AVOGADRO COLLOQUIA 2022

From Water to Chemicals: Vision and Opportunities of a Sustainable Hydrogen Society

15th - 16th December 2022
Consiglio Nazionale delle Ricerche
AULA MARCONI

Live streaming: https://live.cnr.it/liveRomaMarconi.html

15th December 09:00 - 19:00

09:00 - 09:30 Opening and Welcome

Gaetano GUERRA, SCI President
Javier García MARTÍNEZ, IUPAC President
Angela AGOSTIANO, EuChemS President Elect
Lidia ARMELAO, CNR DSCTM Director

Session 1. HYDROGEN PRODUCTION
Chair: Lucia CURRI

09:30 - 10:10	**Peter STRASSER** Technical University Berlin	Electrocatalytic materials and interfaces for the production of solar fuels and chemicals
10:10 - 10:30	**Antonino Salvatore ARICÒ** CNR ITAE, Messina	Green hydrogen production by advanced membrane electrolysis technologies
10:30 - 10:50	**Michele PEREGO** Industrie De Nora, Milano	Role of water electrolysis in the energy transition
10:50 - 11:20		COFFEE BREAK
11:20 - 11:40	**Stefano AGNOLI** Università di Padova	What we can learn from watching atoms during the hydrogen evolution reaction
11:40 - 12:00	**Gianfranco PACCHIONI** Università di Milano - Bicocca	DFT modelling of water splitting by single-atoms catalysts: handle with care

12:00 - 12:20	**Alessandro LAVACCHI** CNR ICCOM, Firenze	Electrochemical reforming: a high intensity process for the co-generation of green hydrogen and sustainable chemicals
12:20 - 12:40	**Giuliana d'IPPOLITO** CNR ICB, Napoli	Green hydrogen from biological mechanisms of energy conservation
12:40 - 13:30		**SESSION 1 - DISCUSSION** **Maurizio PERUZZINI, Lucia CURRI** *Discussion Leaders*
13:30 - 14:45		LUNCH

Session 2. HYDROGEN STORAGE AND TRANSPORT

Chair: Luca LIETTI

14:50 - 15:30	**Andreas ZÜTTEL** EPFL, Lausanne	Transition from fossil to renewable energy with hydrogen
15:30 - 15:50	**Marcello BARICCO** Università di Torino	Challenges for hydrogen handling
15:50 - 16:10	**Alessandra SANSON** CNR ISSMC, Faenza	Perovskites as cornerstone for the development of sustainable hydrogen technologies
16:10 - 16:40		COFFEE BREAK

Session 3. CHEMICALS FROM HYDROGEN

Chair: Angela AGOSTIANO

16:40 - 17:00	**Mario MARCHIONNA** Saipem, Milano	Hydrogen production and conversion to chemicals: a zero-carbon puzzle?
17:00 - 17:20	**Gabriele CENTI** Università di Messina	From 1st to 2nd generation technologies to make chemicals via green hydrogen
17:20 - 17:40	**Carlo Giorgio VISCONTI** Politecnico di Milano	Decarbonizing with hydrogen: technological challenges and opportunities

17:40 - 18:00	**Silvia BORDIGA** Università di Torino	Synthesis of commonly used molecules through new processes: methanol as key intermediate
18:00 - 19:00		**SESSIONS 2 AND 3 - DISCUSSION** **Luca LIETTI, Angela AGOSTIANO** *Discussion Leaders*

16th December 09:00 - 13:00

Session 4. POLITICHE DI DECARBONIZZAZIONE

Chair: Carlo BARBANTE

09:00 - 09:20	**Stefano BESSEGHINI** ARERA, Milano	H_2 regulation and policies: which approach?
09:20 - 09:40	**Nicola ARMAROLI** CNR ISOF, Bologna	The hydrogen vector: challenges and perspectives
09:40 - 10:00	**Vito DI NOTO** Università di Padova	The role of hydrogen in a clean energy system - production, distribution and implementation
10:00 - 10:20	**Andrea PISANO** ENI, Roma	H_2 - the decarbonization journey
10:20 - 10:50		COFFEE BREAK
10:50 - 11:10	**Sara MANCA** Enel Green Power, Roma	Green hydrogen: the decarbonization of the hard-to-abate industrial sector
11:10 - 11:30	**Giulia MONTELEONE** ENEA, Roma	Perspectives for renewable hydrogen production
11:30 - 12:30		**SESSION 4 – DISCUSSION** **Elio GIAMELLO, Carlo BARBANTE** *Discussion Leaders*
12:30 - 13:00	CONCLUSIONS	**Maria Chiara CARROZZA,** CNR President **Gaetano GUERRA,** SCI President