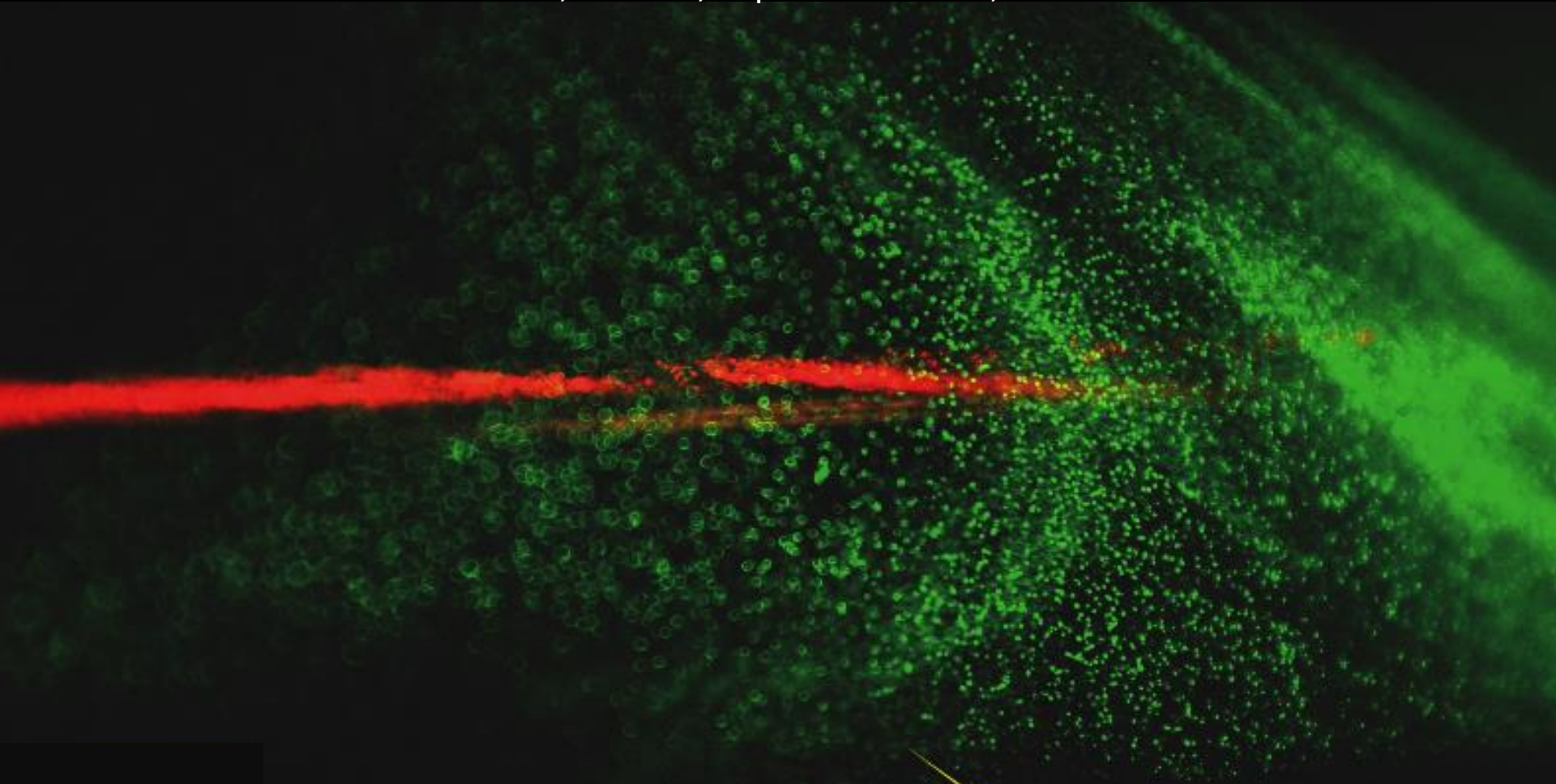


Conference on Laser, Weather and Climate (CLWC) 2015

WMO, Geneva, September 21-23, 2015



Welcome to Geneva!



www.laserweatherandclimate.com



Are lasers useful for predicting/modulating weather and climate ?

(1) Lightning triggering and guiding

(2) Laser induced condensation of water (cloud/snow)

(3) Cloud modification and radiative balance modulation

(4) Dissipation of fog

**(5) Simulation of climatic non-linearities by non-linear optics:
Rogue waves, thermo-haline circulation, bistability, bifurcations**



High interdisciplinarity

- Physics and chemistry of aerosol building and condensation
- Cloud microphysics and dynamics
- Lightning physics
- Meteorology
- Climate modeling
- Oceanic non-linearity, ocean-atmosphere coupling
- Remote sensing, Satellites, Lidars
- Electrical engineering, lightning protection
- Non-linear optics, propagation of high intensity lasers
- Atom-field interactions at high intensities
- Physics and chemistry of plasma
- High intensity Laser development
- ...

