

ASTR – Technical Sciences Academy of Romania

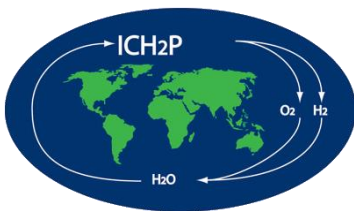
AIIR – Association of Installations Engineers - Transylvania Branch

UTCN – Technical University of Cluj-Napoca, Faculty of Building Services

ICSI Râmnicu Vâlcea –National Research and Development Institute for Cryogenics and Isotopic Technologies

AEHR - Romanian Association for Hydrogen Energy

38TH MODERN SCIENCE AND ENERGY CONFERENCE
THE CONFERENCE PROGRAM
EDITION XXXVIII



IC **RIC** -19

**10th International Conference on
Hydrogen Production
ICH2P-2019**

**3rd International Conference on
Research, Innovation and
Commercialisation,
ICRIC-2019**

CLUJ-NAPOCA 15 - 17 MAY 2019

GRAND HOTEL ITALIA





CONFERENCE Co-CHAIRS

Prof.univ.em.dr.eng. Gheorghe BADEA and Prof. dr. physics Ioan ȘTEFĂNESCU

TECHNICAL Co-CHAIRS

Assoc. prof. dr.eng. Ioan AȘCHILEAN and Dr.eng. Ioan IORDACHE

Founding chair:

Prof.univ.dr. Ibrahim DINCER

Honorary chairs

Prof.univ.dr.physics Liviu SOFONEA and Prof.univ.dr.eng. T. Nejat VEZIROGLU

Scientific Committee

Claudiu ACIU	Cristina GÂRLEA
Diana ANCAȘ	Ovidiu GAVRIȘ
Andrei BOLBOACA	George GRIGORESCU
Ioan BORZA	Dragoș HERA
Adrian BOT	Gabriel IVAN
Nicolae CHIRA	Daniela MANEA
Teodor Chira	Ioan MATEESCU
Vasilică CIOCAN	Theodor MATEESCU
Victoria COTOROBAI	Tudor POPOVICI
Ioan Silviu DOBOȘI	Mihai PROFIRE
Antoni DOMȘA	Adrian RETEZAN
Liviu DRUGHEAN	Grația ȚĂRLEA
Raluca-Andreea FELSEGHI	Marina VERDEȘ
Constantin FILOTE	Liviu SOFONEA

Organizing Committee

Mihai VARLAM - Advisory Chairman	Dan Stelian HOREA
Andrei BOLBOACA	Cristina IACOB
Elena CARCADEA	Florin ILOAIE
Teodor CHIRA	Emanuel MEGYESI
Can Ozgur COLPAN	Raluca MOLDOVAN
Georgiana CORSIUC	Dan MUREȘAN
Anagabriela DEAC	George NAGHIU
Mehmet Akif EZAN	Claudiu OPREA
Veronica GAGEA	Maria Simona RĂBOACĂ
Alexandru GAGEA	Teodora-Melania ȘOIMOȘAN





INTERNATIONAL ADVISORY COMMITTEE

H. Akamatsu, Japan	X. Li, Canada
T. Alleau, France	B. Logan, USA
R. Allen, UK	A. Maïsseu, France
R. Batterham, Australia	R. Martin, Germany
R.A. Billings, USA	T. Melis, USA
J.C. Bolcich, Argentina	A. Midilli, Turkey
W.H. Chen, Taiwan	M. Misra, USA
D. Das, India	F. Le Naour, France
L.M. Das, India	G.F. Naterer, Canada
A. Dicks, Australia	S. Nižetić, Croatia
G.C. Dismukes, USA	T. Ohta, Japan
N. Djilali, Canada	T.R. Rauchfuss, USA
F. Dogan, USA	T.B. Reed, USA
S. Ellis, UK	N. Ren, China
I. Eroglu, Turkey	M.A. Rosen, Canada
V.N. Fateev, Russia	T. Sato, Japan
D. Fruchart, France	C. Sattler, Germany
J. Garche, Germany	S.A. Sherif, USA
V.A. Goltsov, Ukraine	L. Sjunnesson, Sweden
Y. Goswami, USA	R. Solmaz, Turkey
M. Kazimi, USA	L. Thompson, USA
C. Kim, Korea	T.N. Veziroğlu, USA
J.W. Kim, Korea	M. Walter, Netherland
T. Kodama, Japan	A. Weimer, USA
P. Lehman, USA	C. Winter, Germany
M. Lewis, USA	X.R. Zhang, China
S. Lvov, USA	A. Züttel, Switzerland

SECRETARIAT

Grațiela BUGNARIU	Florin ILOAIE
Alexandru Ionuț BĂDIȚĂ	Paul MATEI
Florianna BĂLAN	Emanuel MEGYESI
Cristian COSTIN	Mariana MILITARU
Alexandru COT	Dan MUREȘAN
Ștefan DENER	Anamaria NICULAI-POP
Marius S. DUMITRESCU	Claudiu OPREA
Veronica GAGEA	Flavius PLEȘA
Alexandru GAGEA	Lucian POPESCU
Cristina IACOB	Paul SILAGHI





T H E C O N F E R E N C E P R O G R A M

TUESDAY, 14 MAY 2019

Grand Hotel Italia, Cluj-Napoca

12:00 – 23:00 Receiving participants

WEDNESDAY, 15 MAY 2019

Grand Hotel Italia, Cluj-Napoca

8:00 - 09:00 Receiving participants

09:00 - 10:40 Opening ceremony

10:40 - 11:00 Coffee break

Plenary sessions and poster presentations

11:00 - 13:00 Plenary sessions

13:00 - 14:40 Lunch break

14:40 - 17:00 Plenary parallel sessions

17:00 - 20:00 City tour

20:00 - 24:00 Cocktail

THURSDAY, 16 MAY 2019

Grand Hotel Italia, Cluj-Napoca

08:00 - 08:40 Receiving participants

08:40 - 10:40 Plenary sessions

10:40 - 11:00 Coffee break

Plenary sessions and poster presentations

11:00 - 13:00 Plenary parallel sessions

13:00 - 14:20 Lunch break

14:20 - 16:20 Plenary parallel sessions

16:20 - 20:00 Excursion - visit Salina Turda

20:30 - 24:00 Festive dinner

FRIDAY, 17 MAY 2019

Grand Hotel Italia, Cluj-Napoca

08:00 - 08:40 Receiving participants

08:40 - 10:40 Plenary sessions

10:40 - 11:00 Coffee break

Plenary sessions and poster presentations

11:00 - 13:20 Plenary parallel sessions

13:20 - 14:00 Closing ceremony





Name

GHEORGHE BADEA

Emeritus professor, Eng. Dr.
within Technical University of
Cluj-Napoca



**Biographical
Sketch**

GHEORGHE BADEA hold the title of Emeritus professor and Doctor in Engineering within Technical University of Cluj-Napoca, Romania, Doctor in Engineering of the National Institute of Nuclear Physics of Bucharest, Romania and PhD supervisor in the fundamental field of Engineering Sciences.

He has been a dean of the Faculty of Installations within Technical University of Cluj-Napoca and, for over two decades, a member of the Council of Faculties of Civil Engineering and Installations and the Senate of Technical University of Cluj-Napoca, Romania.

In addition, he has been a technical expert within the Romanian Council for Research in Higher Education (CNCSIS), as well as a member of the Specialty Commission - Architecture, Urban Planning, and Civil Engineering of the National Council for University Titles, Diploma, Certificates (CNATDCU), Romania.

