High Performance Computing Workshops for the Central Bank of Chile

Course 2: Advanced Macroeconomic Modeling with Julia

Provider: QuantEcon

March 8, 2022

Course 2 will provide

1. 16 hours of in-person teaching, including lectures and tutorials.
2. Non-graded tutorial and homework exercises.
3. Accompaning Jupyter notebooks containing both code and theory.
4. Access to a cloud computing option for all workshop participants.

Instructors:

1. John Stachurski (Australian National University, Co-founder of QuantEcon)
2. Pablo Winant (CREST and ESCP Business School, lead developer of `dolo`)

Dates:

- Early May 2022.

Price: 5000 dollars.

Topics:

- Parallel computing in Julia.
- Perturbation methods.
- Fixed point methods and financial networks.

- Global solution techniques and occasionally binding constraints models.
  - “improved” algorithms
  - multistep problems and endogenous grids
  - dimensionality reduction
- Heterogeneous agent models.
- Performance optimization.
- Structural modeling with Dolo.
- Introduction to deep learning methods.