**DESCRIPTION OF RESEARCH PROJECT/INTERNSHIP**

**Sponsor:** Princeton Environmental Institute

**Position number:** C1MAU

**Organization/research group name:** Princeton University; Prof. Denise Mauzerall group

**Project title:** Measurement of methane leakage from abandoned oil and gas wells

**Project summary:**
Natural gas is considered a cleaner fossil fuel producing half the carbon dioxide per unit of energy when compared with coal. However, benefits of using natural gas could be lost as a result of methane leakage during the extraction process. Methane is a strong greenhouse gas and a chemical precursor of surface ozone. Since the nineteenth century gas wells have been Abandoned (no longer operated), Orphaned (responsible party unavailable) or Lost (AOL) as their productivity decreases over time. These AOL wells have been observed to emit significant quantities of methane and other hydrocarbon gases. Our research group will be working throughout the USA to estimate fugitive methane emissions from historic oil and gas fields. These unique experiments will use novel approaches in remote locations to better understand the hidden costs of natural gas extraction.

**Role and responsibilities:**
The main roles of the intern includes:
1. Adapting/improving measurement methods
2. Managing supplies
3. Conducting field measurements
4. Analyzing data collected
Field measurements will require domestic travel. On-the-job training will be provided.

**Website (if available):**

**Faculty sponsor/host (name/department):** Prof. Denise Mauzerall, CEE/WWS

**Email contact:** mauzeral@princeton.edu

**Location of internship:**
- Note: If this internship is located in a country that appears on the [U.S. Department of State Travel Warning List](https://travel.state.gov/content/travel/en/traveladvisories/health/travel-warning-levels/health.html), final candidates will be instructed to request and receive University approval to travel to that country before participation in the internship program is confirmed.

**Weekly stipend:** $500

**Number of internships available:** 2

**Proposed start date (mm/dd/yyyy):** 06/05/2017

**Total number of weeks:** 8

**Proposed end date (mm/dd/yyyy):** 08/04/2017

- Note: The funding awarded for this position is for full-time work, 35 hours per week minimum, for a period of no less than 8 contiguous weeks.
**INTERNSHIP SUPERVISOR**

Name and title: Dr Stuart Riddick  
Email: sriddick@princeton.edu  
Phone: 609-258-5426

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**EXPERIENCE REQUIRED**

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<tr>
<th>Academic background:</th>
<th>All science or engineering backgrounds are suitable. In particular, environmental engineering, physics, chemistry, or geosciences.</th>
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<tbody>
<tr>
<td>Technical skills:</td>
<td>GIS, programming (Arduino), electronics (including soldering) and R (multivariate analysis). Willingness to learn to work in the field and operate gas analyzers.</td>
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<td>Language fluency:</td>
<td>English</td>
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**OTHER**

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<tr>
<th>Prerequisites / training:</th>
<th>None</th>
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<th>Physical demands:</th>
<th>Ability to hike in various terrain while carrying equipment.</th>
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<td>Equipment required:</td>
<td>Outdoor clothing. PPE provided when needed.</td>
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<th>Visa(s) required?</th>
<th>Yes [ ]  No [ ] To be completed by PEI</th>
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<td>Immunizations required?</td>
<td>Yes [ ]  No [ ] To be completed by PEI</td>
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<td>Research permit/pass required?</td>
<td>Yes [ ]  No [ ] To be completed by PEI</td>
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<th>Additional internship information:</th>
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Priority application deadline: January 13, 2017

- Applications received after the priority deadline will be reviewed on a rolling basis.
- Unfilled positions will remain open until March 29, 2017.

For more information and to apply, visit the Princeton Environment Institute website:  
- [http://environment.princeton.edu/undergrads/internships/](http://environment.princeton.edu/undergrads/internships/)