President of the international conference „Modern Science and Energy-SME” from the 1st Edition (1981)- Edition XXXVII (2018), Cluj-Napoca, Romania.

Editor-in-Chief of Building Services Engineering Journal, Technical University of Cluj-Napoca, U.T.PRESS Publishing Press, 2011, Cluj-Napoca, Romania.

Member in several national and international professional associations:

Member of the International Association for Energy Economics (ATEE) -France

Member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRE) in the USA

Member of the Romanian Electric Installations and Automation Society (SIEAR)

Founding member of the Romanian Association of Installations Engineers (AIR) and President of Transylvania Branch

Founding member of the Romanian Association of Construction Entrepreneurs (ARACO)

Founding member and vice-president of the Association for Hydrogen Energy in Romania (AEHR).

Founding member and vice-president of the Romanian Association for Tritium and Torus Energy (T & T ENERGY).

As an appreciation for the activity accomplished in the development of the university education and in the scientific research, prof.univ.em.dr.eng. Gheorghe Badea received in 2004 the Order "The Merit for Education in the Degree of Officer", granted by the Romanian Presidential Decree.



Name

IOAN ȘTEFĂNESCU



Biographical Sketch

Prof. univ. dr. Stefanescu Ioan, born on 17th of November 1948, holds a bachelor degree in physics (Babes-Bolyai University, Cluj-Napoca) and a PhD in Nuclear Physics (Institute of Atomic Physics, Bucharest). He is the General Manager of the National Research & Development Institute for Cryogenics and Isotopic Technologies – ICIT Rm Valcea, the institute that developed the method for obtaining the deuterium depleted water.

He successfully combines the scientific career with the teaching career, both with important achievements, making him to be recognized as a valuable researcher, remarkable teacher and outstanding manager.

One of the remarkable results of my work is the deuterium depleted water, the research results of the of water isotopes separation. The deuterium depleted water, other derivatives and processes for obtaining them have been the subject of many patents for inventions recognized at international exhibitions. I have always promoted the use of this product in the medical field and for the benefit of society, in the sense of increasing the health of the population, given the favorable effects of the low deuterium content water. The recognition of the activities in this area came in 2008 along with the prize for the most original technology transfer "Deuterium depleted water possible drawing turned into commercialized product".

He published 21 books, chapters and monographs, and more than 150 papers presented at national and international conferences from which over 40 are published in ISI journals. His professional work was awarded with 72 Gold Medals, 16 Silver Medals, 5 Bronze Medals, 28 Special Awards at International Exhibition of Inventions, 30 patents and patent applications.

Promoting a strategy based on investments and activities directed towards the market and society needs, he permanently implemented new research directions, following mainly the energy pathway: hydrogen - deuterium - tritium.



Name

IOAN AȘCHILEAN

Associate Professor at the Faculty of Civil Engineering, Technical University of Cluj-Napoca

President of Romanian Association of Installations Engineers (AIIR)-Transylvania Branch



Biographical Sketch

Eng. dr. Ioan Așchilean graduated the Technical University of Cluj-Napoca, Faculty of Civil Engineering, Department Installations for Civil Engineering, in 1992. In 1998, he was awarded the post-academic diploma in the field of architectural lightning installations. Starting in 2002, he attended the training programme at Doctoral School, within Technical University of Cluj-Napoca and obtained the Doctoral Diploma in a fundamental field: Engineering Sciences, Civil Engineering. During 2004-2007, he has been an associated teaching staff of the Faculty of Civil Engineering and Installations, while during 2007 until 2014 he has been an associated teaching staff of the Faculty of Installations, within Technical University of Cluj-Napoca. Starting in 2018, he holds the academic position of associate professor at the Department of Civil Engineering and Management within the Faculty of Civil Engineering of Technical University, Cluj-Napoca. Since 1993, he has been the head engineer responsible for installations at AICI CLUJ SA. Since 2001, he has been the general manager of Grup 4 Instalații SA company and, starting in 2004, he has been the Chairman of the Board of Directors of ACI CLUJ SA Company.

Author of numberless scientific papers, published in ISI-indexed journals, and ISI-indexed journals with high impact factor, books, guides, invention patents, of which we mention:

- „Rehabilitation and modernisation of water supply systems in urban areas”;
- „Quality in civil engineering”;
- „Quality insurance in civil engineering”;
- „Active functional insulation system of fluid storage reservoirs”

Due to the experience and expertise in the fundamental field of engineering sciences-civil engineering- he has been certified as technical verifier and expert for installation works, technologic equipment and industrial installations, verifier and expert in electric installations and expert in natural gas transport.

Currently, he is a vice-president of ARACO (*Romanian Association of Construction Entrepreneurs*), president of AIIR- Transylvania Branch and member of Hydrogen Association.



Name

IOAN IORDACHE



**Biographical
Sketch**

Iordache Ioan was born in Iasi Romania in 1976 and graduated from the "Gheorghe Asachi" Technical University of Iasi in the field of Environment Engineering in 2000 and continued and finalized the master's degree within the specialization of Environment Management in 2001. He completed a PhD in the field of chemistry at the same university in 2007 and a second in University "Politehnica" of Bucharest in the field of Industrial Engineering in 2015. He was selected as delegate of Romania to the FCH States Representatives Group of the Fuel Cells and Hydrogen Joint Undertaking (FCH JU) in 2010 and was elected as Vice-Chair of this group in 2015. He is founding member and Executive Director of Romanian Association for Hydrogen Energy.

In the last years, him qualification and experience was focused in the field of the fuel cells and hydrogen, application and research. After a serious background in the field of sustainable development and environmental protection, including both academic and industry experiences, he was selected to work in Romanian National Center for Hydrogen and Fuel Cells. He has expert agreement with Romanian National Authority for Scientific Research and Innovation since 2010. Dr. Iordache has authored and coauthored a number of research papers and books in his field, him scientifically contribution include also participation in conferences, participation in projects, member of conference committees, reviewer, member of the scientific and technical associations.



Name

IBRAHIM DINCER

Professor of Mechanical Engineering
Vice President for Strategy, International
Association for Hydrogen Energy
Vice President, World Society of Sustainable
Energy Technologies



Presentation Title **Enhancing hydrogen energy spectrum with ammonia**

Research, Innovation and Technology Development: Three key dimensions for success

Biographical Sketch

Ibrahim Dincer is a full professor of Mechanical Engineering at UOIT. Renowned for his pioneering works in the area of sustainable energy technologies he has authored/co-authored numerous books and book chapters, and many refereed journal and conference papers. He has chaired many national and international conferences, symposia, workshops and technical meetings. He has delivered many keynote and invited lectures. He is an active member of various international scientific organizations and societies, and serves as editor-in-chief, associate editor, regional editor, and editorial board member on various prestigious international journals. He is a recipient of several research, teaching and service awards, including the Premier's research excellence award in Ontario, Canada. During the past five years he has recently been recognized by Thomson Reuters as one of the Most Influential Scientific Minds in Engineering and one of the Most Highly Cited Researchers.



