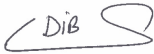


RadioNet support for scientific events

Application form for organisers

EVENT INFORMATION	
TITLE	Zooming in on star formation
PLACE	Vouleftikon historical building, Nafplio, Greece
ORGANISER'S INSTITUTE NAME	Niels Bohr Institute, University of Copenhagen Sami Dib: sdib@nbi.dk
DATE	June 10-14, 2019
NO. OF PARTICIPANTS	Expected ~160 105 pre-registered by 1 July 2018 +23 invited speakers +12 SOC members +2 (non SOC) LOC members
TOTAL EVENT COST	30000 Euros
RADIO.NET SUPPORT	5000 Euros
OTHER SOURCES OF FUNDING	City of Nafplio (500-1000 Euros). Registration fees Niels Bohr International Academy (500 Euros+ Administrative support)
REQUEST	
<i>(max. 2 pages)</i>	
Short abstract of the event	<p>This event is designed to be the prime conference in the field of star formation for the year 2019, bringing together the most active researchers in the field. The primary objective of the conference is to present and discuss recent advances in the field of star formation from an observational and theoretical/numerical perspective and establish synergies between the two. The conference is also intended to celebrate the rich career of Prof. Åke Nordlund (Niels Bohr Institute, University of Copenhagen) and his numerous contributions to the field.</p> <p>The webpage of the event is available at: http://www.nbia.dk/nbia-zoomstarform-2019</p>
Relevance for RadioNet	<p>Star formation is a multi-scale, multi-physics process. Disentangling and understanding the role of the various physical agents (e.g., gravity, turbulence, magnetic fields, radiation) that impact the dynamics and the structure of the gas in the large-scale interstellar medium and that lead to the formation of stars on smaller scales in molecular clouds is a challenging task. The last few years have witnessed the presentation of new observational/theoretical/numerical results and the development of</p>

	<p>exciting new ideas that challenge some of the established paradigms of the star formation process. Among some of the most debated issues are: i) the origin and universality of the stellar initial mass function (IMF) and its connection to the mass function of dense cores (CMF) in molecular clouds. A question that remains open is whether the CMF, and as a consequence the IMF, carries any dependence on the physical conditions that prevail in the star forming region ii) the formation, evolution, and characteristics of protostellar disks. Evidence is emerging that the “fragmentation-crisis” (i.e., the absence of disk formation and/or fragmentation and binary formation) caused by magnetic fields can be avoided by the inclusion of non-ideal magnetohydrodynamical (MHD) effects (ambipolar diffusion, Hall and Ohm effects). The newest results show that the inclusion of non-ideal MHD effects enable the formation of discs, all the while making the disks relatively insensitive to the initial conditions of the progenitor prestellar cores iii) origin of turbulent motions in the interstellar medium and in molecular clouds. Numerical simulations are still divided on whether turbulence in the ISM and in molecular clouds is a consequence of a hierarchical gravitational collapse/contraction, or whether it is primarily due to the collective effects of stellar feedback, particularly feedback from supernovae explosions.</p> <p>Among several others topics, the three examples discussed above, highlight the importance of devising observational efforts and campaigns that can put to test these new theoretical/numerical ideas. The European and international radioastronomy community which is already using the facilities run by RadioNet (IRAM-30m, NOEMA, APEX, Effelsberg), along with other facilities such as ALMA and the VLA, is playing a pivotal role in this regard. The goal of this conference is to bring together some of the brightest experts in the field of star formation (radioastronomers, optical astronomers that study young clusters, theorists, numericists) in order to display their newest results and have a productive debate that can lead to new directions which can help test these ideas. The conference will feature sessions on: galactic scale star formation, the formation and dynamics of molecular clouds, the fragmentation of molecular clouds and the formation of cores and filaments, individual low-mass and high-mass star and cluster formation, and the formation of the Solar system around Sun like stars. Furthermore, the conference is interdisciplinary in that it will feature a number of additional sessions that will increase the learning experience of all participants. This includes a session on stellar physics that is devoted to the problem of the Solar twins in the Milky Way, as well as a session on numerical code development which will also highlight the availability and use of advanced numerical tools for the simulation of star formation. The details of invited speakers for each session are available on the conference webpage. Each session of the conference will also have its own dedicated discussion period.</p> <p>Emphasis will be given to the attendance of PhD candidates and postdoctoral fellows and they will be encouraged to contribute by presenting talks and posters. The organisers will strive to maintain a good level of gender balance in the overall program, as well as a decent representation of all schools of thought.</p>
Impact on RadioNet	<p>The discussions arising from this conference will greatly enhance the synergy between observational efforts to study the physical processes that are involved in star formation (studies of turbulent motions, magnetic fields, cosmic rays) with numerical/theoretical numerical models. Many, if not all, of these studies make use of current facilities that are coordinated by RadioNet. We also expect many collaborations to be established during the conference and that will result in submitting new and original proposals to the existing RadioNet facilities as well as preparing the grounds for future ambitious projects that will be available in the next few years (ALMA bands 1-2, SKA and the next generation VLA). An intense interaction between observers and theoreticians is also crucial in paving the way for the design and preparation of new instrumentation of direct relevance to RadioNet.</p>

Use of the RadioNet contribution	The financial support provided by RadioNet will be used to: i) wave the registration fee (~250 Euros) for about 12 participants (4 PhD candidates, 4 postdocs, 4 colleagues in need of financial support) ii) support the travel of selected radioastronomers that are giving invited talks (Mark Heyer, Sarah Sadavoy: Airfare Boston-Athens ~2x600 Euros; Diane Cormier: Airfare Paris-Athens ~300 Euros; Davide Elia: Airfare Rome-Athens 200 Euros; Philippe André: Airfare Paris-Athens ~300 Euros).
Ethics	The workshop will be a pleasant and stimulating experience for all participants, regardless of gender, ethnical background, sexual orientation, disability, age, religion or political opinion. Harassment, abuse of power, or any other inappropriate behavior has no place at the conference. The organisers are also particularly interested in promoting two additional aspects: (1) facilitating the attendance of colleagues that are usually unable to go to conferences (2) allowing for non-mainstream scientific ideas to be heard.
<p>Privacy Policy: With signing this template and applying for RadioNet funding, I accept the <u>Privacy Policy of RadioNet</u>, which is based on the EU General Data Protection Regulation (GDPR).</p> <p>Place & Date: _____ Signature of the applicant: _____</p> <p style="text-align: right;"></p> <p><u>Copenhagen 1 July 2018</u> _____ <u>Sami Marcel Dib</u></p>	