Presentazione dei Grant Giovani della CSN5

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INFN Scientific commissions

INFN scientific policy is coordinated in 5 *scientific commissions*:

- CSN1: high energy physics at accelerators
- CSN2: neutrino physics, astroparticles, physics without accelerators
- CSN3: nuclear physics
- CSN4: theoretical physics
- **CSN5: technological research and development, interdisciplinary physics, physics of accelerators**

CSN5

The *CSN5* coordinates technological research & development on all topics of interest of INFN, and promotes the use of physics instruments, methods, and technologies in other sectors.

The main research areas of CSN5 are:

- accelerator R&D and related technologies;
- detectors of particles and radiation;
- electronics, software and computing (mainly applied to the above arguments);
- interdisciplinary physics (application to medicine/biology, environment, cultural heritage, ...)

Grant for young researchers

Every year, CSN5 issues a call for **6 grants** for **young researchers**, with a **two year** duration.
The researcher proposes an **original project** (within CSN5 interest) and the grant gives the opportunity to:
- *funding the research;*
- *be responsible in first person of the project and its budget;*
- *gain visibility for future carrier and in view of ERC funding.*

Grant for young researcher

The call is for **6 grants** (2 year duration) for **young researchers**, Italian and not Italian.
It consists in a scholarship of 30 k€/year + funding up to 75 k€/year for the proposed project.
*young res. = **non-permanent position**, with **PhD** (or equivalent) ≤ **8 years** (excluding parental leave, maternity, long-term illness, military service, ...)*

Submission of application

Grant issued about mid June, deadline in 30 days (**about mid July**).

Application submitted electronically, with form on CSN5 website:

i) curriculum & publications;

ii) detailed description of proposed activity;

iii) state of the art;

iv) project goal and expected outcomes; time frame;

v) scientific/technological/social impact;

vi) total cost (divided in chapter)

(ii-v) Max 12 pages

Competition

It is a public competition, selection in 2 steps:

1) board, external to CSN5, gives scores to proposal and curriculum according to 4 criteria (5 points each):

- innovativeness of project
- appropriateness of methodology
- congruity of budget and research team
- qualification and expertize of candidate, impact and possible application of research

Only proposal with > 14 pt passes to the second step.

2) oral presentation in front of whole CSN5 + ...
Then a board of 6 CSN5 people decides the final ranking

Selected projects

The 6 selected projects become "*experiments*" of CSN5 and undergo the same treatment and rules:

- **referees** are assigned, who make the final decision on the budget to assign and on the milestones to fulfill;
- referees follow the development of the project, to check (and help), and are the link between the researcher and CSN5.

What is a winning project?

CSN5 searches and appreciates new ideas (original, innovative, even crazy).

Usually *high risk - high reward* proposals are welcome.

You do not need to follow the wake of a (famous) experiment:

BE ORIGINAL !!

You do not need a large collaboration: 2-3 people can be enough (depending on the project size, of course)

Examples of winning proposal

- optical tracking: cubic scintillator with light detected from all faces by pixellated photodetector (multichannel plate) to reconstruct particle track;
- negative ion gaseous TPC readout by triple GEM;
- X-ray detection with superconductive MW microrisonators (MKID);
- multichip system for pattern recognition and trigger in HEP (FPGA);
- fabrication of electrically-driven single-photon source in diamond by ion implantation;
- GEANT4 toolkit for crystal vs amorphous simulation;
- characterization of Si X-ray detector with K-edge imaging for medical application;
- squeezed light with ponderomotive method (gravitational wave detector)
- study of production of ^{47}Sc (medical radionuclide) with accelerator;
- GEANT4 package for Nuclear Fragmentation At Low Energy (for medical application);
- development of optical microscope with plenoptic optic.

Final remark

The deadline is in July, but having a good idea requires time.
Proposal has to be clear and workflow well organized. This requires time, too.

start thinking now!

It is a good opportunity, take it into consideration

Call 2016 and other infos at the local CSN5 page:
www.pd.infn.it/gruppi/g5/