

Welcome to the 4th ICCT Workshop on Marine Black Carbon

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4th ICCT Workshop on Marine BC
Washington, DC, USA
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My goals for this presentation

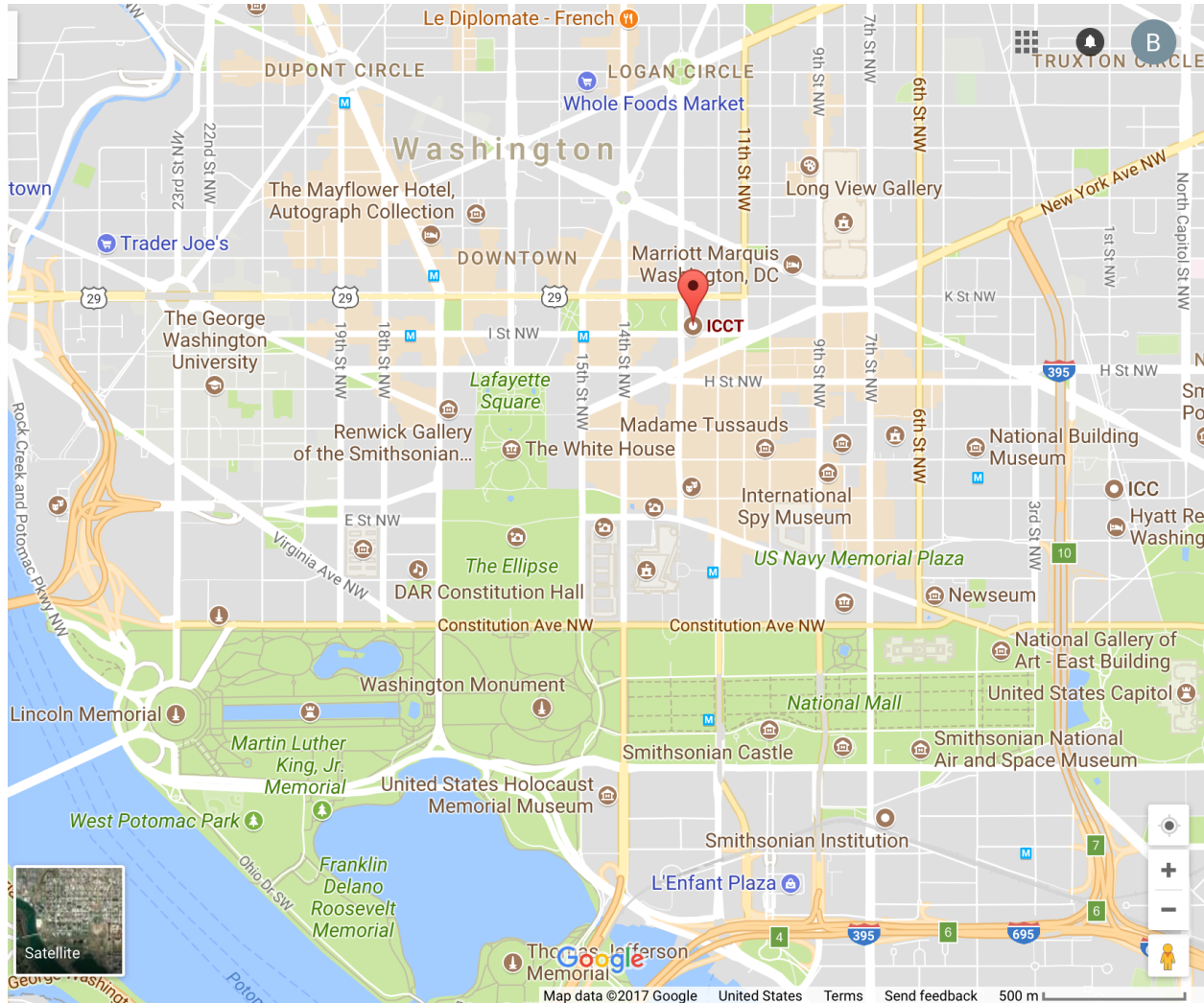
- Welcome you to DC!
- Provide a brief overview of the 3 previous workshops
- Review agenda and logistics information

Welcome to Washington, DC!