Name

**Liviu-Alexandru
SOFONEA**

Prof. univ. dr. physics, Dr.
History of Science and
Technique, Committee for
the History and Philosophy
of Science and Technology /
Romanian Academy of
Sciences/Romanian
Academy



**Presentation
Title**

Energy in the Universe. Case Studies in the Milky Way /Via Lactis/

**Biographical
Sketch**

Liviu Alexandru SOFONEA is emeritus professor within the *Transylvania* University of Braşov, Honorable president of the Romanian Committee for History and Philosophy of Science and Technology, Romanian Academy, Transilvania Division. He graduated the University of Bucharest, Faculty of Physics (1950 – 1956), and obtained the scientific titles: PhD in Physics in Theoretical Physics (1972, “Babeş-Bolyai” University, Cluj-Napoca, Romania); PhD in History of Science and Techniques (1986, Bucharest University).

His domains of studies are: Philosophy (Culturology, Axiology, et al.), History of Science (General; Physics, Mathematics, et al.), Philosophy of Science (Logic, Epistemology, Methodology, et al.), History and Philosophy of Technique-Technology, Theoretical Physics (Theory of Relativity: restricted, general; Cosmology; Quantum Mechanics: non relativist, relativist; Mechanics of Fields; Statistical Physics; Theoretical Mechanics: mecanology, models with classical, relativistic, quantum aspects; Applied Mathematics).

He published many scientific papers on history of science and technology in proceedings of scientific national and international conferences, and in some renowned scientific publications: *Foundation of Physics*; *Organon*, *Academia Polska*, *Warszawa*; *Fundamenta Scientiae*, *Université Louis Pasteur - Strasbourg*.

Profesor Sofonea is Doctor Honoris Causa of the Petrosani University; Correspondent Member of Académie de Belles Lettres, Science et Art, La Rochelle, France; Member of Sociedad Española de Historia de Las Ciencias y Técnicas, Spain; President of Brasov subsidiary of CRIFST - Romanian Committee for History and Philosophy of Science and Technique of Romanian Academy.



Name

Turhan Nejat VEZIROĞLU



Biographical Sketch

Turhan Nejat Veziroğlu was born and raised in Turkey, where he attended elementary and middle school in Izmir, then attended Pertevniyal Lyceum in Istanbul. After attending Istanbul Technical University for one and a half years, he became a student in England during World War II, receiving a B.Sc from University of London in 1946, along with an A.C.G.I. in mechanical engineering in London that same year. In 1947, he received the D.I.C. in engineering and technology from the Imperial College of Science and Technology in London. In 1951, Veziroğlu wrote his PhD thesis at the University of London.

Veziroğlu returned to Turkey after graduating, joining the Turkish military for compulsory military service, in the ordnance section (inventions examiner) from 1952 to 1953. He worked as an engineer and scientific advisor for the Office of Soil Products in Ankara from 1954 to 1956 (including as Deputy Director of Steel Silos). He spent a summer working on nuclear engineering at the Electric Power Research Institute in Ankara during 1956. He was an engineering consultant in Istanbul during 1957 and 1958, then worked in his family's business, Veziroğlu Construction Company, as technical director from 1959 to 1961.

In 1962, Veziroğlu became an associate professor at the University of Miami in Coral Gables, Florida, becoming full professor of mechanical engineering there in 1966 (retaining that title through 2009, when he became professor emeritus). He was made a full member of their research faculty in 1969, serving as Director of Graduate Studies from 1965 to 1971, and as chairman of the department of Mechanical Engineering from 1971 through 1975.

Veziroğlu created the first engineering Ph.D program at the university, and in 1974 was organizer of an early conference on hydrogen energy.

He then accepted a visiting professorship to the Middle East Technical University. In 1973, shortly after the energy crisis, Veziroğlu established the Clean Energy Research Institute within the university, and was its director from 1974 onward. He organized a conference on hydrogen energy in 1974.[b] He became Associate Dean for Research in 1975, and maintained that role through 1979. He was a visiting lecturer at Xi'an Jiatong University during the summer of 1980, and a visiting lecturer at the Atomic Research Laboratories in Argentina during the summer of 1985.

As a researcher in hydrogen energy and two-phase flows, Veziroğlu has co-authored over 300 scientific papers, and was a founding editor of the International Journal of Hydrogen Energy. Veziroğlu was also named honorary editor-in-chief of Engineering Science and Technology. The International Journal of Sciences and Engineering: Research and Applications, and International Scientific Journal for Alternative Energy and Ecology.

In his seventies, Veziroğlu took a leave of absence from the University of Miami, becoming founding director of UNIDO-ICHET. He returned to his professorship in 2007, and on May 15, 2009 became professor emeritus. In 2010, the 10th International Conference on Clean Energy was dedicated to his work.

He was founding editor of the International Journal of Hydrogen Energy and founder of Hydrogen Energy Publications LLC. He was president of the International Association for Hydrogen Energy, initiator of the World Hydrogen Energy Conference, and initiator of the World Hydrogen Technology Convention.



Name

Nikolaos LYMPEROPOULOS

Project Officer
Fuel Cells and Hydrogen Joint
Undertaking



Presentation Title **FCH JU Support to Hydrogen Production Research and Demonstration projects**

Biographical Sketch

Dr. N. Lympelopoulos is a Project Officer at the Fuel Cells and Hydrogen Joint Undertaking (FCH JU). He is a Mechanical Engineer actively involved in the field of energy and the environment for more than 30 years. For the last 18 years, he has been working on Hydrogen energy technologies, initially leading a section at the Greek national Centre for Renewable Energy Sources and then as Director for Projects at the UNIDO International Centre for Hydrogen Energy Technologies in Istanbul that addressed Developing World Countries. In 2013 he joined the FCH JU putting his experience to good use in supporting European R&D in sustainable Hydrogen production including Energy Storage and Sectoral Integration through Hydrogen.



Name

Elena CARCADEA

ICSI Rm. Valcea, Romania



Presentation
Title

**THE EFFECT OF FLOW FIELDS AND MEA ON PEM
ELECTROLYSER PERFORMANCE - A NUMERICAL AND
EXPERIMENTAL INVESTIGATION**

Biographical
Sketch

Dr Carcadea Elena is coordinating the ICSI Energy, former National Center for Hydrogen and Fuel Cells, a department of the National Research and Development Institute for Cryogenics and Isotopic Technologies - ICSI Rm. Valcea, Romania. She joined ICSI Rm Valcea 22 years ago and in the last 10 years was involved in research activities related to hydrogen and PEM fuel cell technologies. She received her Ph.D. in 2008 in the field of applied mathematics with thesis "Modeling of fluid dynamics in porous media. Mathematical application to fuel cell modeling". Her entire activity is directed towards finding solutions for optimization of hydrogen technologies and electrochemical devices involved in energy production and storage (fuel cells, electrolysers, batteries) starting from understanding the processes behind those technologies by mathematical modeling up to validation by experimental tests in order to prove the reliability and improve these innovative technologies. Several papers were published and projects were coordinated in the field of energy production and storage in the last years. She is member of the Romanian Association for Hydrogen Energy and N.Erghy Association (New European Research Grouping on Fuel Cells and Hydrogen).



Name

Gabriel S. KAMIEL

Professor of Engineering & Applied Science, UOIT
2000 Simcoe Str., N., Oshawa, ON L1H 7K4
Canada



Presentation Title **Innovation in Higher Education: Pathway to Building an Innovation-driven Society**

Biographical Sketch Dr. Gabriel holds a Ph.D. in Mechanical and Industrial Engineering from the University of Manitoba, Canada, and an MBA from the Edwards School of Business in Saskatoon. He is the founding Associate Provost of Research and Graduate Programs at the University of Ontario Institute of Technology which is now ranked in the top 25 innovation-driven universities in Canada.

