REPORT ON THE RADIONET3 NETWORKING ACTIVITY

TITLE: GERMAN ALMA COMMUNITY DAYS

DATE: JUNE 5-6, 2012   **TIME:** 1,5 DAYS

LOCATION: BONN, GERMANY

MEETING WEBPAGE: http://www.astro.uni-bonn.de/ARC/alma2012.shtml

HOST INSTITUTE: ARGELANDER-INSTITUT FÜR ASTRONOMIE

PARTICIPANTS NO: 52 (REGISTERED)

REPORT:

1.Programme of the meeting

June 5:

09:30 - 10:00 Welcome coffee/tea

10:00 - 10:10   Welcome/Opening – Bertoldi (AIfA, ARC), Mühle (AIfA, ARC)

ALMA in Cycle 0

10:10 - 10:25   Introduction to ALMA – Smolcic (AIfA, *ARC*)

10:25 - 10:40   Science Verification – Alves (AIfA, ARC)

10:40 - 12:10   ALMA: first scientific results – *Maercker (AIfA, ARC), Juhasz (Leiden), Herrera (IAS), Weiß (MPIfR), Hodge (MPIA), de Breuck (ESO)*

Observing with ALMA

12:10 – 12:30   ALMA Cycle 1 capabilities – Zwaan (ESO, ARC)

12:30 - 12:55   The proposal stage: Introduction to the ALMA Observing Tool – Biggs (ESO, ARC)

13:00 - 14:15 Lunch

14:15 - 14:40   After submission: proposal review and Phase 2 processes – Randall (ESO, ARC)

14:40 - 15:00   After the observations: Quality assurance – Zwaan (ESO, ARC)

15:00 - 15:30   After the observations: the ALMA pipeline and its products – Muders (MPIfR)

User support and ALMA-related projects

15:30 - 15:45   The EU-ARC and the German ARC node - Mühle (AIfA, ARC)

15:45 - 15:55   The ALMA Helpdesk – Randall (ESO, ARC)

16:00 - 16:30 Coffee/tea

16:30 - 17:00   The Cologne Database for Molecular Spectroscopy – Endres (Univ. Köln, ARC)

17:00 - 17:30   ARTIST – Juhasz (Leiden)

17:30 - 18:00   Modelling of data cubes (MAGIX) - Möller (Univ. Köln, ARC)

18:00 - 18:30   STAR FORMAT – Glover (MPIA)

19:00 - 22:00 Workshop dinner

June 6:

option 1: OT tutorial – beginners' level (tutors: Randall, Mühle, Maercker, Schaaf)

09:00 - 10:00 A practical introduction to the OT – *Randall (ESO, ARC)*

                installation of the latest version of the OT

    coffee/tea available from 10:00

10:00 - 13:00 *hands-on work with the OT under the guidance of the tutors*

option 2: OT tutorial – advanced level (tutors: *Biggs, Alves, Bertoldi, Smolcic*)

09:00 - 09:30 OT changes since Cycle 0 – Biggs (ESO, ARC)
                installation of the latest version of the OT

    coffee/tea available from 10:00

09:30 - 13:00 *work on own draft proposals with advice from the tutors*

option 1+2:

13:00 - 14:00 wrap-up meeting of speakers and tutors (over lunch)

1. Scientific Summary

The Atacama Large Millimeter/submillimeter Array (ALMA) is a major new facility for world astronomy. When completed in 2013, ALMA will be the most powerful ground based mm/submm telescope ever built, consisting of 66 high-precision dishes (54 12-m antennas and 12 7-m antennas) and state-of-the-art receivers that cover atmospheric windows from 30 GHz to 1 THz (10 mm to 0.3 mm). With baselines up to 16 km, it will provide an angular resolution of up to 6 milliarcseconds. The compact array of 7-m antennas and single-dish antennas greatly enhance ALMA's ability to image extended targets. The first scientific observations started in September 2011 with 16 antennas and four receiver bands. Out of 919 unique proposals submitted by astronomers around the world responding to the ALMA Cycle 0 call for proposals, 112 high science profile projects were identified as highest priority for execution in the Early Science phase. The first exciting scientific results from Science Verification datasets and Cycle 0 observations have started to appear in refereed journals since the beginning of 2012. The call for ALMA Cycle 1 proposals was issued on May 31, 2012, with a deadline on July 12 and observations anticipated to start in January 2013. The main goals of the German ALMA Community Days 2012 were to prepare the (German) astronomical community for Cycle 1, to review Cycle 0 and to present the first scientific ALMA results.