Learn from each other and consolidate our new scientific community



PROGRAM

Monday, September 21st

09:00 Registration and welcome

10:00 Welcome address

10:30 Session 1: **Guiding high-voltage discharges and lightning - 1**, Ludger Wöste, Chairman

- J. Moloney - *Super High Power mid-infrared Femtosecond Light Bullet*
- M. Clerici - *Laser-guiding electrical discharges around obstacles*
- A. Houard - *Interferometric study of low density channels and guided electric discharges induced in air by laser femtosecond filaments*

12:00 **Short poster presentations** – 3 min each

12:30 Lunch break

14:00 Session 2: **Guiding high-voltage discharges and lightning – 2**

- A. Zigler - *Long, high density plasma wire generated in air by femtosecond laser filamentation*
- J.-C. Diels
- J. Kasparian - *Remote Neutralization of High-Voltage by Laser Filamentation*

15:30 Coffee break & Session 3: Posters

17:00 Free discussions

Suggestions : Restaurant of the Botanic Garden
Restaurant la Perle du Lac at the Parc near the Lake
Take bus 1 and go downtown



Tuesday, September 22nd

09:00	<p>Session 4: New filaments for the atmosphere – 1</p> <ul style="list-style-type: none">• F. Légaré - <i>Frequency domain Optical Parametric Amplification</i>• V. Shumakova - <i>Far above the critical power of self-focusing: generation and filamentation of few-cycle mid-IR pulses</i>• T. Metzger - <i>Picosecond Thin-Disk Amplifiers</i>
10:30	Coffee break
11:00	<p>Session 5: Aerosols and laser-induced condensation - 1</p> <ul style="list-style-type: none">• S. L. Chin - <i>Femtosecond laser filament induced snow fall</i>• J. Slowik - <i>Investigation of ambient and laboratory-generated secondary organic aerosol using aerosol mass spectrometry</i>• D. Mongin - <i>Non-linear photochemical pathways in laser induced atmospheric aerosol formation</i>• T. Leisner - <i>Filament- Aerosol- Interaction in the Atmosphere</i>
12:30	Lunch break
14:30	<p>Session 6: Climate bifurcations</p> <ul style="list-style-type: none">• M. Beniston - <i>Thresholds in the climate system</i>• S. Bathiani - <i>Simple tipping or complex transitions? On the potential for future abrupt climate change</i>
15:30	Coffee break
16:00	<p>Session 7: Laser and rogue waves</p> <ul style="list-style-type: none">• M. Brunetti - <i>Modulational instability in forced regimes</i>• G. Steinmeyer - <i>On the origin of ocean rogue waves</i>• H. Branger - <i>Modulational evolution of water-waves at the atmosphere-ocean interface: some similarities with non-linear optics</i>
17:00	Free discussions
19:00	Conference Dinner



Wednesday, September 23rd

09:00	<p>Session 8: Aerosols and laser-induced condensation - 2</p> <ul style="list-style-type: none">• Jiangsheng Liu - <i>Laser-induced airflow, water condensation and snow formation in a cloud chamber</i>• M. Matthews - <i>Combined effect of UV and NIR beams in laser-induced condensation</i>• T. J. Wang - <i>Laser guided corona discharges</i>• M. Richardson - <i>Fundamentals of laser interaction with water droplets</i>
11:00	Coffee break
11:30	<p>Session 9: New filaments for the atmosphere - 2</p> <ul style="list-style-type: none">• P. Béjot - <i>Subcycle engineering of laser filamentation in gas by harmonic seeding</i>• W. Ettoumi - <i>Multiple filamentation as a grid of rigid rotators</i>
12:30	Concluding remarks
13:00	Lunch break
15:00	Laboratory visit and free discussions

Practical informations WMO

WE ARE IN A BUILDING FROM THE U.N.

NEED AN ID FOR THE ACCESS !

MUST LEAVE THE BUILDING BY 5 P.M

NO FOOD OR DRINKS IN THE CONFERENCE ROOM



**World Meteorological
Organization**



A United Nations Specialized Agency
Working together in Weather, Climate and Water



Wifi: wmo-public

Coffee breaks: Ground floor, just above the conference room

Lunch: Top of building: Restaurant « l'Attique ».

Conference Dinner: « **Parc des Bastions** », Tuesday 19:30;
REGISTER PLEASE. Short tour in the old city prior to it

Posters: Inside the conference room

Picture : Monday 17:00 in front of the WMO

Lab visit: Wednesday afternoon. Please register (form)

Access to the lab: 22 ch. de Pinchat, 1227 Carouge

Access to downtown: Bus 1 to « Bel Air »

Any question? Ask the local organizing Committee!

