

# International Winter School Molecule@Surfaces

January 31 – February 5 2016  
Bardonecchia (Italy)

## PROGRAMME

Sunday, January 31

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15:00 – 18.00		<i>Registration &amp; Welcome Party (17.00-18.00)</i> <i>(venue: Olympic Village)</i>
18:00 – 18:15		<b>Opening remarks</b>
		<b>Opening lecture:</b>
<b>18:15-19:30</b>	<b>A. Rimola</b>	<b>Surface physico-chemical features from an astrochemical perspective: catalysis in deep space</b>

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**20:00 Dinner**

**After dinner:**

**The winter night sky: star observation**

(Moon ephemeris are favourable, for a clear sky we can just hope.....)



## Monday, February 1

### Morning lessons: Surfaces and Molecules@Surfaces: an experimental approach (time assigned to each lesson includes discussion & coffee or appetizers)

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08:15 – 08:30		Welcome and introductory remarks
08:30 – 09:50	L.Valli	The Langmuir-Blodgett approach to surface functionalisation: principles, techniques of characterization and applications
09:50 – 11:10	K-P. Lillerud	Surfaces in nanoporous materials: Zeolites and MOFs
11:10 – 12:30	S. Bordiga	Spectroscopies for molecules @ surfaces

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### 12.30 - 17.30 LUNCH & FREE TIME

#### Afternoon lesson: Imaging of surfaces

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17:30 – 19:00	P. Samorì	Scanning Probe Microscopies beyond imaging: unravelling the nanoscale world
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### 19.00 - 20.30 DINNER

### AFTER DINNER, time for ACTIVE PARTICIPATION of STUDENTS

(20.30-22.30)

Poster and Project&Graphical Abstract  
Presentation and Discussion



## Tuesday, February 2

**Morning lessons: Surfaces and Molecules@Surfaces: a theoretical approach**  
**(time assigned to each lesson – also in the afternoon- includes discussion & coffee or appetizers)**

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08:15 – 08:30		Welcome and introductory remarks
08:30 – 10:10	G. Pacchioni	Oxide surfaces in catalysis: from size-selected clusters, to defects engineering and two-dimensional oxides
10:10 – 11:20	M. Cossi	Gas adsorption in porous solids: models, specific surfaces and pore distributions
11:20 – 12:30	B. Civalleri	Ab initio modeling of surfaces and adsorption: models and strategies

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### **12.30 - 17.30 LUNCH & FREE TIME**

#### **Afternoon lessons:**

**Molecules, surfaces and spectroscopy: the point of view of instruments makers**

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17:30 – 18:15	R. Tagliapietra	The importance of surfaces in Raman Spectroscopy: SERS and TERS, state of the art and perspectives
18:15 – 19.00	G. Ruzzon	New advanced multichannel spectrofluorometer increase speed and sensitivity from UV to NIR

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### **19.00 - 20.30 DINNER**

**AFTER DINNER, time for ACTIVE PARTICIPATION of STUDENTS**

**(20.30-22.30)**

**Poster and Project&Graphical Abstract  
Presentation and Discussion**





## Wednesday, February 3

**Morning lessons: Molecules@Surfaces at work: adsorption, self-assembly**  
**(time assigned to each lesson – also in the afternoon- includes discussion & coffee or appetizers)**

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08:15 – 08:30

Welcome and introductory remarks

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08:30 – 09:50

V. Boffa

Transport phenomena in gas-selective silica membranes

09:50 – 11.10

A. Licciardello

Surface engineering via molecular self-assembly

11:10 – 12:30

M. Mannini

Magnetic molecules@surfaces

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**12.30 - 14.00 LUNCH & FREE TIME**

**Afternoon lessons: students at work!**

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14:00 – 19:00

Theoretical modeling hands-on session  
(including time for *coffee breaks*)

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**20.00 Departure for the**  
**DINNER IN A MOUNTAIN CHALET**



Thursday, February 4

Morning lessons: Molecules@Surfaces at work: reactivity

*(time assigned to each lesson – also in the afternoon- includes discussion & coffee or appetizers)*

08:15 – 08:30		Welcome and introductory remarks
08:30 – 09:50	F. Thibault-Starzyk	Heterogeneous catalysis: surface reactions investigated by IR spectroscopy
09:50 – 11:10	J.-F Lambert & C.-M. Pradier	Biomolecules, small and large: consequences of adsorption on reactivity
11:10 – 12:30	B. Fubini	When solids meet living matter: the complex interplay between weak and strong molecule-surface interactions

