



FACCE MACSUR

D-XC4.1.1 Capacity Building Strategy

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Introduction

Modelling has become a widespread tool for understanding complex dynamic systems. In particular, modelling plays an important role in understanding climate change impacts within agricultural systems, with a wide range of modelling strategies across a broad spectrum of scientific fields. Many scientists who develop or use these models have only limited formal training in model development. Any experience with models from a wider range of fields is even more limited, which can be a significant barrier to model integration and cross-Theme working. An important aspect of MACSUR is therefore to provide training and capacity building, both for early career scientists and more established researchers who wish to expand their capacity for integrated research. Post-graduate training courses in various aspects of modelling are therefore important to improve the capacity of scientists working in this field. Much effort has already been put into development of Theme-specific courses. Training courses, both on-line and in-person, have also been developed at various partner institutions and as part of other projects. MACSUR2 will continue to build the experiences gained by partners so far within the three themes. Options for future training are outlined here, including training for practitioners, e-learning development and use, PhD courses and more.

Raising the capacity of established researchers

Capacity for cross-theme collaboration

Finding potential partners within the network with similar interests can be a challenge, especially across themes. As a starting point, establishing a “who’s who” of MACSUR members can facilitate access to skills and knowledge across the network. The increased emphasis on cross-cutting activities in phase 2 of MACSUR through integrated workshops will further improve cross-theme collaboration.

Short “Master Classes”

These are short sessions held in conjunction with other project meetings or workshops, addressing particular topics of interest among members and drawing on the expertise both within and outside MACSUR. These short sessions can also be recorded and made available on the MACSUR website for a wider audience. Potential themes for such sessions include (but are not limited to):

- a) sharing of model code across themes/models
- b) developing user friendly model interfaces
- c) communicating modelling

Session topics will be developed in conjunction with meeting or workshop organizers to best fit in with meeting themes and to take advantage of the resources available at specific locations or workshops.

Raising the capacity of early career researchers

PhD/ECR training courses

Providing PhD training courses are a core ambition of MACSUR, with several courses already completed within phase 1. Several specific training courses are planned as part of the MACSUR project also in phase 2. These include a multi-disciplinary e-learning course led by cropM partners and a course on agricultural production and environmental modeling led by tradeM partners. Additionally, there are many courses already planned or currently running organized by partners both within MACSUR and beyond. To date, our community has had little overview of what the relevant existing provision may be. In particular, there has been little cross-theme information sharing. MACSUR coordinators have also received requests for this kind of information from beyond MACSUR, highlighting the need for greater visibility of such training provision. We therefore aim to establish an on-line signposting facility for existing provision as well as developing specific MACSUR training courses.

Training integrative and international modellers through a Marie Curie ITN

The Marie Curie ITN programme could potentially provide funding for PhD students supervised across partner institutes, spending time at each institute developing and sharing modular open access models on particular topics. Associated with such PhD fellowships would be workshops or training courses which could potentially be opened up to the wider MACSUR community as well. A group of interested partners has been set up to develop such a proposal, being led by Anthony Wilson at Pirbright Institute (UK). If successful, such a programme would provide integrative training across countries and themes within MACSUR.

Raising the capacity of our stakeholders

MACSUR input to the Advanced Training Partnership (ATP)

<http://www.atp-pasture.org.uk/>

ATP is an online training group based at Aberystwyth University. They have developed several online training courses, many of which are of interest to MACSUR stakeholders. Some MACSUR partners have already engaged with this opportunity, by providing input into existing modules (recorded lectures for instance). We aim to continue this interaction in future.