

## **Career Development Plan-Year 3**

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### **BRIEF OVERVIEW OF RESEARCH PROJECT AND MAJOR ACCOMPLISHMENTS EXPECTED):**

**Description: Research project on advanced hyperspectral data processing for vegetation monitoring purposes,**

#### **Goal:**

**The researcher will be required to work on vegetation monitoring using hyperspectral airborne or spaceborne data in both mountainous and urban areas. The research will require the definition and the implementation of a full processing chain able to start with radiometrically calibrated data and ending with maps of vegetated species and tree status in various environments. Testing of known algorithms and development of innovative and advanced ones for each step of the defined chain will be required, with particular emphasis on geometric and atmospheric corrections and classification procedures based on known spectral of vegetated species. Joint spectral and spatial analyses will be also considered to implement the final mapping chain. Mandatory part of the Ph.D. will be also validation and accuracy assessment of the outputs of the processing chain, by means of both in situ spectral measurements and visual inspection.**

### **LONG-TERM CAREER OBJECTIVES (over 5 years):**

1. Goals:  
The research goal is to develop new methodologies that are suitable for mapping vegetation by means of hyperspectral remotely sensed data. The developed methodologies are expected to be useful for general purpose mapping of different land cover types and also to serve useful and sufficient information for Natural Resource Management and Environmental Monitoring and Conservation.
2. What further research activity or other training is needed to attain these goals?

### **SHORT-TERM OBJECTIVES (1-2 years):**

1. Research results

- Anticipated publications:  
A couple of new publications are aimed to be developed during the last year of this project. The initial testings of the developed methodologies are finished and the validation is being done. That would probably led to another 3 papers.
  
- Anticipated conference, workshop attendance, courses, and /or seminar presentations:  
We submitted already the papers for the WHISPERS conference, Iceland and the IGARSS 2010, Honolulu, Hawaii and both of them were accepted for oral presentation

2. Research Skills and techniques:

For this year some school activities are planned. The required credits for the PhD. Degree in Pavia is aimed to collect in different summer schools and courses at different universities that are also relevant for my project.

3. Research management:

- N/A

4. Communication skills:

Develop my communication skills in English both in oral and in written communications and with special attention on scientific writing and communications. I would like to further develop my skills also in general communication in order to make easier to gain and transfer knowledge of particularly complex scientific problems. I also would like to gain relevant knowledge of further european languages-

5. Other professional training (course work, teaching activity):
  
6. Anticipated networking opportunities  
Throughout visits to Hyper-I-Net partners I am expecting some knowledge exchange and possibly gain ECTS credits as well.
  
7. Other activities (community, etc) with professional relevance:  
I am desperately trying to obtain more data to my PhD and project work. Good quality remotely sensed data coupled with field data is crucial to develop anything in this field. At the moment I am in touch with different prospective partners for the project who could serve both data and field data and can provide possibility to participate in ongoing campaigns to collect field data of the desired kind in situ.

28<sup>th</sup> February 2010

## **Career Development Plan-Final year** *(Draft)*

**BRIEF OVERVIEW OF PROGRESS, ACHIEVEMENT AND PERFORMANCE (half page should be sufficient):**

**LONG-TERM CAREER OBJECTIVES (over 5 years):**

If relevant, mention any adjustments to your long-term career objectives as a result of the training received.

**SHORT-TERM OBJECTIVES ACHIEVED DURING THE TRAINING PERIOD:**

1. Research results
  - Publications (incl. in press):
  
  - Conference, workshop attendance, courses, and /or seminar presentations:
2. Research Skills and techniques acquired:
  - Training in specific new areas, or technical expertise etc:
3. Research management:
  - Fellowship or other funding applications achieved (indicate name of award if known; include fellowships with entire funding periods, grants written/applied for/received, professional society presentation awards or travel awards, etc.)
4. Communication skills:
5. Other professional training (course work, teaching activity):
6. Anticipated networking opportunities
7. Other activities (community, etc) with professional relevance:

Date & Signature of fellow:

Date & Signature of supervisor

## **Career Development Plan**

### **Guidance on some of the competencies expected**

The following points are a non-exhaustive series of aspects that could be covered by the career development plan, and it is relevant to the short-term objectives that will be set by the researcher and the reviewer at the beginning of the fellowship period. The objectives should be set with respect to the skills and experience that each researcher should acquire at a given time of his/her career. A postgraduate researcher at PhD level will have very different needs compared to a post-doctoral researcher at an advanced stage of his/her professional development. These objectives should be revised at the end of the fellowship and should be used as a pro-active monitoring of progress in the researcher's career.

#### **1. Research results.**

These should give an overview of the main direct results obtained as a consequence of the research carried out during the training period. It may include publications, conference, workshop attendance, courses, and /or seminar presentations, patents etc. This will vary according to the area of research and the type of results most common to each field. The information at this level should be relatively general since the career development plan does not strictly constitute a report on the scientific results achieved.

#### **2. Research Skills and techniques acquired.**

Competence in experimental design, quantitative and qualitative methods, relevant research methodologies, data capture, statistics, analytical skills.

Original, independent and critical thinking.

Critical analysis and evaluation of one's findings and those of others

Acquisition of new expertise in areas and techniques related to the researcher's field and adequate understanding their appropriate application

Foresight and technology transfer, grasp of ethics and appreciation of IPPR.

#### **3. Research management.**

Ability to successfully identify and secure possible sources of funding for personal and team research as appropriate.

Project management skills relating to proposals and tenders work programming, supervision, deadlines and delivery, negotiation with funders, financial planning, and resource management.

Skills appropriate to working with others and in teams and in teambuilding.

#### **4. Communication skills.**

Personal presentation skills, poster presentations, skills in report writing and preparing academic papers and books.

To be able to defend research outcomes at seminars, conferences, etc.

Contribute to promote public understanding of one's own field

**5. Other professional training (course work, teaching activity):**

Involvement in teaching, supervision or mentoring

**6. Anticipated networking opportunities.**

Develop/maintain co-operative networks and working relationships as appropriate with supervisor/peers/colleagues within the institution and the wider research community

**7. Other activities (community, etc) with professional relevance.**

Issues related with career management, including transferable skills, management of own career progression, ways to develop employability, awareness of what potential employers are looking for when considering CV applications etc.