

# Colliders **L**inking **I**nitiative to **M**edical applications and **B**eyond **CLIMB**

M. Aicheler

24.10.2012

## Proposal for a CLIC ITN

K. Österberg, Department of Physics,  
University of Helsinki & Helsinki Institute of Physics  
kenneth.osterberg@helsinki.fi

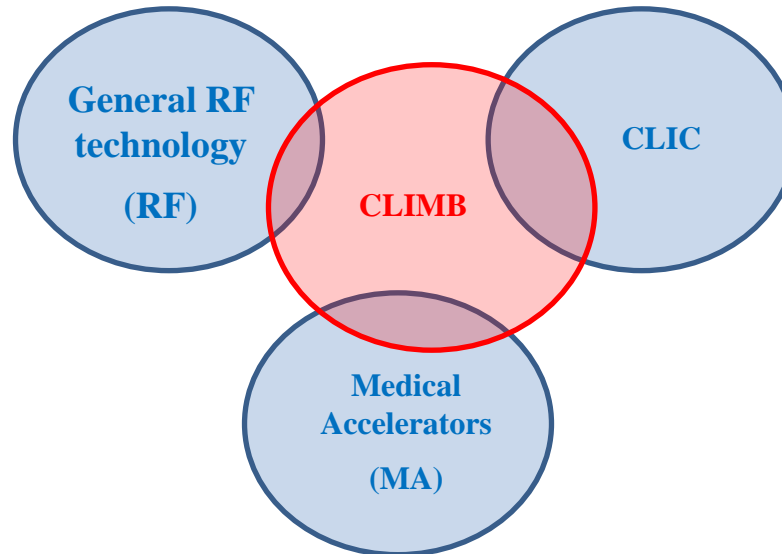
EU/FP7 Marie Curie Initial Training Network  
(ITN)

**call:** FP7-PEOPLE-2013-ITN

**application deadline:** 22.11.2012

This proposal is created in collaboration with: **bgator**

## A CLIC-focused multi-site-ITN on Normal Conducting (NC) accelerator technology



### General RF technology:

- ultra high precision machining & assembly
- coatings for Vacuum technology
- Tuneable permanent magnets
- Wake field monitors
- X-band in free electron lasers

### CLIC focused:

- High gradient research: simulation & experiment
- RF design & testing
- Test stand development

### Medical Accelerator technology

- RF design with X-Band experience
- Development and testing of MA prototype structures
- klystron development 5 MW @ 12 GHz

## Present status of the scientific and technical program

|       |  |   |
|-------|--|---|
| WP-1: | High gradient research                     | 3 |
| WP-2: | Test stand development                     | 4 |
| WP-3: | Medical accelerator technology development | 3 |
| WP-4: | General RF technology development          | 3 |

2 industrial level 1 partners  
(under consideration...)

| #  | Project Title   | Host Institution | Work package |
|----|---|------------------|--------------|
| 1  | The effect of discharges in ESEM  | Uppsala          | WP-1         |
| 2  | High Gradient Studies: Physical processes on surfaces during high power operation         | HIP<br>Wuppertal | WP-1         |
| 3  | Systematic investigation of the current stability of field emitters on Cu-based materials | University       | WP-1         |
| 4  | Instrumentation development for 50 MW klystron test stand                                 | Uppsala          | WP-2         |
| 5  | Development of advanced wake field monitors for Linacs                                    | Saclay           | WP-2         |
| 6  | Ultra high precision machining and assembly studies                                       | LT-Ultra         | WP-2         |
| 7  | Klystron development for 5 MW @ 12 GHz test stand   | Thales           | WP-2         |
| 8  | RF technologies for medical linac   | TERA/CSIC-UV     | WP-3         |
| 9  | RF technologies for medical linac   | NTUA             | WP-3         |
| 10 | X-Band technology as booster for in medical accelerators                                  | PSI              | WP-4         |
| 11 | Coating development for low temperature Vacuum  | CERN             | WP-4         |
| 12 | Development and Design of Electro-Magnetic and Hybrid Tunable Magnets Systems             | CERN             | WP-4         |
| 13 | Development of an advanced design of strip line kickers                                   | CERN/CSIC-UV     | WP-4         |

1st draft of B.2 part is ready!

## Summary:

- Number of ESRs: 13
- Number of level 1 Partners: 10 (2 industrial)
- Number of level 2 Partners: approx. 5 (2 industrial)
- Number of involved countries (lvl1): 7
- Number of CERN hosting ESRs: 3

## My personal goal:

Create an **outstanding** complementary training plan