Quantum Technologies
GRADUATE SCHOOL

INTRODUCTION TO QUANTUM PROGRAMMING
APRIL 26TH, 2024

(i) Irif, Université Paris Cité
Room 3071

with Vivien Londe
Quantum Computing specialist

The Graduate School invites you to a **one-day session of introduction to quantum programming** by **Vivien Londe**, Quantum computing specialist at Microsoft, in the framework of the Graduate School for Quantum Technologies.

The scope of the day is to **implement well known quantum algorithms in a environment for quantum software** development through two pratical classes:

• 9h-12h - Phase estimation

Explore **quantum algorithms** for speed inspired by non-classical physics behaviors. Learn about the **phase estimation algorithm**, akin to Mach-Zehnder interferometer experiments, **estimating unknown quantum gate phases**. No prior quantum programming required; Q# code provided, with **Python basics** for precision analysis, unlocking key quantum algorithm concepts.

• 14h-17h - Error correction

Unlock the challenge of quantum algorithm integrity through **error correction techniques**. Explore the theoretical but crucial realm of quantum error correction, focusing on the **surface code method**. Join us for practical implementation and discussion on error channels. Basic Python programming skills suffice for engagement.

All Master and PhD students, as well as postdocs and academics of Université Paris Cité are welcome to register.

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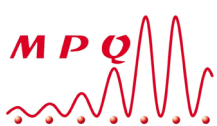
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Unveil the abstract and register (free but mandatory) here: