



Integrating High Resolution Solar Physics

# WP2 and WP9

General Assembly  
Prague, 24 January 2020  
Dan Kiselman



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824135.

1.WP2-activities not concerning the  
Access programmes

2.Trans-National Access Programme

Virtual Access Programme to be  
presented by Mats Carlsson

# 22 deliverables!

List of deliverables

Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D2.1	1st Report on the activities of the EAST TAC and promotion of the Access programmes	4 - SU	Report	Public	18
D2.2	2nd Report on the activities of the EAST TAC and promotion of the Access programmes	4 - SU	Report	Public	36
D2.3	3rd Report on the activities of the	4 - SU	Report	Public	48
Page 21 of 84					
D2.18	Update on metadata recommendations for observational data	3 - UiO	Report	Public	18
D2.19	Final metadata recommendations for observational data	3 - UiO	Report	Public	48
D2.20	First report on metadata recommendations for simulation data	3 - UiO	Report	Public	18
D2.21	Final report on metadata recommendations for simulation data	3 - UiO	Report	Public	48
D2.22	Report on Big-Data storage possibilities	1 - KIS	Report	Public	36

Description of deliverables

	EAST TAC and advertisement of the Access programmes				
D2.4	Minutes from Forum meeting 1	4 - SU	Report	Public	12
D2.5	Minutes from Forum meeting 2	4 - SU	Report	Public	24
D2.6	Minutes from Forum meeting 3	4 - SU	Report	Public	36
D2.7	Minutes from Forum meeting 4	4 - SU	Report	Public	48
D2.8	General guidelines for co-ordinated solar observations	11 - AIP	Report	Public	36
D2.9	Guidelines for co-observations between ALMA and ground-based solar telescopes	16 - ASU	Report	Public	24
D2.10	Guidelines for service observations	4 - SU	Report	Public	36
D2.11	Report on networking activities for instrumentation 1	2 - IAC	Report	Public	18
D2.12	Report on networking activities for instrumentation 2	2 - IAC	Report	Public	36
D2.13	Report on networking activities for instrumentation 3	2 - IAC	Report	Public	48
D2.14	Report on networking activities for turbulence control 1	1 - KIS	Report	Public	18
D2.15	Report on networking activities for turbulence control 2	1 - KIS	Report	Public	36
D2.16	Report on networking activities for turbulence control 3	1 - KIS	Report	Public	48
D2.17	Report on the inventory of existing software and expressed needs for solar physics data tools	13 - USFD	Report	Public	18

**WP2.1.2 Forum for Solar Telescopes and Databases.**  
**Lead SU. Participants: all interested partners.**

*1st Forum was held in Stockholm 26 Nov 2019.*  
*The next one will be organised by UiO in 2020.*





**WP2.1.3** Coordinated observations.

**Lead: AIP.** Participants: SU, KIS, CNRS, IAC, AISAS, MPG.

**D2.8 Guidelines M36**

**WP2.1.4** Coordination between ALMA and ground-based solar telescopes.

**Lead: ASU.** Participants: SU, KIS, CNRS, MPG, HVAR, UiO.

**D2.9 Guidelines M24**

**WP2.1.5** Service mode observations.

**Lead: SU.** Participants: KIS, IAC, UiO, CNRS, QUB, INAF, UNICT, AIP.

**D2.10 Guidelines M36**

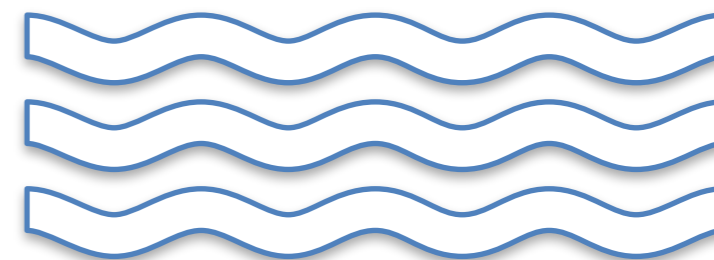


## **WP2.2 JRA Coordination and dissemination of results**

**WP2.2.1** Networking for instrumentation activities. An **email-list** will be created and **on-line seminars** arranged to facilitate communication. A **workshop** on solar instrumentation representing mainly the activities of WP6 and WP8 will be arranged (*Milestone*).

