
- Prof. Sang-Yup Lee, Director of the Bioinformatics Research Center, **Korean Advanced Institute for Science and Technology (KAIST)**
- Dr. Nadia Naffakh, head of the RNA Biology of Influenza Viruses Unit, **Institut Pasteur-CNRS**

- Sir Peter Ratcliffe, Director of Clinical Research, **Francis Crick Institute**, Nobel Laureate 2019 in Physiology or Medicine
- Dr. Stephane Requena, Innovation and Technology Director, French HPC network, **GENCI**
- Prof. Bernhard Schölkopf, Director, **Max Planck Institute for Intelligent Systems**
- Prof. Fabian Theis, Head of the Institute of Computational Biology and Research Group Leader, **Helmholtz Zentrum Munich**
- Prof. Alexandre Varnek, Head of Laboratory of Cheminformatics, **University of Strasbourg**
- Dr. Daniel Verwaerde, CEO, **Teratec**, former CEO, **Commissariat à l’Energie Atomique et aux énergies alternatives (CEA)**

‘It is critical to rapidly identify molecules/peptides/proteins that can block the development and/or spreading of SARS-CoV-2. That it is why we need to bring as many scientific and technology teams as possible on this JEDI GrandChallenge, and I support it’. says Dr Marion Guillou, former Chief Executive Officer of Institut National de la Recherche Agronomique (INRA).

In research against Covid-19, the approach by JEDI is radically unique :

- It is the **first time in Europe that a DARPA-type Challenge is launched:** with its methodology based on excellence, bold risk-taking, a complete absence of bureaucratic constraint, and precise metrics for success, we aim for major breakthroughs
- We are convinced that **scientific breakthroughs will come from making different scientific disciplines working together:** structural biology, virology, molecular simulations, artificial intelligence and machine learning, high-throughput screening, and rapid experimental testing.
- The JEDI Billion Molecules against Covid19 GrandChallenge is **focused on short term breakthroughs** with results shared with the world, in the spirit of **Open Science**
- The JEDI GrandChallenge has been built to be **deeply integrated and complementary** to many other global efforts like Folding@home

‘I encourage the brightest minds in the world to cooperate with each other to overcome not only COVID-19 but also to prepare for the likely coming Disease-X’ says the head of the Bioinformatics Center at the Korean Advanced Institute for Science and Technology Professor Sang-Yup Lee.

We are also delighted to announce that **Professor Thomas Hermans, 37, a highly recognized young scientist, has been appointed Program Manager of the GrandChallenge.** He is recipient of the prestigious ERC Starting Grant and honored as a Young Scientist by the World Economic Forum. Professor Hermans has a PhD in Biomedical Engineering and works on Life-like Supramolecular Systems, Chiral Separation, and Microfluidics. He is currently heading the Laboratory of Non-equilibrium Complex Systems consisting of 17 researchers at the University of Strasbourg. He is also the co-founder of Qfluidics, a startup that is developing low-shear pumping, valving and mixing for the biotech industry.

'I am very excited to be part of the JEDI Billion Molecules against Covid 19 GrandChallenge ! This is a true moonshot to fast-track novel therapeutics by cross-correlation of simulations within and among teams, and to rapid check the impact on the virus by experiments. The overall time to find either new or existing drugs or combinations thereof will be massively shorter when compared to that of current methods' underlines Thomas Hermans.

This challenge is supported by **numerous strategic partners**, bringing their own resources and expertise to support to help the participating teams to work with the **most efficient resources in high performance computing, biochemical simulation and compound library.** Scientific and technology teams will have access to a massive computing power as well as first-rate compound library and scientific tools.

Andre Loesekrug-Pietri, Director of the Joint European Disruptive Initiative, underlines *'The crisis of historical proportions we are experiencing is a strong confirmation of **JEDI's vision for much bolder anticipation, interdisciplinarity, massive agility and a radical new approach to innovation.** We are bringing our contribution in the fight against the virus, and excited that JEDI is launching the first-ever DARPA-type challenge in Europe at the intersection of high performance computing, molecular biology and artificial intelligence'*.

He adds: *'Nothing would have been possible without our first funding partners Axa Research Fund, Merck and BMW Foundation. If you are a government , a foundation, a family office or an organization which **wants to have a game-changing impact**, if you are committed to open science for the world, we are looking forward to welcoming you as strategic partners of the JEDI Billion Molecules against Covid19 GrandChallenge!'*

<http://covid19.jedi.group>
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About JEDI

The Joint European Disruptive Initiative (JEDI) is the initiative for disruptive innovation to bring Europe in a leadership position in breakthrough technologies. It is powered by 3.700 leaders of Europe's deeptech ecosystem in 23 countries. JEDI is launching Technology & Scientific GrandChallenges to push the frontiers of innovation, with a radical method based on excellence, no geographical return, speed, highest expectations & bold risk-taking. JEDI is driven by humanistic values, a purpose-driven approach to solve major societal issues in environment & energy, healthcare, digital and new frontiers (space and oceans) through innovation. Europe needs a strong change to stay in the race and affirm its values. More by email covid19@jedi.group or on www.jedi.group & twitter [@eurojedi](https://twitter.com/eurojedi)

About the AXA Research Fund

The AXA Research Fund was born out of the belief that science plays a crucial role in responding to the most important issues facing our planet today. AXA's scientific philanthropy initiative is committed to supporting science contributing to societal progress and encouraging researchers to share their work and inform decision making. The AXA Research Fund supports projects in the risk areas of climate and the environment, health and socioeconomics. With 250 Million Euros committed since its inception in 2007, the Fund has supported over 650 projects to date, in 300 leading academic institutions. More on www.axa-research.org [@AXAResearchFund](https://twitter.com/AXAResearchFund)

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