



TAP 2019 | THESSALONIKI, GREECE



TAP 2019

23rd International Transport and Air Pollution Conference

May 15-17, Thessaloniki, Greece



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TAP Overview

- **Main theme:** 2020-2030: transport in critical transition
- **Thematic areas:**
 - Air pollution / climate change trade-offs,
 - fuels and energy decarbonization,
 - low emission engines and vehicles,
 - electromobility,
 - clean maritime shipping,
 - enhanced air quality modelling tools

Overview

- **Organization:** Laboratories of Applied Thermodynamics and Heat Transfer and Environmental Engineering of Aristotle University Thessaloniki and EMISIA S.A., with the support of the European Commission Joint Research Centre.
- **Venue:** Thessaloniki Concert Hall
- **Chairman:** Prof. Leonidas Ntziachristos
- **No of participants:** 230

TAP Preparation



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Review Process

Abstracts' Submission
(one page length)

Allocation for review to Scientific Committee members, according to the thematic background of the paper and the scientific expertise of the member

Review by 26 SC members
Evaluation, through scores based on originality, quality and relevance

Classification according to scores achieved.
Abstracts with higher scores allocated to full paper preparation (oral presentations) and the rest for posters

Final review of full papers by
the 26 SC members

Full papers allocation to the SC for
final review

Full papers / posters
preparation by authors



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Outcome

69
Full papers

65
Posters



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Oral sessions & thematic areas (1/2)

69

Full papers

13 sessions of oral presentations on 10 thematic areas

I

Gaseous and particulate pollutants characterization



- PEMS & dynamometer measurements
- Emission factors' development
- Vehicle technology compliance with emission standards

II

Marine and aviation emissions



- Shipping and aviation emissions' modeling & estimation
- Impact assessment of traffic conditions and measures' implementation
- Future trends

III

Air quality measurement, monitoring and modeling



- Dispersion and human exposure modeling
- Impact assessment of traffic measures on air quality
- New methods and techniques on air quality measurements

IV

Energy optimization of transportation systems



- Measures and strategies for CO₂ and energy consumption reduction
- Automation of road transport

V

Road transport management and emissions estimation



- Measures and strategies for emissions reduction
- Road transport emissions' modeling and estimation

Oral sessions & thematic areas (2/2)

69

Full papers

13 sessions of oral presentations on 10 thematic areas

VI

Alternative fuels, new powertrains



- PEMS & dynamometer measurements enabling alternative fuels
- Air quality effects of alternative fuels
- New powertrains, including electrics and hybrids

VII

Remote sensing of vehicle emissions



- Emissions' measurements using remote sensing
- New techniques in remote sensing
- Remote sensing utilization for emissions' policy enforcement

VIII

Particulate Matter



- Exhaust and non exhaust particulate matter
- Dispersion of particulate matter
- Air quality assessment & human exposure to particulate matter

IX

Special Session on H2020 projects



- Results of project funded under the EU H2020 program

X

New sensors and techniques



- Sensors, methods and techniques in vehicular emissions measurements and air pollution



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Poster session & thematic areas

65
Posters

13 sessions of oral
presentations on 10
thematic areas

I

Gaseous and particulate
pollutants characterization

VI

Alternative fuels, new
powertrains

II

Marine and aviation emissions

VII

Particulate Matter

III

Air quality measurement,
monitoring and modeling

VIII

Emission control technologies
of primary air pollutants of
road and non-road transport