In 2009, Dr. Gabriel was invited to join the Ontario Ministry of Research and Innovation as the Assistant Deputy Minister of Research and its first ever Science Adviser. During his secondment, Dr. Gabriel provided the Ministry with sound advice and oversaw research activities in the 50+ universities and colleges in Ontario. He also established the Innovation Policy Unit to advise the government on a wide range of R&D related policies.

Dr. Gabriel is the author of the Anatomy of Innovation book which is now translated to French and Chinese. He is a frequent speaker at national and international conferences on the subjects of clean energy and innovation.



Name

Yunus A. CENGEL

Affiliation

University of Nevada, Reno
Turkmen Mah.
Inonu Bulvari No: 32A
Kusadasi – AYDIN 09400
TURKEY



Presentation

Title

Globalization in Innovation

**Biographical
Sketch**

Yunus Çengel is Professor Emeritus at the University of Nevada, Reno, USA and the founding dean of the Faculty of Engineering at Adnan Menderes University in Aydin, Turkey. He received his Ph. D. in Mechanical Engineering from North Carolina State University in USA. Before joining ADU in 2012, he held the position of the Dean of the Faculty of Mechanical Engineering at Yildiz Technical University YTU and as Advisor to President at Scientific and Technological Research Council TUBITAK on international cooperation. Professor Cengel served as the assistant director and director of the Industrial Assessment Center at UNR for eight years. He also served as the advisor to several government organizations and private companies on energy efficiency, energy policies, and education reform.

Professor Çengel is the author or coauthor of the widely adopted textbooks *Thermodynamics: An Engineering Approach*, *Fundamentals of Thermal-Fluid Sciences*, *Heat and Mass Transfer: Fundamentals and Applications*, *Fluid Mechanics: Fundamentals and Applications* and *Differential Equations for Scientists and Engineers* all published by McGraw-Hill. Some of his textbooks have been translated into Chinese, Japanese, Korean, Thai, Spanish, Portuguese, Turkish, Italian, Greek, and French.

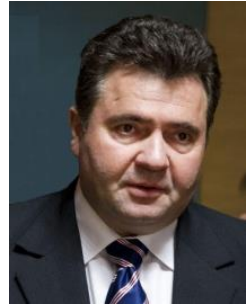
He is the recipient of several outstanding teacher awards, and he has received the ASEE Meriam/Wiley Distinguished Author Award twice. He is a registered Professional Engineer in the State of Nevada, USA.



Name

Tudor PRISECARU

Professor at University POLITEHNICA of Bucharest, The Faculty of Mechanical Engineering and Mechatronics
Vice Rector at University POLITEHNICA of Bucharest
Invited Professor at Ecole de Mines de Nantes, France
Board member at Von Karman Institute for Fluid Dynamics, in Belgium
Board Member at The Romanian Research and Development Institute for Gas Turbines COMOTI, Bucharest, Romania



Presentation Title Aspects regarding combustion of hydrogen-methane mixtures

Biographical Sketch

Professor Tudor Prisecaru, born 1957 in Bucharest, Romania, graduated from University POLITEHNICA of Bucharest, Faculty of Mechanical Engineering and Mechatronics, specialization Classic and Nuclear Thermomechanical Equipment, in 1982. He obtained the PhD title in Engineering sciences in 1991.

He is currently Invited Professor at Ecole de Mines de Nantes, France since 2008. He works at University POLITEHNICA of Bucharest, Faculty of Mechanical Engineering and Mechatronics, Classic and Nuclear Thermomechanical Equipment Department, where he is Professor since 2011. His main research interests include: the study of the combustion processes, risk and air pollution phenomena, efficiency improvement of combustion technologies. He participated in the elaboration of more than 40 research development and innovation projects, in the mentioned areas, and has been project director for 16 research projects. From 2001 to May 2012 he held the position of Director at the Thermal Research Center, in Bucharest, Romania. Professor Prisecaru has authored 10 books and 90 articles in technical magazines, and participated to over 120 national and international conferences.

Research Interests: The study of the combustion processes, numerical simulations of turbulent flows, risk and air pollution phenomena, efficiency improvement of combustion technologies. Member of technical associations IRE, STTR, Thermotechnics Institute, vice-president of ACEIR. Awarded by AGIR in 2002.

In 1996 he received the AGIR award in Natural Resources and energy Engineering. 3 patents, 1 gold medal award in Geneva International Inventions Salon (2016).



Name

Giuseppe SPAZZAFUMO

Affiliation

Department of Civil and Mechanical Engineering -
University of Cassino and Southern Lazio

**Contact
information**

spazzafumo@unicas.it



**Presentation
Title**

Comparison of different system layouts to generate a substitute of natural gas from biomass and electrolytic hydrogen

**Biographical
Sketch**

Born in Carrara (Italy), 29 Dec. 1959. Graduated (Mechanical Engineering, thesis: Preliminary design of a plant for biophotoproduction of hydrogen) in 1984, University of Pisa.

PhD (Energetics, thesis: The use of Molten Carbonate Fuel Cells in large powerplants) in 1988, University of Pisa. Associate Professor at University of Cassino and Southern Lazio (Italy) in the field of Systems for energy and environment. Author of more than 80 scientific papers the most of which related to hydrogen energy systems and fuel cell systems. Co-author with Prof. Bent Sørensen of "Hydrogen and Fuel Cells - Emerging Technologies and Applications" (Third Edition), Academic Press, March 2018. Owner of 4 Italian patents. Invited speaker at several Italian and international conferences and round tables related to the hydrogen energy sector.

Scientific coordinator of some research activities financed by ENEA, ENEL, APAT, Italian Ministry of Research. Reviewer for International Journal of Hydrogen Energy since 1989 and subsequently also for other international journals and conferences. Guest editor of some Special Issues of the International Journal of Hydrogen Energy. Member of Scientific Committees of several Italian and international conferences and chairman of technical sessions. Coordinator of HYPOTHESIS (HYdrogen POWer THEoretical and Engineering Solution International Symposium) series and chairman of its Scientific Committee. Founder and secretary of Italian Hydrogen Forum since its creation in 1997, then president of the Forum and actually member of the Board. Member of the Board of Directors of the International Association for Hydrogen Energy since 1999. President of IAHE Hydrogen Energy Systems Division IAHE Rudolph A. Erren Award.





Time	15 May			
8.20	REGISTRATION			
8.40				
9.00	Opening Ceremony (Vivaldi Room)			
9.20				
9.40				
10.00				
10.20	coffee break			
10.40				
11.00	Host speaker- Liviu-Alexandru SOFONEA - KNS 1 (Vivaldi room)			
11.20				
11.40	KNS 2 -Ibrahim DINCER (Vivaldi room)			
12.00				
12.20	; KNS 3 - Nikolaos LYMPEROPOULOS (Vivaldi room)			
12.40				
13.00	lunch - posters			
13.20				
13.40				
14.00				
14.20				
14.40				
15.00	A. Mraoui, 37	Y. Karagöz, 20	M. Collell, 76	G. U. Alpaydın, 90
15.20	J. Lee, 46	Y. Karagöz, 22	A. K. Chaurasia, 97	C. C. Wu, 42
15.40	S. Brendelberger, 48	A. Attar, 21	N. Kakkidis, 101	C. Guan, 74
16.00	D. Tudorache, 52	R. Kenanoğlu, 49	F. Sorgulu, 114	A. Midilli, 87
16.20	A. Malouche, 4	R.A. Felseghi, 99	Y. Nalbant, 58	M. Rostami, 96
16.40	S1 (Vivaldi Room)	S2 (Bernini Room)	S3 (Leonardo Room)	S4 (Raffaello Room)
	city tour			



