ADAC’s Education Programs: Building a Future Science, Technology, Math and Engineering (STEM) Workforce for the Homeland Security Enterprise

Malla Kukkonen, ADAC Education and Administrative Manager
The ADAC Fellows program is comprised of three strands:

- Career Development Grant (CDG)
- Workforce Development (WFD)
  - MSI Summer Interns 2017
  - Arctic Summer Internship Program 2018
ADAC Fellows Program: Eligibility, Support, Commitment

ADAC Fellows program is open to undergraduate, graduate and advanced graduate students. The following apply to all fellows:

**Eligibility requirements:**
* U.S. citizenship
* Must major in a STEM discipline
* Need to be able to pass a background check
* Achieve & maintain a cumulative GPA of 3.30 or higher while in the program

**Support:**
* Monthly stipend for 12 months
* Tuition & mandatory fees: 50% of total cost for STEM classes related to degree
* Assistance in securing a 10-week internship for two summers.
* Mentoring and professional development through ADAC network

**Commitment:**
* Complete two ten-week summer internships while in the program
* Actively seek and obtain employment in the Homeland Security Enterprise for at least a year after graduation. Employment can be at the state, federal or local level.
ADAC Fellows Program: Activities

- Monthly mentoring meetings
- Student research symposiums
- Center activities related engagement:
  - Arctic Incidents of National Significance (IoNS) workshops
  - Arctic 2030+ workshop
  - Office of Naval Research’s ICE-PPR event in Anchorage, Alaska
In addition, ADAC supported one MSI student from Tougaloo College in Mississippi for a 10 – week summer internship during summer 2017.

<table>
<thead>
<tr>
<th>Home institution and number of students enrolled for Year 3</th>
<th>University of Alaska Anchorage (UAA)</th>
<th>University of Alaska Fairbanks (UAF)</th>
<th>University of Idaho (Uidaho)</th>
<th>Employed at a Homeland Security related position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Graduate</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition, ADAC supported one MSI student from Tougaloo College in Mississippi for a 10 – week summer internship during summer 2017.
### Arctic Domain Awareness Center - Program Year 4 overview of all supported Fellows

<table>
<thead>
<tr>
<th>Home institution and number of students enrolled for Year 3</th>
<th>University of Alaska Anchorage (UAA)</th>
<th>University of Alaska Fairbanks (UAF)</th>
<th>University of Texas El Paso (UTEP) MSI students</th>
<th>Planning to graduate in December 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Graduate</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**CDG fellows:**
- Undergraduate: 3
- Graduate: 2

**WFD fellows:**
- Undergraduate: 4
- Graduate: 3
Each fellow has an individually developed workplan for their engagement in ADAC related activities:

- Developed in collaboration with Project PI/Lead, ADAC fellow and ADAC Education and Administrative Manager

- Reviewed by ADAC Executive Director before finalization

- Revisited after each semester
ADAC Fellows program: Fellows workplan assignments for Year 4

- **ICECON:**
  - Mr. Seth Campbell, graduate student, UAA

- **Arctic Oil Spill modeling:**
  - Ms. Kelsey Frazier, undergraduate student, UAA

- **Prioritization of Bathymetric surveying in the Arctic**
  - Mr. Lonnie Young, undergraduate student, UAA

- **Sensors:**
  - CDG fellow, Mr. Matthew Ahlrichs, graduate student, UAA

- **Coastal Erosion & Arctic port assessment:**
  - CDG fellow, Mr. Leif Hammes, graduate student, UAA

- **Arctic environmental security & IoNS workshop:**
  - Ms. Jessica Faust, graduate student, UAA

- **Arctic Summer Intern Program:** undergraduate students (MSI)
  - Mr. Sebastian Ruiz, UTEP
  - Mr. Roberto Garcia, UTEP

- **Sea Ice and weather forecasting tool development for situational awareness:**
  - Ms. Dina-Abdel Fattah, Phd. student, UAF

- **Arctic IoNS & ICE-PPR workshops:**
  - CDG fellows, undergraduate students
  - Mr. James Matthews & Mr. Kyle Alvarado, UAA
ADAC Fellows Program: Transition plans for graduates

- Three of our UAA CDG Fellows are graduating in December 2017.
- On-going mentoring of fellows approaching graduation includes:
  - Mapping of career options and interest on individual basis
  - Mentoring by ADAC Leadership and staff tailored to assist each graduate to transition to employment in the Homeland Security Enterprise.
ADAC Fellows Program: Plans for Year 4 and beyond

Program year 4 includes:

• Hosting Arctic Summer Intern Program in 2018

• Continuing new students recruitment

• Mentoring and preparing our graduating fellows to transition to employment in the Homeland Security Enterprise

• Further developing our research portfolio and ADAC fellows participation in current and new research projects
Feedback...

• What are we missing?
• What can we improve?
• Who should we connect with to improve the success of our Education programs?