IV

Energy optimization of
transportation systems

IX

New sensors and techniques

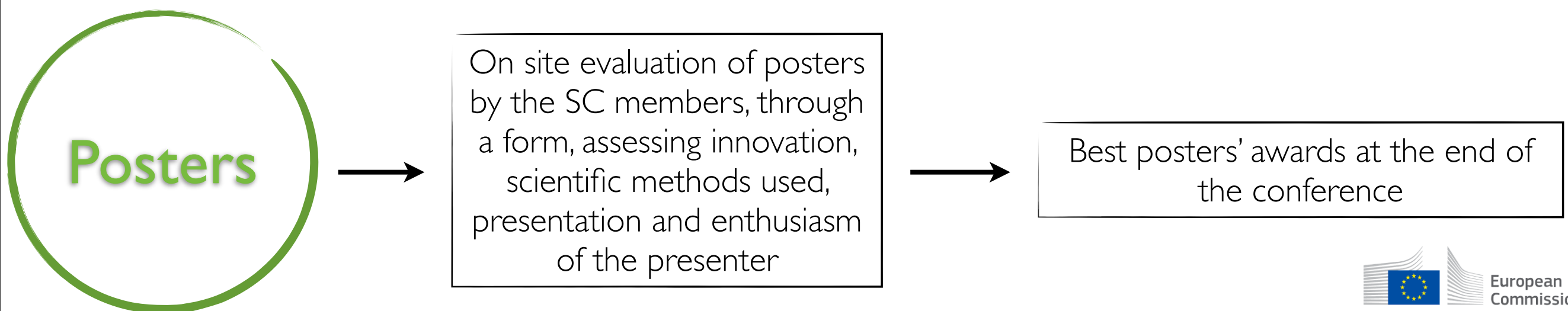
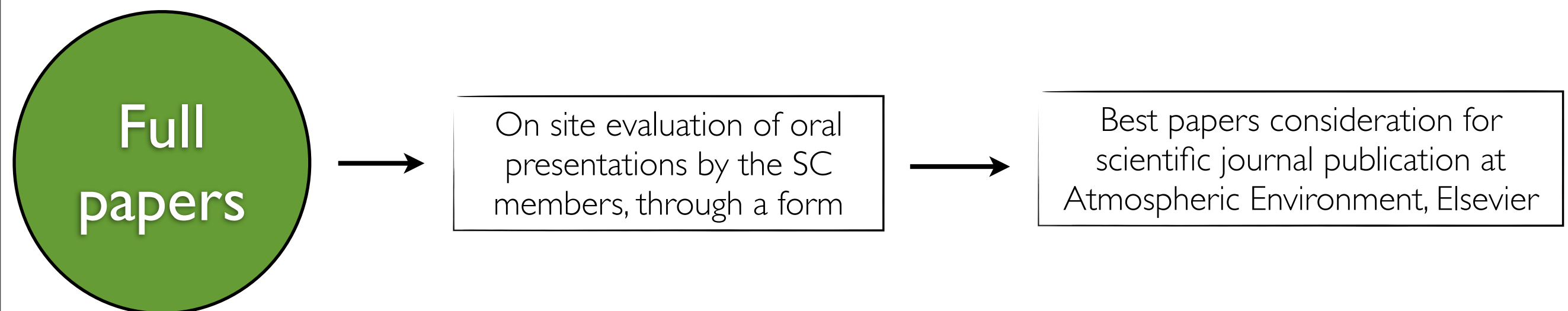
V

Road transport management
and emissions estimation

X

Planning & projections

Scientific outcomes





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TAP Implementation Highlights