Time

16 May

8.20

REGISTRATION

8.40

Host speaker - **Elena CARCADEA - KNS 4**
(Vivaldi room)

9.00

9.20

KNS 5 - Gabriel S. KAMIEL
(Vivaldi room)

9.40

10.00

KNS 6 - Yunus A. CENGEL
(Vivaldi room)

10.20

10.40

coffee break

11.00

V.N. Rogozhnikov, 67

R. Kenanoğlu, 50

K. A. Trowell, 18

D. Ion-Ebrasu, 7

11.20

E.V. Matus, 75

H. T. Arat, 103

J. Lee, 43

G. Schiller, 17

11.40

C. Y. Alpaydin, 77

H. T. Arat, 36

N. Aldea, 119

M. K. Baltacioglu, 34

12.00

Ö. Metin, 79

S. Badmaev, 47

M. El-Shafie, 106

C. Conker, 39

12.20

V. Cotorobai,

A. Bolboaca 19

N. D. Sankir, 116

C. Conker, 40

12.40

S5 (Vivaldi Room)

S6 (Bernini Room)

S7 (Leonardo Room)

S8 (Raffaello Room)

13.00

13.20

lunch - posters

13.40

14.00

14.20

N. Eddaoui, 104

S. Damman, 14

S. Saeidi, 78

R. Hempelmann, 51

14.40

M. El-Shafie, 108

F. J. Wirkert, 73

F. Yilmaz, 81

A. Erdogan, 38

15.00

M. Ozturk, 112

R. Muntean, 105

F. Yilmaz, 82

A. C. Ince, 60

15.20

V. Cotorobai

D. Frimat, 65

C. Filote, 100

R. D. Andrei, 98

15.40

G. Rasoi, 83

E. Carcadea, 95

I. Aşchilean, 3

G. Badea, 68

16.00

S9 (Bernini Room)

S10 (Leonardo Room)

S11 (Raffaello Room)

S12 (Vivaldi Room)

16.20

16.40

SALT MINE VISIT



Time	17 May			
8.20	REGISTRATION			
8.40	Host speaker - Tudor PRISECARU - KNS 7			
9.00	(Vivaldi Room)			
9.20	KNS 8 - Ibrahim DINCER			
9.40	(Vivaldi Room)			
10.00	KNS 9 - Giuseppe SPAZZAFUMO			
10.20	(Vivaldi Room)			
10.40	coffee break			
11.00	P. Subramanyam, 10	S. Nassima, 28	S. Sadeghi, 44	Poster session (Vivaldi Room)
11.20	Y. Seo, 29	C. L. Alvarez-Guzmán, 31	N. Bahrami, 45	
11.40	F. M. Nafchi, 63	Y. Tosun, 57	S. Inac, 70	
12.00	O. Oruc, 113	Y. Tosun, 59	S. Ghandehariun, 72	
12.20	C. Zlotea, 9	I. Iordache, 93	M. Rostami, 71	
12.40				
13.00	S13 (Leonardo Room)	S14 (Raffaello Room)	S15 (Vivaldi Room)	
13.20	CLOSING CEREMONY			





PAPER LIST

Section no.	Reference no.	Title & Authors	Presentation type
S6	1	MATHEMATICAL MODEL FOR EXTERNALLY FINNED HEAT EXCHANGERS Zabet Ion, Țârlea Grațiela	Oral
S11	3	ANALYSIS OF THE USE OF HYDROGEN AS AN SOURCE OF ENERGY FROM A SOCIAL, ECONOMIC POINT OF VIEW, ENVIRONMENTAL IMPACT AND THE TECHNOLOGICAL RISKS GENERATED BY PRODUCTION, STORAGE AND TRANSPORT¹⁰ Gheorghe Badea, Ioan Așchilean, Raluca-Andreea Felseghi	Oral
Poster	6	INNOVATION IN THERMAL COMFORT Ivan Maria-Alexandra, Grigorescu Gabriel George	Poster
Poster	8	ROMANIAN' ZERO ENERGY BUILDINGS Ivan Gabriel, Badea Gheorghe, Mateescu Ioan, Ivan, Maria-Alexandra, Grigorescu Gabriel George, Mateescu Ovidiu	Poster
Poster	11	THORIUM – PERSPECTIVES IN ROMANIAN ENERGETIC DEVELOPMENT Mateescu Ioan, Ivan Gabriel, Mateescu Ovidiu, Badea Florin, Mateescu Monica, Gârlea Cristina	Poster
Poster	15	HYDROGEN IN ROMANIA Gheorghe Badea, Ioan Mateescu, Ioan Aschilean, Gabriel Ivan, Ovidiu Mateescu, Silviu Gheorghe, Gabriel Constantin	Poster
Poster	24	HYDROGEN STORAGE IN UNDENRGROUD VOIDS Gresita Irinel, Popescu Sorin, Blejdea Elena, Ivan Maria Alexandra	Poster
S5	25	COLLECTION AND RECOVERY OF SOLAR ENERGY AND CO2 SYSTEMS FOR DOMESTIC USE IN ROMANIA Cotorobai V., Cotorobai Ioan-Cristian, Mateescu Theodor	Oral
CNS1	16	SOCIO-TECHNICAL SYSTEMS RESEARCH ON THE EXISTENCE OF LIFE IN THE ASTRAL UNIVERSE ¼ MARKERS, MODS, FACES / OF SCIENCE & TECHNIQUE, ASTRONOMY TIME & ASTRONOMY SAST- TAST = (ST) AST IN T ^ _ ↓ = 2018-2019, WITH PERSPECTIVE T ^ _ ↓ = 2020 -2030 / 50. Sofonea Liviu-Alexandru, Cotorobai V.	Oral
S9	26	HYDROGEN PRODUCTION BY EXPLOITING RENEWABLE ENERGIES Cotorobai V., Mateescu Theodor, Helerea Elena, Brata Silviana, Cotorobai Ioan-Cristian	Poster



