RadioNet support for training events
Application form

EVENT INFORMATION	
TITLE	LOFAR data processing school
PLACE	Astron
ORGANISER´S INSTITUTE	Astron
DATE	September 2018
NO. OF PARTICIPANTS	50
TOTAL EVENT COST	9000
OTHER SOURCES OF FUNDING	International LOFAR Telescope funds and registration fees.

REQUEST *(max. 2 pages)*

Requested contribution [EURO]	4500
Use of the RadioNet contribution	The financial support requested by Astron to RadioNet will be used to cover the following costs: financial support for ten students with good curricula but disadvantageous traveling possibility, travel costs and lodging for tutors, advertisement material, drinks, food and transportation during the period of the event.
Relevance for RadioNet and impact	LOFAR (International LOFAR Telescope) consists of an interferometric array of dipole antenna stations distributed throughout the Netherlands and in several countries in Europe. These stations have no moving parts and due to the all-sky coverage of the component dipoles, give LOFAR a large field-of-view. At station level the signals from individual dipoles are combined digitally into a phased array. Electronic beam-forming techniques make the system agile and allow for rapid repointing of the telescope as well as simultaneous observations of multiple, independent areas of the sky. The concept of this telescope reflects the next generation of radio telescopes such as SKA, for this reason, the LOFAR data processing school will fulfil the RadioNet mission in training the next generation of scientists to the low frequency data processing. As already happened during the previous four editions of the event, students from all over the world visited Astron for one week receiving lectures, tutorial and tours about LOFAR. The lectures will cover the theory about the specifications of the telescope (stations, beam forming, correlator), the concept of direction dependent calibration, the as well as the interaction between the Radio Observatory and the users. During the tutorial sessions students completely new to LOFAR will learn how to edit (flag), calibrate and image LOFAR data. Advanced tutorial session will be dedicated to the long baselines, beamformed and high dynamic range imaging, these will challenge the students that had already some experience with LOFAR and low frequency data in general. The detailed description of the hardware, will be given by our field engineers at the core of the ILT. This will stimulate those students with a hardware/technical engineering background to get involved in radio astronomy and signal processing technology. A question and answer session will take place every day in order to give the chance to the students, tutors and lectures to discuss in an informal forum the topics presented during the day.

RadioNet has received funding from the EU's Horizon 2020 research and innovation programme under grant agreement No 730562

Accessibility	The selection of the users will be performed based upon their curricula. In order to assimilate some of the complex concepts presented during the school, among others, long baseline interferometry, variable beam patterns and ionospheric phase delays, students will need to have a radio astronomical background including exposure to interferometry. Students with hardware engineering and signal processing background will also be considered with priority. The school is also aimed at increasing the number of trained people associated with countries and institutes belonging to the ILT or involved with SKA.
Ethics	Starting from the selection of the students up to the choice of the lecturers and tutors, careful attention will be given to represent gender balance, ethnic diversity and disability. Moreover, like every event organized by Astron the lecturers, tutors and participants will be asked to attain to the Dwingeloo Code of Conduct (www.astron.nl/about-astron/dwingeloo-code-conduct/dwingeloo-code-conduct).

RadioNet has received funding from the EU's Horizon 2020 research and innovation programme under grant agreement No 730562