

RadioNet support for scientific events

Application form

EVENT INFORMATION	
TITLE	Energetics and life-cycles of radio sources http://www.astron.nl/LifeCycle2018/
PLACE	ASTRON, Dwingeloo (NL)
ORGANISER'S INSTITUTE NAME	ASTRON, Dwingeloo (NL) Raffaella Morganti, morganti@astron.nl
DATE	26-28 March 2018
NO. OF PARTICIPANTS	40
TOTAL EVENT COST	3500 euro
RADIONET SUPPORT	1500 euro
OTHER SOURCES OF FUNDING	1000 euro from ERC Advanced Grant RadioLife, PI R. Morganti. 1000 ASTRON
REQUEST	
<i>(max. 2 pages)</i>	
Short abstract of the event	<p><i>The workshop will provide an overview of the progress made in quantifying the energetics of radio galaxies and their life-cycle. These two topics are extremely important in the context of galaxy evolution: the impact that the radio plasma has on the interstellar and intergalactic medium is a key ingredient in numerical simulations of structures formation. Furthermore, nuclear activity in galaxies is known to recur on different time scales. The study of this duty-cycle is a topic that has recently attracted a lot of attention. The availability of low radio frequencies data makes this topic particularly interesting for radio AGN. The combination of new ideas about the cycle of activity and a more detailed view of the energetics can provide the required crucial input for testing models of AGN feedback. Radio galaxies and their radio jets affect the surrounding medium on different physical scales and potentially play an important feedback role. Their actual impact depends on their duty-cycle and energetics, both still topics of major investigation and debate. Data coming from new radio and optical facilities, as well as progress from numerical models, are opening new and exciting possibilities, making the workshop very timely.</i></p> <p><i>The topics we would like to discuss are:</i></p> <ul style="list-style-type: none"> • <i>duty-cycle of radio galaxies</i> • <i>duty-cycle and accretion mode</i> • <i>structure and impact of jets</i> • <i>radio-quiet and weak radio sources</i> • <i>energetics of jets</i> • <i>jet-environment interaction</i> <p><i>The format of the workshop will encourage all participants to present their on-going work and future plans in this field. Furthermore, we plan to dedicate time after each session for a wrap-up and discussion. The chair of the session will give a brief summary</i></p>

	<p><i>of highlights and open questions brought up by the presentations and will lead the discussion. Already a diverse number of experts in the field (both observers and theorists), as well of enthusiastic young scientists, are registered for the workshop and planning to attend. They are all keen to help in making the programme and the discussion lively. Hopefully this will also allow new collaborations to start and to find common ground between different projects.</i></p> <p><i>SOC: Raffaella Morganti (ASTRON, chair), Stas Shabala (University of Tasmania), Geoff Bicknell (Australian National University), Judith Croston (The Open University), Clive Tadhunter (Sheffield University)</i></p> <p><i>LOC: Raffaella Morganti, Marisa Brienza, Joe Callingham, Jeremy Harwood, Liesbet Elpenhof</i></p>
Relevance for RadioNet	<p><i>Some of the main progresses in quantifying the life-cycle of radio galaxies have emerged thanks to the recent results obtained especially by LOFAR. This is due to the high sensitivity and spatial resolution of the images produced by this radio telescope. Other low frequency radio telescopes (like GMRT and MWA) have also given an important contribution. However, the combination of these data with observations at higher radio frequencies is also necessary to constrain the evolutionary parameters of radio galaxies. Thus, this workshop will also provide the opportunity to explore and improve the badly needed synergy between the large surveys carried out with LOFAR, the other low frequencies telescopes, and the planned GHz surveys (e.g. with Apertif, ASKAP etc.). Participants coming from these different communities will ensure an exchange of information and the possibility of starting new collaborations.</i></p>
Impact on RadioNet	<p><i>The field has highly benefitted from the availability of the new LOFAR data. The exploitation of the LOFAR surveys data has just started using published data and should further expand as the public release starts. Thus, the workshop will give the possibility to advertise the LOFAR capabilities, results and data available. The discussion/coordination that we plan to have at the workshop will also help on this. We have also made an effort to have both observers and theorists so that the coordinated effort can help in optimise the future observations. The topic will benefit from the combination of capabilities like LOFAR and the upcoming WSRT-Apertif: this combination will be unique and this workshop will give the chance to advertise (and coordinate the efforts for the exploitation). In general, the results presented will also be useful for planning the exploitation of the future continuum surveys that will done with SKA pathfinders/precursors as well as with SKA1.</i></p> <p><i>This workshop will bring together astronomers from institutes world-wide. However, we have also made a distinct effort to encourage young astronomers from European institutes interested in the science topics, but not yet directly involved in radio surveys, to attend.</i></p>
Use of the RadioNet contribution	<p><i>Lunches and coffee breaks for two of the three days of the workshop = 700 euro.</i></p> <p><i>Travel support (e.g. accommodation covered for three nights) for 4 participants = 800 euro. From the requests at the pre-registration stage, we foresee helping two senior participants, who are particularly relevant participants for their expertise in the field and will provide the important input for the discussion during the workshop. We also envisage the support at least two junior participants.</i></p>
Ethics	<p><i>The chair and another member of the SOC (Morganti and Croston) are female senior astronomers and about half of the pre-registered participants are female, including many junior scientists. We plan to encourage especially the junior scientists to present their work and their plans for exploiting the upcoming surveys.</i></p> <p><i>The workshop has adopted the ASTRON Code of Conduct to provide a harassment-free conference for everyone. The code is advertised on the web site and on the registration page.</i></p>