Section no.	Reference no.	Title & Authors	Presentation type
S1	4	SYNTHESIS OF MONODISPERSED METAL NANOPARTICLES CONFINED WITHIN THE PORES OF MOFS AND THEIR INTERACTION WITH HYDROGEN Malouche Abdelmalek, Zlotea Claudia, Blanita Gabriela, Lupu Dan	Oral
S3	5	METHANOL PRODUCTION USING HYDROGEN FROM CONCENTRATED SOLAR ENERGY Monnerie Nathalie, Gunawan Philipe, Roeb Martin, Sattler Christian	Oral
S13	9	MULTI-PRINCIPAL-ELEMENT ALLOYS, A NEW CLASS OF MATERIALS FOR SOLID-STATE HYDROGEN STORAGE Zlotea Claudia, Montero Jorge	Oral
S13	10	BI@RGO HETEROJUNCTION AS AN EFFICIENT PHOTOANODE FOR PHOTOELECTROCHEMICAL WATER SPLITTING Palyam Subramanyam, M. Deepa, Ch. Subrahmanyam	Oral
S2	12	CATALYTIC METHANATION FOR BIOGAS UPGRADING Jan Kulas Lukáš Polák, Aleš Doucek, Jiřina Poláková	Oral
S4	13	350W PEMFC STACK DEVELOPMENT FOR POWERED EXOSKELETON Seung-Gon Kim, Byung-Hak Jung, Chan-Soo Kim	Oral
S10	14	EXPLORING THE TRANSITION POTENTIAL ASSOCIATED WITH HYDROGEN PRODUCTION IN NORWAY Sigrid Damman, Audun Ruud, Eli Sandberg, Trond Halvorsen, Paolo Pisciella, Eva Rosenberg, Ingeborg Graabak, Ulf Johansen	Oral
S8	17	RANEY NICKEL ELECTRODES FOR HIGHLY EFFICIENT ALKALINE WATER ELECTROLYSIS Günter Schiller, Asif Ansar, Andreas Brinner, Regine Reißner	Oral
S7	18	HIGH-TEMPERATURE ALUMINUM-WATER REACTIONS FOR ON-DEMAND HYDROGEN PRODUCTION Keena Trowell, Sam Goroshin, David Frost, Jeffrey Bergthorson	Oral
S2	20	EFFECT OF DIFFERENT RATIO OF DIESEL INJECTION ON A HYDROGEN FUELED CI ENGINE PERFORMANCE AND EMISSIONS Tarkan Sandalcı, Onur Gezer, Yasin Karagöz, Hasan Köten	Oral
S2	21	MICROBIAL FUEL CELL MICRO HYBRID, PEM FUEL CELL HYBRID AND GASOLINE ENGINE PROPULSION SYSTEMS COMPARED TO FUEL CONSUMPTION AND EMISSION OF A VEHICLE IN A DRIVING CYCLE Azade Attar, Özgün Balcı, Sefa Kale, Yasin Karagöz	Oral



Section no.	Reference no.	Title & Authors	Presentation type
S2	22	EXPERIMENTAL COMPARISON OF FUEL CONSUMPTION AND EMISSION VALUES OF PEM FC - BATTERY AND A LIGHTWEIGHT VEHICLE WITH SI ENGINE HYBRID DRIVE SYSTEM Yasin Karagöz, Özgün Balcı, Azade Attar, Hasan Köten	Oral
S13	29	LIFE-CYCLE COST ESTIMATION OF HYDROGEN SUPPLY CHAIN IN KOREA Youngkyun Seo, Seongjong Han, Meangik Cho	Oral
S14	31	HYDROGEN PRODUCTION BY PSYCHROPHILIC STRAINS ISOLATED FROM ANTARCTICA USING AGROINDUSTRIAL WASTES AS SUBSTRATE Cecilia Lizeth Alvarez-Guzmán, Victor E. Balderas-Hernández, Antonio De Leon-Rodriguez	Oral
S8	34	APPLICATION OF THE IMAGE PROCESSING METHOD IN HYDROXY GAS PRODUCTION Mustafa Kaan Baltacıoglu, Çağlar Conker	Oral
S1	35	HIGHLY ACTIVE AND STABLE COBALT/CERIA MIXED OXIDE CATALYSTS FOR H₂ PRODUCTION BY H₂S DECOMPOSITION IN H₂O EXCESS CONDITIONS Tzouliana Kraia, Michalis Konsolakis, George E. Marnellos	Oral
S6	36	EXPERIMENTAL INVESTIGATION OF FUEL CELL USAGE ON AN AIR VEHICLE'S HYBRID PROPULSION SYSTEM Arat Hüseyin Turan, Sürer Meryem Gizem	Oral
S1	37	A NEW METHOD BASED ON NEURAL NETWORKS TO MAXIMIZE POWER TRANSFER IN A HYDROGEN PRODUCTION SYSTEM Mraoui Abdelhamid, Khellaf Abdallah	Oral
S8	39	DESIGN AND ANALYSIS OF A FUZZY PROPORTIONAL INTEGRAL DERIVATIVE (FPID) CONTROLLER FOR HHO DRY CELL SYSTEMS Çağlar Conker, Mustafa Kaan Baltacıoglu	Oral
S8	40	COMPARISON OF PERFORMANCE FOR ON-OFF AND PID CONTROL IN HHO DRY CELL SYSTEMS Çağlar Conker, Mustafa Kaan Baltacıoglu	Oral
S4	42	DESIGN AND IMPLEMENTATION OF POWER SHARING CONTROL CIRCUIT FOR FUEL CELL POWER GENERATION SYSTEMS Chien-Chang Wu, Yi-Cheng Chen, Tsung-Lin Chen	Oral
S7	43	ANALYZING THE EFFECTS OF VARIOUS CL DESIGN ON OXYGEN TRANSPORT RESISTANCE IN THE CATHODE CATALYST LAYER OF POLYMER ELECTROLYTE FUEL CELL Jaeseung Lee, Muhammad Faizan C., Gundu Mohamed Hassan, Afroz Alam, Kyeongmin Oh, Hunchul Ju	Oral



Section no.	Reference no.	Title & Authors	Presentation type
S15	44	SOLAR-BASED HYDROGEN PRODUCTION FOR OIL AND GAS INDUSTRIES Shayan Sadeghi, Samane Ghandehariun, Marc A. Rosen	Oral
S15	45	SOLAR HYDROGEN FOR CARBON-NEUTRAL FUEL PRODUCTION Nima Bahrami, Samane Ghandehariun	Oral
S1	46	NUMERICAL SCALE-UP STUDY OF HYDROGEN ABSORPTION PROCESS FOR DEPLETED URANIUM (DU) BEDS Jaeseung Lee, Muhammad Faizan C., Gundu Mohamed Hassan, Afroz Alam, Kyeongmin Oh, Jaeyoo Choi, Hyunchul Ju	Oral
S6	47	PARTIAL OXIDATION OF DIMETHYL ETHER TO H₂/SYNGAS OVER SUPPORTED COPPER AND NOBLE METAL CATALYSTS Sukhe Badmaev, Nikita Akhmetov, V.D. Belyaev, V.A. Sobyenin	Oral
S1	48	CHARACTERIZATION OF MONOLITHIC THERMOCHEMICAL RECEIVER-REACTOR FOR DYNAMIC SOLAR FUEL PLANT SIMULATIONS Stefan Brendelberger, Ibrahim Kola Muritala, Martin Roeb, Christian Sattler	Oral
S2	49	EXPERIMENTAL AND ARTIFICIAL NEURAL NETWORK PREDICTION APPROACHES ON PERFORMANCE & EMISSION ANALYSIS OF HHO ENRICHED SOYBEAN BIODIESEL BLEND (B25) IN CI ENGINE Raif Kenanoglu, Mustafa Kaan Baltacioglu, Merve Erkinay Özdemir, Mehmet Hakan Demir	Oral
S6	50	PERFORMANCE AND EMISSION ANALYSIS OF THE GAS TURBINE FUELLED WITH SUSTAINABLE HYDROXY ENRICHED-AMMONIA Raif Kenanoglu, Mustafa Kaan Baltacioglu, Semir Gökpinar, Ertuğrul Baltacioglu, Kadir Aydin	Oral
S12	51	IMMOBILIZED IONIC LIQUIDS IN HT-PEM FUEL CELLS Rolf Hempelmann*, Galina Skorikova	Oral
S1	52	MODELING OF STEAM METHANE REFORMERS USING MACHINE LEARNING Tudorache Diana-Elena, Ohayon Jonathan	Oral
S11	54	RENEWABLE ENERGY TECHNOLOGIES FOR FUTURE AND SUSTAINABLE DEVELOPMENT Abdeen Omer	Oral
S14	57	THE MICROWAVE PLASMA CRACKING OF BIOMASS PYROLYSIS OIL FOR H₂ GAS IN TUBE FURNACE Yıldırım Tosun	Oral
S3	58	3-D MODEL OF A STEAM-METHANE REFORMER FOR PROTON EXCHANGE MEMBRANE FUEL CELL APPLICATIONS	Oral



