• **Overarching Goals:**
  – Enhance STEM education in communities across the U.S.
  – Support NASA’s goal of inspiring the next generation of explorers.
  – Contribute to public understanding of the value of scientific research.

SOFIA Outreach Lead: Dana Backman dbackman@sofia.usra.edu
SOFIA is the only major research observatory designed from the start to bring educators (K-14 teachers, museum docents, astronomy club leaders) into close contact with scientists in a research environment.
SOFIA’s Flagship E/PO Program:  Airborne Astronomy Ambassadors (AAA)

Partnerships of educators with scientists & engineers, including research flight experience & “ambassadorships” for NASA.

GOALS:

(1) Educators achieve better understanding of scientific research processes;
(2) Pass understanding along to students, colleagues, and fellow citizens.

- Teams of 2 educators selected to fly on SOFIA via annual national calls;
- Applications judged on basis of post-flight E/PO plans; peer reviewed;
- Ambassadors trained to understand flight science research project;
- Ambassadors supported post-flight by SOFIA E/PO to fulfill plans;
- Ambassadors become a growing on-line mutual support community.

NOTE: There is a parallel, smaller-scale German SOFIA AAA program.
These six teachers, in addition to incorporating SOFIA science content into their classroom curricula, over the 18 months following their flights:

* Presented at over **50 education and public events** for their local communities and beyond, in **10 states**, to an estimated **3,500 people** (2,000 students & 1,500 adults), including **21 teacher training workshops** to **500 colleagues**;

* Spoke at **3 media events** (ARC, Andrews AFB, DFRC/DAOF)
Mary Blessing, Herndon, Virginia
Virginia Science Teachers Association; 3 additional presentations to local teachers, students, and civic groups; spoke alongside NASA officials Garver, Leland, & Hertz at Andrews AFB SOFIA deployment.

Cris DeWolf, Remus, Michigan
Michigan Earth Science Teachers Association; Metropolitan Detroit STA; Michigan STA; 3 additional presentations to local teachers, students, and civic groups.

Margaret Piper, Frankfort, Illinois
Led Sept. AAA workshop at Yerkes Obs.; Illinois Science Teachers Association; Hands-on-Universe conference at George Williams College; 8 additional presentations to local, teachers, students and civic groups; helped staff the SOFIA exhibit at the Austin AAS (Jan. ‘12).
Kathleen Fredette, Palmdale, California

LA City/County Gifted/Talented Education conference; LA County Board of Ed. meeting; California Science Teachers Association conference (incl. DAOF & SOFIA tour); 5 additional presentations to local teachers, students and civic groups; SOFIA/DAOF Media Day June ’11.

Marita Beard, San Jose, California

Santa Clara County Office of Ed. astronomy teachers workshop; Ames Science Saturday public talk series; American Association of University Women local chapter; 2 additional presentations to local teachers, students and civic groups; 90-student field trip to Ames during SOFIA deployment Oct. ’11; SOFIA/DAOF Media Day June’11.

Theresa Paulsen, Mellen, Wisconsin

Wisconsin Science Teachers Association; Cooperative Educational Services Agency regional In-service Day; 2 additional presentations to local teachers, students, and civic groups.

Each of the “SOFIA 6” also have updated the science curricula in their schools & districts based on AAA training and experiences.
2011 AAA “pilot” teacher Marita Beard and 90 of her physics students from San Jose’s Branham High School visit SOFIA during the observatory’s deployment to Ames, October 2011.
Cycle 1 Ambassadors

Home states of the 24 Cycle 1 AA Ambassadors (12 teams) selected in Jan. ’12 and scheduled for flights during CY 2013.
SOFIA Airborne Astronomy Ambassadors – Cycle 1 Cohort

[Images of individuals]
### Cycle 1 Airborne Astronomy Ambassadors - 2013 flight schedule (v. 15 May)

<table>
<thead>
<tr>
<th>Campaign/flight</th>
<th>Flight dates</th>
<th>AAA team #s</th>
<th>Ambassadors</th>
<th>Home states</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPI Commissioning</td>
<td>12-Feb</td>
<td>1 and 2</td>
<td>Washington</td>
<td>Hardin</td>
</tr>
<tr>
<td>FPI Commissioning</td>
<td>14-Feb</td>
<td>1 and 2</td>
<td>Johnson</td>
<td>Gartner</td>
</tr>
<tr>
<td>FORCAST Commissioning</td>
<td>4-Jun</td>
<td>3 and 4</td>
<td>Dodds</td>
<td>Peterson</td>
</tr>
<tr>
<td>FORCAST Commissioning</td>
<td>6-Jun</td>
<td>3 and 4</td>
<td>Gerstman</td>
<td>Groff</td>
</tr>
<tr>
<td>FORCAST Commissioning</td>
<td>11-Jun</td>
<td>5 and 6</td>
<td>Gorman</td>
<td>Serkis</td>
</tr>
<tr>
<td>B-01 - FORCAST</td>
<td>13-Jun</td>
<td>5 and 6</td>
<td>Alvarez</td>
<td>Aguirre</td>
</tr>
<tr>
<td>B-02 - FORCAST</td>
<td>18-Jun</td>
<td>7 and 8</td>
<td>Johnson</td>
<td>Brennon</td>
</tr>
<tr>
<td>B-03 - FORCAST</td>
<td>20-Jun</td>
<td>7 and 8</td>
<td>Smith</td>
<td>Scoles</td>
</tr>
<tr>
<td>B-04 - FORCAST</td>
<td>25-Jun</td>
<td>9 and 10</td>
<td>Oates</td>
<td>Ruby</td>
</tr>
<tr>
<td>B-05 - FORCAST</td>
<td>27-Jun</td>
<td>9 and 10</td>
<td>Bushman</td>
<td>Black</td>
</tr>
<tr>
<td>OC 1-D, E, or F</td>
<td>Sept or Oct</td>
<td>11 and 12</td>
<td>Munkwitz</td>
<td>Walsh</td>
</tr>
<tr>
<td>OC 1-D, E, or F</td>
<td>Sept or Oct</td>
<td>11 and 12</td>
<td>Carter</td>
<td>Edie</td>
</tr>
</tbody>
</table>
Start of Cycle 1 AAA Flights – February 2013

<= The first two Cycle 1 AAA teams participated in the Feb. 12 & 14 HIPO & FLIPO commissioning and V&V flights. (Pictured at left, talking with the DSI FPI team: Constance Gartner [in green] and Chelen Johnson [in black, with cap].)

AA Ambassadors Ira Harden (left) and Vince Washington (right) => at the educators console with SOFIA Outreach staff flight facilitator Coral Clark (center).
AAA Cycle 2 cohort selection for flights in 2014

• Applications opportunity open from March 1 through May 3, 2013.

• Received 82 complete Cycle 2 applications (versus 78 for Cycle 1).

• Applications came from 29 states plus D.C.

• Selection panel will meet May 28; selection criteria include quality of post-flight E/PO plans, and school demographics.

• Plan at this point is to select 18 Cycle 2 teams (36 Ambassadors) to fly During CY 2014: 12 teams in FY14 and 6 teams in FY15.