

Report on the ESF - Workshop No 2796

Stochastic Optimal Control, (SOCONT)

Funchal (Madeira) 14-18 February 2010.

Participants

The workshop brought together 12 participants from which 9 are professors and 3 Doctoral students. In detail the attendants were:

- Prof. Michèle Thieullen, (Paris 6 Univ.- France).
- Prof. Christian van den Broeck, (Hasselt Univ. - Belgium).
- Prof. Lutz Schimansky-Geier, (Humboldt Univ. Berlin - Germany).
- Prof. Juan Parrondo, (Complutense Univ. Madrid, Spain).
- Prof. Michele Pavon, (Padova Univ. Italy).
- Prof. Jose Nino-Mora, (Carlos III Univ. Madrid - Spain).
- Prof. Christian Mazza, (Fribourg Univ. - Switzerland).
- Prof. Jose Luis da Silva, (Madeira Univ. - Portugal).
- Prof. Max-Olivier Hongler, (EPFL-Lausanne, Switzerland).

- Doctoral students: Florence Yerly, Christel Feller and Julio Rodriguez.

Scientific content

The scientific content has been balanced between physics , mathematics, operational research and theoretical biology. All together the participants delivered 20 times 45 minutes contributions. The first day (Monday 15) as mostly devoted to statistical physics and dynamical systems with talks by C. Van den Broeck, L. Schimansky-Geier, J. Parrondo and J. Rodriguez). Tuesday 16 and part of the Wednesday 17 were devoted to applied mathematics with talks delivered by M. Pavon, J. Nino-Mora, M. Thieullen, J. da Silva and M.-O. Hongler. Biology aspects were tackled on Wednesday 16 and Thursday 17 with talks delivered by C. Mazza, F. Yerly and C. Feller.

While being of high scientific content, participants did pay a special care to deliver pedagogical talks - this was agreed on when people were contacted to participate to the SOCONT event. Thanks to this numerous discussions were initiated and several gaps between disciplines were bridged. This enabled to identify intimate connections existing between stochastic control optimal transportation and off-equilibrium statistical thermodynamics.

Note that on the Wednesday 17 afternoon, all participants were invited for a short visit on the mountain of Madeira Island.

Budget

The budget of the proposal, namely 6'000 Euros has been balanced. As originally planified, a substantial local contribution from the CCM-University of Madeira enabled to fully cover the local travel expenses, (in particular, Taxi travel from Funchal airport to the Hotel).

Conclusion

Summarizing, we believe that this was a fine, interesting and engrossing meeting. The general communication atmosphere was delightful. We feel confident that this agreeable meeting leaves all participants with new perspectives and lasting future contacts.

Lausanne and Funchal, March 2010. M.-O. Hongler and J.-L. da Silva.