Section no.	Reference no.	Title & Authors	Presentation type
		Yagmur Nalbant, C. Ozgur Colpan	
S14	59	THE MOLTEN SALT FLUIDS BY MICROWAVE RADIATION FOR THERMAL ENERGY STORAGE Yıldırım Tosun	Oral
S12	60	WATER AUTONOMY MANAGEMENT WITH CONDENSER IN DIRECT METHANOL FUEL CELL SYSTEM Alper Can Ince, C. Ozgur Colpan, M. Fazil Serincan	Oral
Poster	61	PATENT-PENDING, MOBILE, ALKALINE, PLC CONTROLLED ELECTROLYSIS SYSTEM WITH PARTIAL RECOVERY OF ELECTROCHEMICAL REACTANTS Michael Frimann	Poster
Poster	62	THEORETICAL MODELLING OF POROUS SILICON DECORATED WITH METALLIC ATOMS FOR HYDROGEN STORAGE Israel González, Francisco de Santiago, Lucia G. Arellano, Alejandro Trejo, Álvaro Miranda, Miguel Cruz-Irissou	Poster
S13	63	THERMO-ECONOMIC ANALYSIS OF DIRECT STEAM SOLAR POWER PLANT WITH HYDROGEN ENERGY STORAGE SYSTEM Faeze Moradi Nafchi, Ehsan Baniasadi, Ebrahim Afshari, Nader Javani	Oral
S10	65	HYBALANCE - DEMONSTRATING THE USE OF HYDROGEN IN ENERGY SYSTEMS Frimat David	Oral
S5	67	OPERATION OF A HYDROCARBON AUTOHERMAL REFORMER WITH RH/CE0.75ZR0.25O2-A-η-AL2O3/FECRAL WIRE MESH HONEYCOMB CATALYTIC MODULE Vladimir Rogozhnikov, Vladislav Shilov, Pavel Snytnikov, Nikolay Kuzin, Dmitry Potemkin, Natalia Ruban, Alexander Kulikov, Vladimir Sobyenin	Oral
S12	68	ANALYSIS OF HYDROGEN PRODUCTION AND CONSUMPTION WITHIN A HYBRID ENERGY SYSTEM FOR A BUILDING Badea Gheorghe, Aşchilean Ioan, Chira Nicolae, Aciu Claudiu, Ivan Gabriel, Mateescu Ioan, Gavriş Ovidiu, Felseghi Raluca-Andreea	Oral



Section no.	Reference no.	Title & Authors	Presentation type
Poster	69	EFFECT OF Y-DOPING ON THE CATALYTIC PROPERTIES OF CUO/CEO2 CATALYSTS FOR WATER GAS SHIFT REACTION Lyuba Ilieva, Ivan Ivanov, Petya Petrova, Gabriel Munteanu, Yordanka Karakirova, Janusz W. Sobczak, Wojciech Lisowski, Zbigniew Kaszukur, Tatyana Tabakova	Poster
S15	70	EXERGETIC SUSTAINABILITY ANALYSIS OF A GEOTHERMAL ENERGY AND BIODIGESTER INTEGRATED SOFC SYSTEM Selcuk Inac, Salih Ozen Unverdi, Adnan Midilli	Oral
S15	71	COMPARATIVE STUDY OF VARIOUS HYDROGEN STORAGE METHODS Masoud Rostami, Samane Ghandehariun	Oral
S15	72	LIFE CYCLE GREENHOUSE GAS EMISSIONS OF HYDROGEN PRODUCTION VIA WIND/ELECTROLYSIS Samane Ghandehariun	Oral
S10	73	A COMPACT AND EFFICIENT PEM ELECTROLYSER STACK DESIGN BASED ON HYDRAULIC SINGLE CELL COMPRESSION Florian J. Wirkert, Jeffrey Roth, Stefan Jagalski, Philipp Neuhaus, Mats Podleschny, Ulrich Rost, Michael Brodmann	Oral
S4	74	TWO AND THREE DIMENSIONAL MICROSTRUCTURAL CHANGES IN THE SOLID OXIDE ELECTROLYSIS CELL ANODE Chengzhi Guan, Yu Wang, Linjuan Zhang, Xiao Lin, Guoping Xiao, Jianqiang Wang	Oral
S5	75	HYDROGEN PRODUCTION THROUGH AUTOTHERMAL REFORMING OF CH4 OVER NI/CE1- XMXOY/AL2O3: EFFECT OF SUPPORT COMPOSITION, M = GD, LA, MG Ekaterina Matus, Ilyas Ismagilov, Darya Nefedova, Vladimir Ushakov, Svetlana Yashnik, Mikhail Kerzhentsev, Zinfer Ismagilov	Oral
S3	76	PHOTOCATALYTIC HYDROGEN PRODUCTION USING CONCENTRATED SOLAR POWER AND MICROREACTORS Mateu Collell, Isabel Serrano, Alejandra Castedo, Lluís Soler, Jordi Llorca	Oral
S5	77	MATHEMATICAL MODELING OF HYDROGEN PRODUCTION FROM HYDROLYSIS OF AMMONIA BORANE Ceren Yüksel Alpaydın, C. Ozgur Colpan, Senem Karahan Gülbay	Oral



Section no.	Reference no.	Title & Authors	Presentation type
S11	78	RECENT ADVANCES IN CO₂ HYDROGENATION TO VALUE-ADDED PRODUCTS — CURRENT CHALLENGES, DEVELOPMENT AND FUTURE DIRECTIONS Samrand Saeidi, Kamiel Gabriel	Oral
S5	79	A FACILE SYNTHESIS OF BIMETALLIC MRU (M: CO, NI, CU) ALLOY NANOPARTICLES AS EFFICIENT CATALYSTS FOR HYDROGEN GENERATION FROM MORPHOLINE-BORANE COMPLEX Önder Metin, Hasan Can, Tuğba Karaca, Buse Sündü	Oral
Poster	80	HY.ED.RO – HYDROGEN EDUCATION IN ROMANIA Manta Ioana, Carcadea Elena, Lungu Florin-Alexandru, Raboaca Maria-Simona	Poster
S11	81	PERFORMANCE EXAMINATION OF INTEGRATED HYBRID SOLAR -WIND ENERGY SYSTEM FOR HYDROGEN PRODUCTION AND COMPRESSION Fatih YILMAZ, Murat OZTURK, Resat SELBAS	Oral
Poster	2	SMR INTEGRATION AND INCREASE OF CO₂ PRODUCTION - STAGE 3 Marcelo Tagliabue	Poster
S14	28	HYDROGEN PRODUCTION OVER IRON-DOPED INDUSTRIAL NICKEL CATALYST VIA METHANE STEAM REFORMING SALHI NASSIMA	Oral
Poster	30	OPTIMIZATION OF SEMICONDUCTOR NS TiO₂-CeO₂ PHOTOANODE FOR EFFICIENT PHOTOELECTROCHEMICAL SOLAR HYDROGEN PRODUCTION Mridula Tripathi, Priyanka Chawla	Poster
S12	38	COMPARISON OF 0-D MODELING TECHNIQUES FOR DIRECT INTERNAL REFORMING-SOLID OXIDE FUEL CELLS Anil Erdogan, C. Ozgur Colpan	Oral
Poster	64	AN ANALYSIS OF CARBON AND HYDROGEN PRODUCTION BY THERMAL PLASMAS Aurelio Labanca	Poster
S7	119	ANALYSIS, MODELLING AND SIMULATION OF THE STIRLING ENGINE IN REAL CONDITIONS Adrian Bot, Vasile Rednic, Nicolae Aldea	Oral
S8	7	COMPOSITE GRAPHENE MODIFIED ANION-EXCHANGE MEMBRANES FOR ALKALINE WATER ELECTROLYSIS (AWE) Ion-Ebrasu Daniela, Caprarescu Simona, Chitu Alin, Schitea Dorin, Soare Amalia, Carcadea Elena, Varlam Mihai, Bruno Pollet	Oral
S11	82	THERMODYNAMIC INVESTIGATION OF A CONCENTRATING SOLAR COLLECTOR BASED INTEGRATED SYSTEM FOR POLY-GENERATION	Oral



