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

Maria Chiara CARROZZA, CNR President
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	**Gaetano GUERRA,** SCI President **Lidia ARMELAO,** DSCTM Director	CONCLUSIONS