The six talks on first scientific results covered a broad range of topics, from surprising discoveries around evolved stars to exciting results from galaxies at high redshifts. This section of the programme showed how ALMA can be help scientific progress in a wide variety of research areas and may have inspired new ideas for ALMA projects among the audience. The following description of ALMA's capabilities in Cycle 1 and the proposal process demonstrated how much more powerful ALMA will be in Cycle 1 compared to Cycle 0, allowing for much more ambitious

projects to be proposed. ALMA being a complex and very versatile telescope array designed to be used by astronomers of all fields of research, there is an extensive support structure in place to maximize the scientific gain of the ALMA observations, ranging from data quality assurance to one-on-one help in local support centres (ARC nodes) and a comprehensive Helpdesk facility. The Community Days provided an overview of all these structures and practical advice on how the German astronomical community can benefit from them. The first day ended with the presentation of several ALMA-related projects, where German institutes play a major role, all of them offering ALMA users additional tools to analyse their observational data. On the second day, the participants split into two groups, depending on their proficiency with the ALMA-OT, the software needed to prepare and submit ALMA proposals. The beginners' group got a practical introduction to the ALMA-OT and then, outfitted with new knowledge and ideas, worked on creating draft proposals in their own field of research under the guidance of the tutors. More advanced users of the ALMA-OT refined their own proposals with the advice of the tutors of the other OT tutorial.

The German ALMA Community Days were very well attended, despite a similar event held at ESO only 3 weeks later. In addition to the 52 registered participants, who attended the event, many astronomers from the host institute and the nearby Max-Planck-Institut für Radioastronomie attended the talks on the first day without prior registration. Participants included all stages of scientific careers students to professors, with the majority being young postdocs, students and senior postdocs, the main target group for this event. Most participants were affiliated with the nearby major centres for radio astronomy in Germany, the Max-Planck-Institut für Radioastronomie, the Argelander-Institut für Astronomie and the I. Physikalisches Institut of the Universität zu Köln, although there were also a number of participants from other German institutes. This predominance of radio astronomers is likely due to the early stage of ALMA operations, in which some radio astronomical knowledge is still essential for the full exploitation of ALMA Early Science data. Due to the focussed goals of the event, the number of participants other European countries was rather small. About one third of the participants were female, in line with about one third of the presentations given by women, whereas the tasks in the OT tutorials were almost perfectly balanced between men and women.

2. Attendance list

Cinthya Herrera	Institut d'Astrophysique Spatiale, France
Attila Juhasz	Leiden Observatory, The Netherlands
Axel Weiß	Max-Planck-Institut für Radioastronomie, Germany
Carlos de Breuck	ESO
Jacqueline Hodge	Max-Planck-Institut für Astronomie, Germany
Martin Zwaan	ESO, ESO ARC node
Andy Biggs	ESO, ESO ARC node
Suzanna Randall	ESO, ESO ARC node
Dirk Muders	Max-Planck-Institut für Radioastronomie, Germany
Simon Glover	Max-Planck-Institut für Astronomie, Germany
Thomas Möller	I. Physikalisches Institut, Universität zu Köln, German ARC node, Germany
Christian Endres	I. Physikalisches Institut, Universität zu Köln, German ARC node, Germany
Alexander Zernickel	I. Physikalisches Institut, Universität zu Köln, Germany
Magdalena Brunner	University of Vienna, Austria
Dominique Sluse	Argelander-Institut für Astronomie, Germany
Philipp Carlhoff	I. Physikalisches Institut, Universität zu Köln, Germany
Anika Schmiedeke	I. Physikalisches Institut, Universität zu Köln, Germany
Paulina Troncoso	INAF-Rom, Italy
Josep M. Girart	Intitut de Ciencies de l\'Espai, CSIC-IEEC, Spain
Guangxing Li	Max-Planck-Institut für Radioastronomie, Germany
Tomasz Kaminski	Max-Planck-Institut für Radioastronomie, Germany

