

Three Winning Quantum Projects Announced for the Blaise Pascal [re]Generative Quantum Challenge

Inaugural quantum hackathon for sustainability awards €50,000 to projects focused on renewable energy forecasting, data-driven applications, & molecular docking



PARIS, FRANCE, November 28, 2023 /EINPresswire.com/ -- In the year marking the 400th birth anniversary of Blaise Pascal, the renowned French mathematician, philosopher and physicist, PASQAL initiated a competitive hackathon two months ago to underscore the benefits of



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quantum computing for sustainable development. Today, at an award ceremony in Pascal's hometown of Clermont-Ferrand, PASQAL and partnering organizations announced three winning projects and awarded €50,000 in prizes to continue their work.

The three winning projects are:

First Place - "Neutral Atom Renewable Energy Forecasting: Improving Renewable Energy Forecasting with Neutral Atom Reservoir Computing" by Naomi Mona Chmielewski, Leo Monbroussou and Ulysse Remond1

Second Place - "Neutrogen: Unlocking data driven

applications: Optimally embedding neutral atoms for any data-driven application" by Maria Demidik, Cenk Tuysuk, Manuel Rudlph, Giorgio Fecellli and Ravi Kumar 2

Third Place - "Molecular Docking with Neutral Atoms: Enhancing drug discovery pipelines to find a sustainable alternative to Paclitaxel" by Victor Onofre, Noe Bosc-Haddad and Mathieu Garrigues. 3

"The tests that we did during this hackathon show that our model easily outperforms classical counterparts, using less data and as a result, less energy, in renewable energy forecasting," said

top prize winner Chmielewski, representing French energy company EDF with teammate Remond, and joining fellow PhD student Monbroussou of Naval Group on the winning project. "With the support and advice of the hackathon's mentors, we were able to discuss ideas of how to use our quantum design for an industrial use case implementation, and how to use neutral atom quantum computers."

PASQAL, in collaboration with Blaise Pascal Advisors, GENCI, Capgemini and Michelin, launched the Blaise Pascal [re]Generative Quantum Challenge as a call to action for innovators around the globe to demonstrate the tangible impact of quantum computing. The initiative included an international hackathon and a groundbreaking study to rigorously assess the sustainability benefits of quantum computing through life-cycle analysis. The event included an award ceremony and an expert roundtable on sustainability, AI, and quantum computing.

"We congratulate the winners of this inaugural event for their thoughtful and promising ideas," said Georges Reymond, CEO of PASQAL. "We were extremely impressed with the response to this challenge and the breadth and depth of the entries and appreciate everyone's participation. This event demonstrated the excitement that quantum technology can inspire in people to tackle the world's biggest challenges."

The hackathon lasted just over 50 days and attracted more than 800 candidates with 75 proposals from 25+ countries. Participants worked alongside physicists and scientists from PASQAL, with consultants from Capgemini offering guidance and strategy along the way.

The jury panel that selected the top three projects included:

- Florent Menegaux, Chairman of the Michelin Group
- Frederic Magniez, Director of Research at CNRS
- Etienne de Rocquigny, Founder Blaise Pascal Advisors
- Kristel Michielsen, Founder EMBD
- Georges-Olivier Reymond, CEO of PASQAL

"As CEO of Michelin Group and a proud jury member of the Blaise Pascal [re]Generative Quantum Challenge, I am deeply committed to steering our company and community towards a sustainable future," said Florent Menegaux, CEO of Michelin Group. "We recognize that the path to sustainability is paved with the ingenuity that contests like these inspire, merging quantum computing with environmental stewardship. At Michelin, we are not just participants in the race against climate change; we aim to be leaders, setting the pace for others to follow."

PASQAL committed to a zero-emission threshold as part of the company's greater commitment to sustainability. PASQAL's CEO will be participating in next month's COP28 meetings to provide perspective from emerging technologies that will power the energy transition.

PASQAL and its partners advocate for a science-based approach to sustainability in quantum computing, emphasizing the need for accountable life-cycle assessments that go beyond mere

power consumption comparisons between classical CPUs and quantum processing units (QPUs). They aim to consider the complete environmental impact, from machine fabrication to end-of-life, in the context of a total computation cycle, including potential hybrid architectures combining CPUs, GPUs, and QPUs.

About Blaise Pascal Advisors

Blaise Pascal Advisors is an advisory firm of entrepreneurs and executives to put tech at the service of strategy and meaning. It was founded by Etienne de Rocquigny, mathematician and entrepreneur, former Vice-Dean of Research at Centrale Paris, co-founder with Bpifrance of the data-Al program and a cutting-edge think-tank in algorithmic ethics. Blaise Pascal Advisors has accompanied more than forty algorithmic and pivotal entrepreneurial adventures with impact.

Learn more: <u>www.blaisepascal-advisors.com</u>

About PASQAL

PASQAL is a pioneering company in quantum computing. It was founded in 2019, by Georges-Olivier Reymond with Alain Aspect, 2022 Nobel Prize in Physics; Christophe Jurczak; Antoine Browaeys and Thierry Lahaye. PASQAL is the European leader in quantum technology and aims to rise to the rank of world leader, notably by developing a 1,000 qubit quantum computer in the short term. PASQAL has obtained more than 140 million euros in financing and relies on a team of more than 170 employees. The company has 25 clients around the world including Thales, Airbus, EDF, RTE, BMW, Johnson & Johnson and Siemens.

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