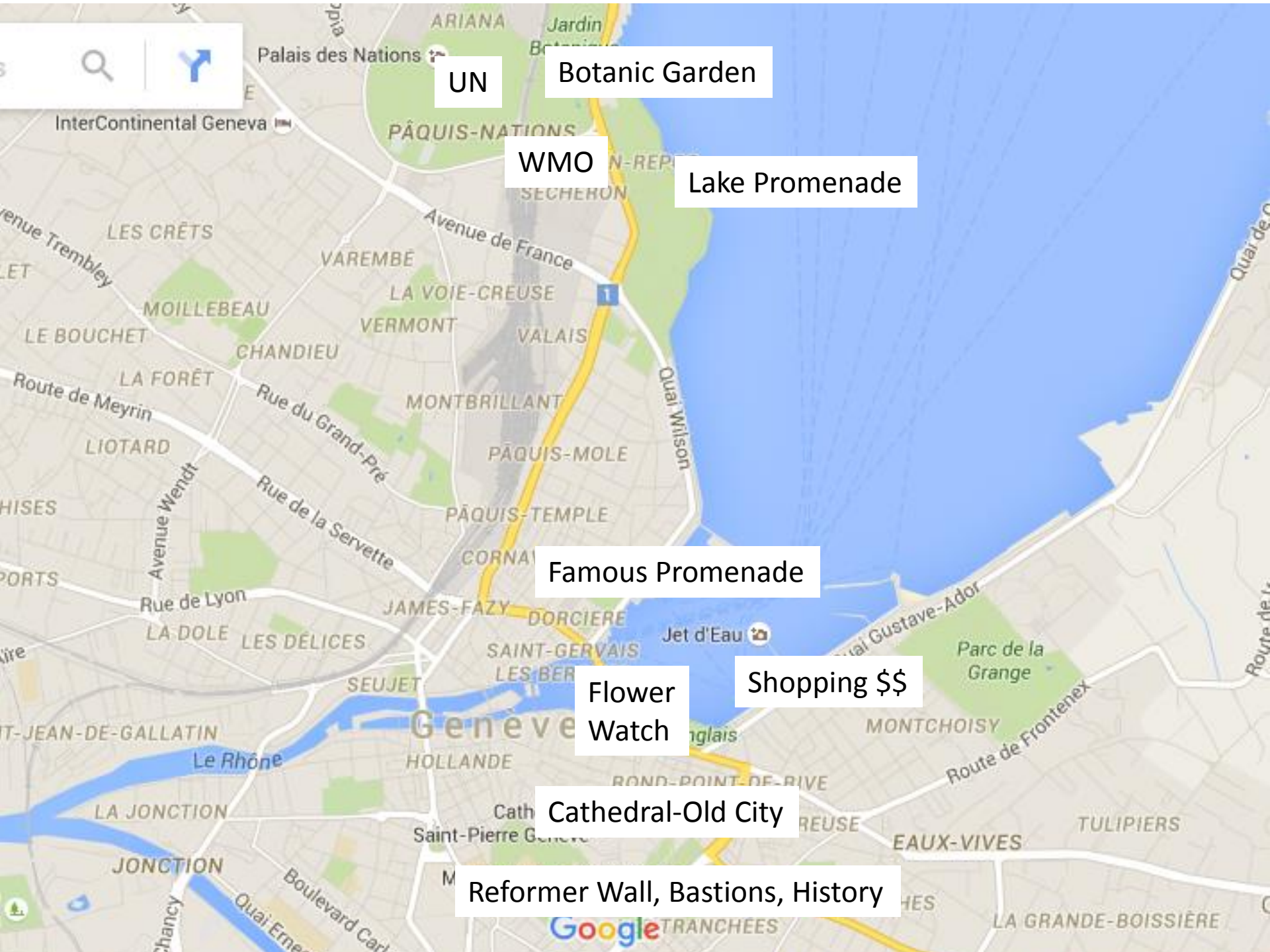
Botanic Garden

WMO

Bus 1,
Stop: Secheron

Perle du Lac





UN

Botanic Garden

WMO

Lake Promenade

Famous Promenade

Flower
Watch

Shopping \$\$

Cathedral-Old City

Reformer Wall, Bastions, History



PARC DES BASTIONS

TO GET TO **PARC DES BASTIONS** :

Take **Bus 1** until «**GARE CORNAVIN**» (railway station)

Take **Tramway 12** until «**PLACE NEUVE**», same platform



6 PM in front of the gate : Small tour in the Old City, Cathedral, etc

7 PM : Aperitif at the Restaurant

7:45 PM: Dinner



UNIVERSITÉ
DE GENÈVE

FACULTÉ DES SCIENCES

**Thanks to all of you for participating to
this very exciting event**

and

GEO GROUP ON
EARTH OBSERVATIONS

FNSNF
SWISS NATIONAL SCIENCE FOUNDATION

must



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