Denise Keller	Argelander-Institut für Astronomie, Germany
Zhi-Yu ZHANG	Max-Planck-Institut für Radioastronomie, Germany
Thomas Krichbaum	Max-Planck-Institut für Radioastronomie, Germany
Hui Shi	Max-Planck-Institut für Radioastronomie, Germany
Marcelo L. Leal-Ferreira	Argelander-Institut für Astronomie, Germany
Elisa Carrillo	Argelander-Institut für Astronomie, Germany
Timea Csengeri	Max-Planck-Institut für Radioastronomie, Germany
Lydia Moser	I. Physikalisches Institut, Universität zu Köln, Germany
Carlos Carrasco-Gonzalez	Max-Planck-Institut für Radioastronomie, Germany
Laurent Loinard	Max-Planck-Institut für Radioastronomie, Germany
James Urquhart	Max-Planck-Institut für Radioastronomie, Germany
Christian Henkel	Max-Planck-Institut für Radioastronomie, Germany
Busaba Kramer	Max-Planck-Institut für Radioastronomie, Germany
Werner Becker	Max-Planck-Institut für extraterrestrische Physik, Germany
Nanase Harada	Max-Planck-Institut für Radioastronomie, Germany
Tobias Prinz	Max-Planck-Institut für extraterrestrische Physik, Germany
Yujin Yang	Max-Planck-Institut für Astronomie, Germany
Philippe Heraudeau	Max-Planck-Institut für Radioastronomie, Germany
Keiichi Ohnaka	Max-Planck-Institut für Radioastronomie, Germany
Elvire De Beck	Max-Planck-Institut für Radioastronomie, Germany
Holger Drass	Astronomisches Institut, Ruhr-Unversität Bochum, Germany
Alberto Sanna	Max-Planck-Institut für Radioastronomie, Germany
Peter Schilke	I. Physikalisches Institut, Universität zu Köln, German ARC node, Germany
Bindu Rani	Max-Planck-Institut für Radioastronomie, Germany
Anastasia Tsitali	Max-Planck-Institut für Radioastronomie, Germany
Felipe Alves	Argelander-Institut für Astronomie, German ARC node, Germany
Frank Bertoldi	Argelander-Institut für Astronomie, German ARC node, Germany
Matthias Maercker	Argelander-Institut für Astronomie, German ARC node, Germany
Stefanie Mühle	Argelander-Institut für Astronomie, German ARC node, Germany
Reinhold Schaaf	Argelander-Institut für Astronomie, German ARC node, Germany
Vernesa Smolcic	Argelander-Institut für Astronomie, German ARC node, Germany

Conference organizer: Stefanie Mühle (German ARC node)

3. Financial Report / RadioNet3 contribution

The RadioNet3 contribution was used for covering the catering during the two days, while the rest of the expenses were covered by the host institute and the participants themselves. Catering included tea, coffee, cookies and fresh fruit on both days as well as lunch in the local canteen on June 5 for all registered participants. In addition, the RadioNet3 contribution covered the workshop dinner and the work lunch on June 6 for the attending tutors/speakers.

4. Conference Proceedings and Web page

Given the confidential nature of most scientific talks and the extensive public documentation covering the topics of the technical talks, conference proceedings are not foreseen. A description of the ALMA Science Verification data is given at http://almascience.eso.org/alma-data/science-verification. In addition, many early results can be found in press releases, e.g. at http://www.eso.org/public/. Extensive documentation on ALMA, the ALMA support structure, the different stages of an ALMA project and the current call for proposals are available at http://almascience.eso.org/call-for-proposals/proposers-guide. Further information on the German ARC can be found at http://www.astro.uni-bonn.de/ARC/. The software ALMA-OT used in the workshops on June 6 can be downloaded at http://almascience.eso.org/call-for-proposals/observing-tool.