# Dissertation project idea – Jamie O’Brien

## Getting to work

* Please send me an email to introduce yourself, including a few points about your interests
* I mix academic research with professional consultation, so I can place your dissertation research with ‘real-world’ planning and design projects, which require your commitment and professionalism
* I can provide methodological and technical advice in using R for GIS and spatial analysis
* I have an interest in using space syntax for modelling urban movement potential
* I prefer working with emailed documents of your dissertation as it progresses, but please be consistent with naming the versions (for example, “mydissertation\_rev2.2.docx”)
* When we meet, please bring some materials for us to discuss, a couple of slides with text or images would be useful

## Project ideas

Community energy is playing an increasingly prominent role in local urban developments. I am currently working on an energy masterplanning project for the town of Oldham, close to Manchester, which has raised some challenges that would provide fascinating topics for masters projects. For example:

1. Locating potential spaces for sustainable energy installations, such as solar, wind, water, or recharging points, within urban contexts
2. Gathering and analyzing data to demonstrate the balance of renewable energy demand/generation
3. Understanding how engagement with ‘energy data’ (e.g. EPC, CDRC, Google EIE data) makes a difference to a community’s formation, in terms of its inter-dependencies, knowledge, and capabilities
4. Understanding how communities negotiate their access to energy or other key services, perhaps using ideas from game theory
5. Mapping how communities form in relation to key objects or assets, perhaps using ideas from graph theory

### Skills keywords

* Spatial analysis (locations and networks), R/GIS, social network analysis, game-theory economics, ethnographic observation

### Data

* Google EIE (the project is partnered with Google)
* Urban environment (DEFRA, Met Office, etc)
* Urban ecology (blue/green infrastructure; private garden spaces)
* Participatory GIS
* Environmental sensor data
* Transport infrastructure
* Household energy