 



1. **Title : Multi-agent modélisation for flexibility evaluation in residential dwellings**

The internship focuses on residential houses, in particular on the accurate modeling of household responses to various signals that require indirect flexibility. After an in-depth analysis of the literature on indirect flexibility, with human involvement, we are asked to develop a customizable model capable of representing houses with their inhabitants. This model should facilitate the simulation of hypotheses concerning their reactions and consequences. The buildingenergy project (https://gricad-gitlab.univ-grenoble-alpes.fr/ploixs/buildingenergy) can be used, taking advantage of its multi-agent simulation to capture flexibility signals. It can also be compared with other existing simulators. In addition, various types of data recorded from sensor-equipped houses can be incorporated into dynamic building simulations.

**Supervisors**

|  |  |
| --- | --- |
| **OTE – G2ELAB** | **OTE – G-SCOP/CNRS** |
| WURTZ Frederic Directeur de Recherches au CNRS Responsable de l'Equipe MAGE  04 76 82 62 77  06 72 40 08 80  [frederic.wurtz@g2elab.grenoble-inp.fr](mailto:frederic.wurtz@g2elab.grenoble-inp.fr) | Stéphane PLOIX - Office 328, Gate H, 3rd floor - G-SCOP lab CNRS UMR5272 -  Grenoble Institute of Technology / Université Grenoble Alpes - 46 avenue Félix Viallet - 38 031 Grenoble Cedex 1 – France  phone: +33 476 827 113 - cellular: +33 663 647 082  stephane.ploix@grenoble-inp.fr |

[**Building energy**](https://gricad-gitlab.univ-grenoble-alpes.fr/ploixs/buildingenergy/-/blob/main/sites/weather_site.py?ref_type=heads) **- Professor Stephane's work I can use for the weather podcast**

[**IRISE data**](https://www.researchgate.net/publication/273137360_Classification_Techniques_for_Non-intrusive_Load_Monitoring_and_Prediction_of_Residential_Loads) **-I need to check if it can be useful**