12.30 - 17.30 LUNCH & FREE TIME

Afternoon lessons:

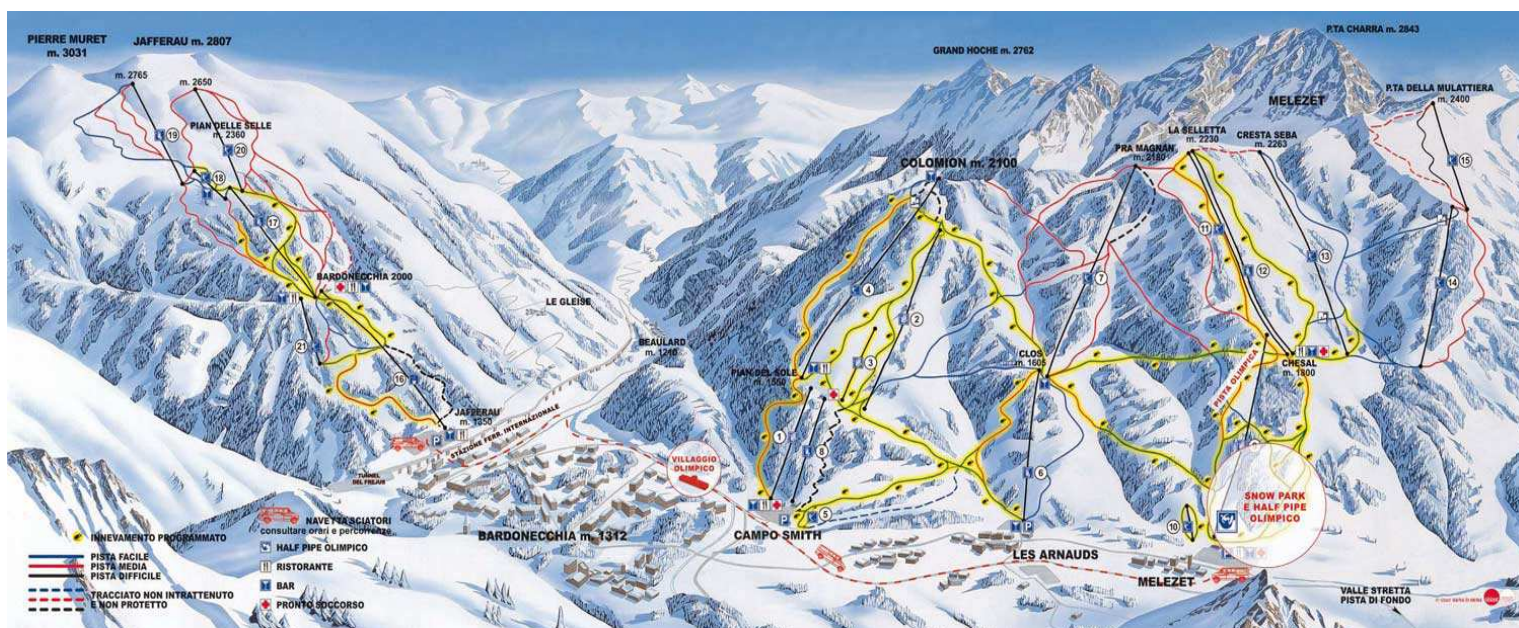
Molecules@Surfaces at work: heterogeneous catalysis at industrial level

17:30 – 18:15	R. Pellegrini	Probing catalysis on supported metal nanoparticles
18:15 – 19:00	P. Beato	Molecules @ industrial catalyst surfaces

19.00 - 20.30 DINNER

AFTER DINNER, time for ACTIVE PARTICIPATION of STUDENTS  
(20.30-22.30)

Poster and Project&Graphical Abstract  
Presentation and Discussion



## Friday, February 5

**Morning lessons: Molecules@Surfaces and quality of life (also of researchers: fund raising!)  
(time assigned to each lesson – also in the afternoon- includes discussion & coffee or appetizers)**

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08:15 – 08:30		Welcome and introductory remarks
08:30 – 09:50	P. Bergese	Surface science and translational medicine
09:50– 11:10	P. Baglioni	Soft matters and colloids for conservation of cultural heritage
11:10 – 12:10	E. Sannino	H2020: funding opportunities for young scientists
12:30 – 13:00		<b>Awards &amp; concluding remarks</b>

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**13.00 LUNCH**