**Lead: IAC.** Participants: WP6 and WP8 partners.

**D2.11 First report on networking M18**



**WP2.2.2** Networking for activities related to atmospheric turbulence and seeing. Networking will be facilitated between the involved partners with an **email-list** and **on-line seminars**. One **dedicated workshop** called “MCAO for EST” will be organised (*Milestone*)  
**Lead: KIS**. Participants: WP7 partners, AIP, Aperio, ORB, UNIGRAZ.

**D2.14 First report on networking M18**

**WP2.2.3** Coordination of development of software tools for solar physics. **Lead: USFD.** Participants: SU, UiO, QUB, ASU, Aperio.

**D2.17 Report on the inventory M18**





**SOLARNET=1.0**

**WP2.2.4** Metadata definitions for observational data.

One physical **meeting** planned.

**Lead: UiO.** Participants: KIS, IAC, SU, CNRS, INAF, MPG, AIP, USFD, UCL, ASU, ORB, HVAR, AISAS, USI/IRSOL.

**D2.18 Updated document M18**

**WP2.2.5** Metadata definitions and database structure for numerical simulations. One joint **meeting** with WP2.2.4.

**Lead: UiO.** Participants: KIS, IAC, SU, MPG, USFD, UCL, USI/IRSOL.

**D2.20 First report M18**

**WP2.2.6** Big-data storage. **Lead: KIS.** Participants: WP5 partners.

**D2.22 Report M36**

# **TRANS-NATIONAL ACCESS PROGRAMME**

**Open national research facilities to researchers from other countries.**

**Facilities get paid.**

**Researchers get travel paid.**

This project aims at integrating the major European infrastructures in the field of high-resolution solar physics.

Total cost: 13.5 M€  
EU grant: 10 M€  
30% of that is for the  
Access programmes

**The ground-based solar telescopes have experience from several Access programmes:**

**OPTICON (FP6, FP7) Together with night-time telescopes!**

**SOLARNET (FP7)**

**Important for community building: UK!**

**Integration and training for the EST.**

**New this time: Offering a balloon mission and a supercomputer!**

**New this time: Data to become public!**

## GREGOR, 1.4 m, Tenerife, KIS, DE



- GRIS
- GFPI
- Optical train being renewed
- New instruments 2020 onwards

**PI visitor mode**

## VTT, 70 cm, Tenerife, KIS, DE



- Has been lacking vacuum window. New one just mounted.

**PI visitor mode**

## SST, La Palma, 1 m, SU, SE



- TRIPPEL (MiHI not common-user instrument)
- CHROMIS+CRISP
- HeSP coming

**PI visitor mode**

**New: Some time offered in service mode.**

**New: Deliver reduced data to SOLARNET users.**

# THEMIS, Tenerife, 90 cm, CNRS, FR



## PI visitor mode

Resumed observations in 2019 after installation of adaptive optics.



SUNRISE 3, balloon mission, 1 m, **MPS**, DE.  
Used to be planned for 2021.  
Now 2022? (Last year of SOLARNET.)



## Piz Daint supercomputer, USI/IRSOL (CSCS), CH



A major part of the machine is constituted of nodes equipped with GPUs.

## WP2.1.1 Coordination of the Access programmes.

### **EAST TAC**

Dan Kiselman (SU): SST, chair

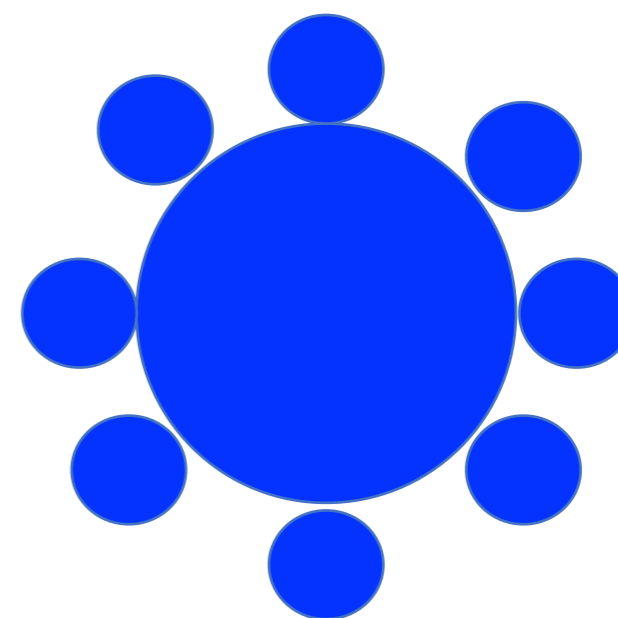
Bernard Gelly (CNRS): THEMIS

Lucia Kleint (KIS): GREGOR, VTT

Elena Khomenko (IAC): Spanish TAC

Andreas Lagg (MPG): SUNRISE

Oskar Steiner (USI/IRSOL & KIS): Piz Daint supercomputer



Distributes Access time in SOLARNET and also ITP for GREGOR, THEMIS, VTT.

