XXXVII SCAR Delegates Meeting
India, September 2022

Antarctic Gravity Wave Instrument Network (ANGWIN)
2020-22 Report

Summary

Report Author(s)
Mike Taylor (Utah State University, USA), Takuji Nakamura (NIPR, Japan), Tracy Moffat-Griffin (BAS, UK), Damian Murphy (AAD, Australia), Jose Valentin Bageston (INPE, Brazil), Geonhwa Jee (KOPRI, South Korea)

Summary of activities from 2020-22

Key challenges:
Our activities have been severely impacted by the COVID-19 pandemic. Restrictions on travel has meant that our regular workshops have not taken place. Additionally, restrictions on who can travel South over the past seasons has meant that, for some of our instruments, they have either not been deployed on time or had maintenance delayed.

Highlights:
Airglow imager gravity wave analysis software now publicly available (M-Transform, Website: http://polaris.nipr.ac.jp/~airglow/M-transform/, Program language: Interactive Data Language (IDL))
Instrument deployments/upgrades in 2022: At Comandante Ferraz (CF) station and Halley station there are new all-sky airglow imagers deployed. Upgraded meteor radar at CF station. Wind profiling (MST) radar at Davis upgraded.

Upcoming activities:
Instrumentation: A new airglow instrument at King Sejong Station, Antarctica for the observations of the mesospheric temperature and gravity waves. Rayleigh LIDAR at South Pole. Upgrade of Metroe radar at Davis
SCAR OSC session: Polar atmospheric processes: water cycle, snow, clouds, aerosols, radiation and gravity waves
ANGWIN workshop, hosted by KOPRI, October 2022
2023 IUGG assembly joint symposium on Polar regions instrumentation that

Summary Budget 2021 to 2024

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spent</td>
<td>$0</td>
<td>$3432</td>
<td>$1500</td>
<td>$1500</td>
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</table>

(US$)
**Progress to date**

**Sub-group Outcomes Summary**

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>Activity/Outcome/Benefit/Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANGWIN</td>
<td>Airglow imager gravity wave analysis software now publicly available (M-Transform)</td>
</tr>
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**Sub-group Cash Flow**

*(Since previous report to Delegates in 2020)*

We will spend our rolled over allocation on supporting ECRs at the ANGWIN workshop in October 2022

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>Allocation</th>
<th>Amount spent 2020</th>
<th>2021</th>
<th>2022</th>
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</thead>
<tbody>
<tr>
<td>ANGWIN</td>
<td>$1500</td>
<td>0</td>
<td>0</td>
<td>0</td>
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**Future plans**

**Planned activities in 2022 to 2024**

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>Planned activity</th>
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<tbody>
<tr>
<td>ANGWIN</td>
<td>ANGWIN workshop 2022 at KOPRI</td>
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<tr>
<td>ANGWIN</td>
<td>Participation at SCAR OSC 2022/2024</td>
</tr>
<tr>
<td>ANGWIN</td>
<td>Participation at IUGG assembly 2023</td>
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**Planned use of funds for 2022 to 2024**

<table>
<thead>
<tr>
<th>Year (YYYY)</th>
<th>Purpose/Activity</th>
<th>Amount (in USD)</th>
<th>Contact Name</th>
<th>Contact Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>Travel and subsistence for early career scientists to ANGWIN workshop</td>
<td>3432</td>
<td>Dr Geonhwa Jee</td>
<td><a href="mailto:ghjee@kopri.re.kr">ghjee@kopri.re.kr</a></td>
</tr>
<tr>
<td>2023</td>
<td>Travel and subsistence for early career scientists to present ANGWIN work at an international/national conference</td>
<td>1500</td>
<td>Dr Tracy Moffat-Griffin</td>
<td><a href="mailto:tmof@bas.ac.uk">tmof@bas.ac.uk</a></td>
</tr>
</tbody>
</table>

**Total**
Any additional detail on funds usage and desired results/outcomes
We plan to use our funds to help support early career scientists to present ANGWIN related work at relevant conferences. We want to encourage as wide a participation from scientists from as many countries as possible.

Percentage of the budget to be used for support of early-career researchers
2022: 80%
2023: 80%
2024: 80%

Percentage of the budget to be used for support of scientists from countries with developing Antarctic programmes
We will try to overlap this by prioritising early career scientists from developing Antarctic Programmes but this may not always be possible.
Membership

Leadership

The science committee is run jointly by the following people:
Mike Taylor (Utah State University, USA)
Takuji Nakamura (NIPR, Japan)
Tracy Moffat-Griffin (BAS, UK)
Damian Murphy (AAD, Australia)
Jose Valentin Bageston (INPE, Brazil)
Geonhwa Jee (KOPRI, South Korea)
Mitsumu Ejiri (NIPR, Japan)
Dominique Pautet (Utah State University)

<table>
<thead>
<tr>
<th>Role</th>
<th>First Name</th>
<th>Last Name</th>
<th>Affiliation</th>
<th>Country</th>
<th>Primary Language</th>
<th>Email</th>
<th>Date Started</th>
</tr>
</thead>
</table>

(Please identify early-career researchers with * in first column)

Other members

We have 99 members on our mailing list, around 1/3 of which are early career researchers. Further details can be provided on request (contact tmof@bas.ac.uk)

<table>
<thead>
<tr>
<th>First Name</th>
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(Please identify early-career researchers with * in first column)
Additional information (optional)

Outreach, communication and capacity-building activities
(Brief highlights of any activities undertaken since the last report to SCAR Delegates in 2020).
A YouTube video introducing people to ANGWIN was posted to coincide with the 2020 SCAR OSC: https://youtu.be/KZ1trlDa2bM

Contributions to equality, diversity, and inclusion (EDI)
(Any specific actions the group has undertaken to advance EDI within the group and/or within SCAR)
We are an international group and always work to ensure that we can support early career researchers/those from countries with developing Antarctic programmes