Conference's Highlights

TAP photos

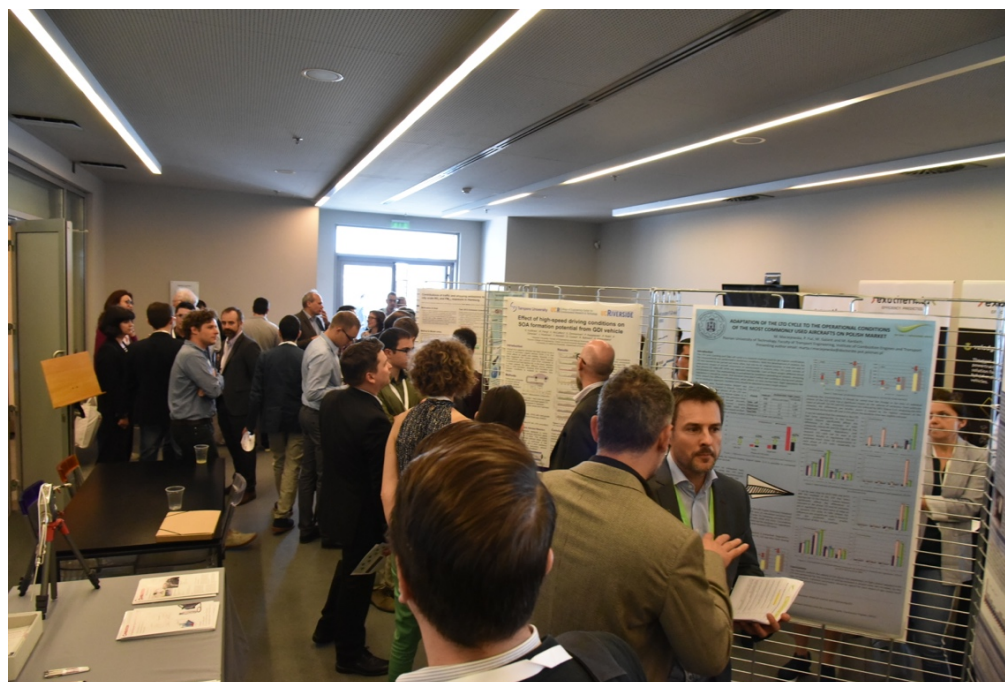
Conference Participants



Oral Sessions



Poster Sessions



Keynote Presentations





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Conference's Highlights

Keynote speeches

Dr. Allen L. Robinson

*Raymond J. Lane Distinguished Professor and Head,
Department of Mechanical Engineering*



Title: *Linking tailpipe to ambient: understanding the contribution of vehicle emissions to urban air pollution.*

Main Points:

- Primary & secondary organic aerosol formation principles
- SOA measurement methods
- Effects of technology and fuel on SOA formation

Dr.-Ing Stephan Neugebauer

*BMW, Chairman of European Road Transport Research
Advisory Council (ERTRAC)*



Title: *Green and Digital Road Transport – An opportunity for European leadership in research and innovation.*

Main Points:

- Key challenges of the road transport sector for 2050
- ERTRAC's approach for decarbonization of road transport
- Scenarios and projections for 2050.

Prof. Ye WU

*Professor and Associate Dean, School of
Environment, Tsinghua University*



Title: *20 years of vehicle emission control in China: a review and outlook.*

Main Points:

- Progress in Vehicle Emissions Control in China
- Emissions Measurements and Models in China
- Current Issues and Future Perspectives



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Conference's Highlights

Keynote speeches



Dr. Allen L. Robinson

Raymond J. Lane Distinguished Professor and Head, Department of Mechanical Engineering



Dr.-Ing Stephan Neugebauer

BMW, Chairman of European Road Transport Research Advisory Council (ERTRAC)



Prof. Ye WU

Professor and Associate Dean, School of Environment, Tsinghua University



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Conference's Highlights

Best poster awards

Title: *Effect of high-speed driving conditions on SOA formation potential from GDI vehicle*

Awarded Author: Nina Kuittinen

Title: *Coupling mobile crowdsensing and on-road measurements to improve evaluation of real-driving emissions*

Awarded Author: Philippe Dégeilh

Title: *Road traffic vs. waste incineration: local-scale air quality impact assessment at municipality level in Northern Italy*

Awarded Author: Giovanni Lonati

Title: *The interaction of meteorological boundary data for modelling of PM-episodes and its impact of traffic emissions on air quality in Germany*

Awarded Author: Markus Thürkow

Title: *Modelling urban bus fleet emissions with machine learning boosting methods: Madrid city*

Awarded Author: Natalia Fonseca González

Title: *Influence of various approaches to the structuring of vehicle fleet on the inventory of black carbon and greenhouse gas emissions in Russia*

Awarded Author: Vladislav Lytov

Conference's Highlights

Best poster awards photos





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Next TAP conference: Graz, Austria