Two external scientific referees for every call.

*The selection panel must base its selection on scientific merit, taking into account that priority should be given to user groups composed of users who:*

*- have not previously used the installation and*

*- are working in countries where no equivalent research infrastructure exist.*

# Calls in 2019

- 2019 (A): GREGOR, VTT, SST, THEMIS. Deadline 20 January
- 2019 B: GREGOR, VTT. Deadline 2 June
- 2019 PD: Piz Daint. Deadline 24 October.

# SOLARNET Telescope Access 2019, both calls, excluding ITP

	# proposals	# accepted	# days awarded	% of proposals accepted
GREGOR	12	5	46	42 %
SST	10	4	14	40 %
THEMIS	1	1	14	100 %
VTT	3	1	10	33 %
<b>TOTAL</b>	<b>26</b>	<b>11</b>	<b>84</b>	<b>42 %</b>

**1 PI visitor mode,  
3 service mode**

# Piz Daint call

1. Call published (Aug 31)
2. Benchmarking
3. Proposal submission (Oct 24)
4. Scientific evaluation (two referees)
5. Technical evaluation (CSCS)
6. Final decision
7. Start computing (Jan 7)

**2 out of 5 who tried benchmarking submitted a proposal**

**GPU issue**

**CSCS don't accept students as PI's.**

# WP9 Access statistics

	Units delivered or committed (2019A & B & PD)	Unit	Budget	Fraction of budget	PI countries
<b>GREGOR</b>	46	d	143	32 %	<b>UK, SK, UK, CZ, UK</b>
<b>SST</b>	14	d	85	16 %	<b>DE, GR, UK, DE</b>
<b>THEMIS</b>	14	d	80	18 %	<b>IT</b>
<b>VTT</b>	10	d	75	13 %	<b>CZ</b>
<b>SUNRISE 3</b>	0	h	11	0 %	none
<b>Piz Daint</b>	<i>375000</i>	node-h	1500000	25 %	DE, SE



# Lessons from first year

- Advertisement campaign lacking.
- Lots of interest in coobservations. Complicated. We could not satisfy this.
- Coobserving proposal should be *one* proposal. If you want to have a chance of a single telescope - submit a separate one.
- Piz Daint preparations and application process are complicated. Education needed.

## Calls in 2020

**SOLARNET call Dec 1, Deadline Jan 20**

- **SST:  $\leq 20$  d PI mode, a few d service mode?**
- **THEMIS: PI mode**

**GREGOR refurbishment =>**

**SOLARNET call in February?**

**And one more in the summer?**

- **GREGOR**
- **VTT, w/vacuum window**

**SOLARNET Piz Daint call in less than a year?**

# Interpretation of rules: Non-associated third countries

- Non-EU or associated states: max 20% allowed.  
We can choose whether this quota is applied to each facility separately or for the whole ensemble. (Should have been done in the Consortium Agreement.)
- Current policy: Wait until we know Brexit outcome.  
Then we *may* open call to 3rd countries.  
Piz Daint and SUNRISE3 separately.  
SST+GREGOR+VTT+THEMIS jointly.
- Formal decision needed before first call for 2021.
- What does the GA think?



*If the United Kingdom withdraws from the EU during the grant period without concluding an agreement with the EU ensuring in particular that British applicants continue to be eligible, you will cease to be eligible to receive EU funding (while continuing, where possible, to participate) or be required to leave the project on the basis of the termination provisions in the grant agreement.*

# Interpretation of rules: Exclusion of nationalities

H2020 rules only exclude PI's from the countries where the facilities *are situated*.

It seems reasonable to be a little more restrictive, thus:

- GREGOR, VTT: Spain, Germany
- THEMIS: Spain, France
- SST: Spain, Sweden
- SUNRISE 3: Germany?
- Piz Daint: Switzerland

# Interpretation of rules: Public data

Data produced under the Access programme should be made public after one year.

Observational data: Public one year after delivery of reduced data. What about raw data?

What about computer results being continuously produced during a year?

What computer data?

When will the archive for computed data become available?

Operators responsible for observational data archiving.

Who is responsible for computed data?