

PHD POSITION

The Center for Operations Research and Econometrics of the Catholic University of Louvain has multiple vacancies for PhD positions in the area of power system operations and power system economics. The recruited applicant will conduct research in one of the following topics: (i) Extending the state of the art in renewable energy integration studies to sub-hourly time resolution, in order to quantify the value of flexibility in power system operations; (ii) Designing end-to-end business models (from product definition, pricing and aggregation, to individual device control) for residential demand response aggregation that scale to millions of residential customers; (iii) Developing parallel decomposition algorithms that provide *rapid* solutions to large-scale, loosely coupled optimization problems. Researchers will be encouraged to utilize parallel computing in order to develop distributed algorithms that exploit access of the group to the Lawrence Livermore National Laboratory High Performance Computing facility.

Description of the position

The main activity of the doctoral student will be to conduct doctoral research under the supervision of Professor Anthony Papavasiliou in the [Center of Operations Research and Econometrics](#) at [UCL](#). This research will lead to journal and conference publications and a PhD thesis. The PhD candidate may also be involved in teaching activities. Contingent on continuing funding and active collaboration with U.S. partners, the PhD candidate will also have the opportunity to collaborate with U.S. research groups at

- the [University of California at Berkeley](#), either remotely or through spending one semester in California.
- the [Lawrence Livermore National Laboratory](#), by accessing one of the world's most powerful supercomputers, the LLNL [High Performance Computing cluster](#).

The grant is for four years, subject to renewal in the end of the second year, and carries full benefits and a monthly *net* amount of approximately 2,000 €.

Required qualifications

The ideal candidate should hold an M.Sc. level in Electrical Engineering, Computer Science, Applied Mathematics, Economics or a related field. The ideal candidate should have a solid background in optimization, mathematics, statistics and economics, an interest for the application of operations research in energy systems and strong programming skills. Proficient knowledge of English is highly desirable. Knowledge of French is not required. A background in operations research is highly desirable, though not required.

To apply

Applications should include:

- a CV,
- a statement of purpose (1-2 pages),
- 3 letters of recommendation (references can email their recommendation letters to anthony.papavasiliou@uclouvain.be),
- unofficial transcripts (official transcripts will be required if admitted. English translations are required),
- and evidence of competency in English (e.g. TOEFL, GRE, proficiency degrees). TOEFL will be required if admitted.
- **Optionally:** Samples of work (no more than 3 conference papers, journal publications or drafts that are published, in draft form or in progress) can be helpful in the evaluation but are not required.

Applications can be emailed to Professor Anthony Papavasiliou at anthony.papavasiliou@uclouvain.be. Applications will be received on a continuous basis. The position will commence upon admission of the applicant.

Further information on the Center for Operations Research and Econometrics can be found at <http://www.uclouvain.be/en-core.html> or by contacting M. Francisco Santana Ferra at francisco.santanaferra@uclouvain.be.