<https://cdn.trolleytours.com/wp-content/uploads/2016/06/washington-dc-capitol-at-night.jpg>

You're blocks away from the White House and the National Mall



3 Previous Workshops

Funded by the Climate and Clean Air Coalition

Ottawa (2014)	Utrecht (2015)	Vancouver (2016)
<ul style="list-style-type: none">• Recommended Bond et al. (2013) BC definition• Agreed that potential controls need to be investigated• Agreed that measurement protocols need to be established	<ul style="list-style-type: none">• Agreed that:<ul style="list-style-type: none">○ Sample conditioning/pre-treatment should be tested○ EUROMOT protocol should be used and refined○ Measurement Protocols need to be established○ Precise measurements are needed to develop standards	<ul style="list-style-type: none">• FSN, PAS, LII, and some TOA showed good agreement• MAAP and Aethalometer require too much dilution to be useful• Many technologies and strategies can reduce BC (DPFs, fuel switching, slow steaming, shorepower, etc)• Many fuel properties may influence BC formation

3 Previous Workshops

- Ottawa (2014)
 - Recommended Bond et al. (2013) BC definition
 - Agreed that potential BC control measures need to be investigated
 - Agreed that BC measurement protocols need to be established

- Utrecht (2015)
 - Agreed that sample conditioning/pretreatment should be tested
 - Reviewed EUROMOT protocol for refinement
 - Reaffirmed that detailed measurement protocols should be established
 - Agreed that precise measurements are need to develop standards

3 Previous Workshops (cont'd)

- Vancouver (2016)
 - FSN, PAS, LII, and some TOA showed good agreement in tests
 - MAAP and Aethalometer require too much dilution to be fit for purpose
 - Many technologies and strategies can reduce BC (DPFs, fuel switching, etc.)
 - Several fuel properties may influence BC formation
 - Ad hoc technical committee outside of IMO could establish the foundation for an ISO standard

Goals for 4th workshop

- Main workshop goal: Identify the most appropriate method(s) for measuring marine black carbon
- Additional goals:
 1. Discuss potential submission to PPR 5 on measurement
 2. Understand recent research on marine BC
 3. Identify the barriers and opportunities for controlling marine BC

Agenda – Day 1

Time	Activity	Details
9:30-10:00	Registration and Coffee	1225 I St. NW, Suite 900 (9th floor)
10:00-10:15	Welcome Remarks and Review of Agenda Dan Rutherford, ICCT	
10:15-10:45	Taking stock: Where are we on defining, measuring, and controlling BC? Bryan Comer, ICCT	Brief review of the research to-date on BC definition, measurement, inventories, and control
10:45-11:00	Break	
11:00-11:30	New Research on BC Control Dan Lack	Updated analysis of BC abatement potential
11:30-12:00	New research on BC Measurement, Part 1 Päivi Aakko-Saksa, VTT Finland	-Methods -Instruments -Results
12:00-13:00	Lunch (Provided)	

Agenda – Day 1 (cont'd)

Time	Activity	Details
13:00-14:15	New Research on BC Measurement, Part 2 Greg Smallwood, NRC Canada Peter Lauer, MAN Diesel & Turbo	-Methods -Instruments -Results
14:15-14:30	Break	
14:30-16:00	Group Discussion: Criteria for appropriate methods(s) Bryan Comer, ICCT, Facilitator	Goal: Agree on criteria for “appropriate” method(s) to measure marine BC
16:00-16:30	Day 1 Closing Remarks Dan Rutherford, ICCT	- Closing remarks - Preview of Day 2 agenda - Logistics for dinner
16:30	Adjourn	
18:30-21:00	Group Dinner (complimentary) Nopa Kitchen & Bar 800 F St., NW, Washington, DC 20004	Corner of F and 9th NW. Same building as the Int'l Spy Museum

Agenda – Day 2

Time	Activity	Details
9:30-10:00	Coffee	
10:00-10:30	Recap of Day 1 Dan Rutherford, ICCT	- Brief recap of Day 1 - Review of criteria
10:30-12:00	Discussion: Which method(s) meet the criteria? Dan Rutherford, ICCT, Facilitator	-Goal: Identify method(s) that meet the criteria
12:00-13:00	Lunch (Provided)	
13:00-14:00	Discussion: What are the most appropriate method(s)? Bryan Comer, ICCT, Facilitator	Goal: Identify the most appropriate method(s) for measuring marine BC emissions
14:00-14:15	Break	
14:15-15:30	Discussion: What will it take to control marine BC? Dan Rutherford, ICCT, Facilitator	Goal: Identify the barriers and opportunities for controlling marine BC
15:30-16:00	Break	

Agenda – Day 2 continued

Time	Activity	Details
16:00-16:30	Summary of Workshop Outcomes Bryan Comer, ICCT	Goal: Agree on key workshop outcomes, including the most appropriate method(s)
16:30-16:45	Closing Remarks Dan Rutherford, ICCT	
16:45	Adjourn	
17:15+	Happy Hour City Tap House 901 9th St. NW, Washington DC, 20001 (Corner of 9th and I St. NW)	Join us for an informal happy hour!

Note: New Happy Hour location; walking directions from ICCT to City Tap House provided in a handout

Questions?

Thank you for being here!

Any questions before we begin?