

Globalizing Air Pollution

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Web: <http://www.pku-atmos-acm.org/acmCourse.php#GAP>



Goals

- **Introduce basic scientific facts concerning air pollution transfer at multiple scales**
- **Discuss research frontiers in atmospheric chemistry and climate science related to transboundary pollution**
- **Stimulate interests in solving environmental problems related to globalization of air pollution**

Main Contents

- **Introduction: globally inter-connected air pollution**
- **Sources, sinks and cycling of key species**
- **Measurements and modeling**
- **Tropospheric chemistry and near-surface air quality**
- **Atmospheric transport of air pollutants: measurements, mechanisms, and impacts**
- **Pollution transport and climate change**
- **Transport of heavy metals, PAHs, and bioaerosols**
- **Economic globalization, trade, and pollution transfer**
- **Air pollution mitigation: local, regional, and global perspectives**
- **Student presentations**

Requirements and Scoring (成绩)

- Attendance: **10%**
- In-class performance: **20%**, including questions, quiz, discussion
- Term paper option 1: **Literature review. 50%** (5000-6000 words; ≥ 15 references; following journal paper structure)
- Term paper option 2: **Small project. 50% x 1.2** (5000-6000 words; ≥ 15 references; following journal paper structure)
- Final presentation: **20%** (following seminar structure)
- Individual requests to change scores are discouraged and will not succeed in general
- **Total score is capped at 100%**

More on Term Paper and Presentation

- Each student works on a topic or project. Discuss with me
- Each presentation takes 25 mins plus 25 mins for Q&A; will spend 2-3 weeks at the end of the semester for presentation
- **Deadline for topic selection: April 5th**
- **Deadline for paper & ppt submission: May 17th**
- Structure of paper/ppt: introduction/background, main content, conclusion/discussion
- Scoring of paper/ppt: novelty, scientific contribution, presentation, taking questions
- Title of paper & ppt: **GAP_第X题_姓名...**

About Plagiarism (作弊、剽窃)

- **No tolerance!**
- **Forms of plagiarism: citing without reference, quoting without “” sign, too much quoting, etc.**
- **Punishment: fail the class, zero score, departmental/institutional actions, depending on the severity of plagiarism.**

References (参考文献)

- Introduction to Atmospheric Chemistry, by Daniel Jacob (Introductory materials)
<https://acmg.seas.harvard.edu/education>
- Atmospheric Chemistry and Physics: From Air Pollution to Climate Change, by John H. Seinfeld and Spyros N. Pandis (More advanced materials; available at the department library; ask our secretary)
- HTAP: Hemispheric transport of air pollution 2010 Part A: Ozone and particulate matter, Economic Commission for Europe, Geneva, 2010,
http://www.pku-atmos-acm.org/static/pdfs/GAP/HTAP_2010_ozone_and_PM.pdf
✓ Update: <https://htap.org/>
- IPCC reports: AR6 (<http://www.ipcc.ch/>)

Contact & Office Hour

- **Office: M-502 (中502) , Building of Physics**
- **Email: linjt@pku.edu.cn**
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- **Office hour: by reservation**
- **Course website:**
<http://www.pku-atmos-acm.org/acmCourse.php#GAP>