Section no.	Reference no.	Title & Authors	Presentation type
		Yilmaz Fatih, Ozturk Murat, Selbas Resat	
S9	83	TECHNICAL CONCEPT, DESIGN AND DEVELOPMENT OF A HYDROGEN STORAGE SYSTEM BASED ON NANOSTRUCTURED MATERIALS Rasoi Gabriel, Raboaca Maria Simona, Schitea Dorin, Mocanu Dan, Armeanu Adrian, Filote Constantin, Pentiu Radu Dumitru	Oral
Poster	84	DESIGN AND CONCEPT OF A HYDROGEN REACTOR BASED ON REFORMING PROCESS TO PRODUCING CLEAN ENERGY Raboaca Maria Simona, Rasoi Gabriel, Schitea Dorin, Mocanu Dan, Armeanu Adrian, Filote Constantin, Pentiu Radu Dumitru	Poster
S11	85	REVIEW ON HYDROGEN ENERGY FOR BUILDING APPLICATIONS Badea Gheorghe, Aşchilean Ioan, Chira Nicolae, Aciu Claudiu, Ivan Gabriel, Mateescu Ioan, Gavriş Ovidiu, Felseghi Raluca-Andreea	Oral
S4	87	SOME INDICATORS IN EVALUATING EXERGETIC SUSTAINABILITY ASPECTS FOR HYDROGEN GAS FLOWING THROUGH THE ANNULAR CURVED DUCT Midilli Adnan, Kucuk Haydar, Akbulut Ugur	Oral
S4	90	ZERO-DIMENSIONAL MODEL OF A DIRECT DIMETHYL ETHER FUEL CELL Alpaydin Güvenç Umur, Colpan Can Ozgur, Devrim Yilser	Oral
Poster	92	SEASONAL HYDROGEN STORAGE IN SALT CAVERNS: SITE SELECTION USING MULTI-CRITERIA DECISION MAKING Iordache Mihaela, Schitea Dorin, Deveci Muhammet, Akyurt İbrahim Zeki, Iordache Ioan	Poster
S14	93	THE NUCLEAR HYDROGEN: WHAT IS AND FOR WHAT IS USEFUL IN ROMANIA Iordache Ioan, Stefanescu Ioan, Schitea Dorin	Oral
S10	95	THE EFFECT OF FLOW FIELDS AND MEA ON PEM ELECTROLYSER PERFORMANCE - A NUMERICAL AND EXPERIMENTAL INVESTIGATION Carcadea Elena, Varlam Mihai, Ion-Ebrasu Daniela, Petrov Konstantin, Jianu Catalin, Patularu Laurentiu, Schitea Dorin	Oral
S4	96	HYDROGEN PRODUCTION USING AN OCEAN ENERGY Rostami Masoud, Ghandehariun Samane	Oral
S3	97	BIOGAS PRODUCTION THROUGH ANAEROBIC DIGESTION OF FRUIT, FOOD AND VEGETABLE WASTE (FFVW) USING MESOPHILIC MICROORGANISMS: EFFECT OF PRE-TREATMENT METHODS Chaurasia Amit Kumar, Siwach Puneet, Mondal Prasenjit	Oral



Section no.	Reference no.	Title & Authors	Presentation type
S12	98	AN OPTIMIZED SYNTHESIS METHOD FOR CARBON NANOFIBERS PRODUCTION THROUGH THE ELECTROSPINNING TECHNIQUE Andrei Radu Dorin, Marinoiu Adriana, Sisu Claudia, Petreanu Irina, Bucura Felicia, Constantinescu Marius, Soare Amalia, Carcadea Elena	Oral
S2	99	OVERVIEW ON THE ELECTRIC VEHICLES CHARGING STATION BASED ON HYDROGEN FUEL CELL Felseghi Raluca-Andreea, Filote Constantin, Şoimoşan Teodora-Melania, Corsiuc Georgiana Dorina, Enache Adrian, Răboacă Maria Simona	Oral
S11	100	DESIGNING AN ELECTRIC VEHICLES CHARGING STATION POWERED BY PHOTOVOLTAIC PANELS AND HYDROGEN FUEL CELL Filote Constantin, Felseghi Raluca-Andreea, Aşchilean Ioan, Raţă G., Raţă M., Răboacă Maria Simona	Oral
S3	101	EFFECT OF GREEK LIGNITE PYROLYSIS PROTOCOLS ON THE PHYSICO-CHEMICAL PROPERTIES AND GASIFICATION REACTIVITY OF AS-PRODUCED CHARS Kaklidis Nikolaos, Lampropoulos Athanasios, Papista Eleni, Binas Vassilios, Konsolakis Michalis, Marnellos George E.	Oral
S6	103	DETERMINING THE ENERGY DISTRIBUTION AND PERFORMANCE OF ADDITIONAL TRACTION BATTERY ON HYDROGEN FUEL CELL HYBRID ELECTRIC VEHICLE Arat Hüseyin Turan, Tanç Bahattin, Conker Çağlar, Baltacıoğlu Ertuğrul, Aydın Kadir	Oral
S9	104	ENHANCEMENT OF HYDROGEN STORAGE THROUGH MICROBIAL ACCUMULATION: MODELING AND NUMERICAL SIMULATIONS Eddaoui Noura, Panfilov Michel, Aniss Saïd	Oral
S10	105	PTCOMN TERNARY ALLOY SUPPORTED CATALYSTS FOR HYDROGEN EVOLUTION REACTION Muntean Roxana, Pascal Dragoş-Toader, Rost Ulrich, Mărginean Gabriela, Vaszilcsin Nicolae, Brodmann Michael	Oral



Section no.	Reference no.	Title & Authors	Presentation type
S7	106	STUDY OF THE PLASMA AND HEATING EFFECT ON HYDROGEN PERMEATION THROUGH PD0.60-CU0.40 MEMBRANE IN A MICRO-CHANNEL PLATE REACTOR El-Shafie Mostafa, Kambara Shinji, Hayakawa Yukio	Oral
S9	108	EXPERIMENTAL ANALYSIS OF PLASMA AND HEATING EFFECT ON H2 PERMEATION BEHAVIOR THROUGH PD-CU40% MEMBRANES IN 1MM GAP LENGTH PLATE REACTOR El-Shafie Mostafa, Kambara Shinji, Hayakawa Yukio	Oral
Poster	27	HYDROGEN PRODUCTION VIA WGSR OVER ALUMINA-SUPPORTED GOLD CATALYSTS: UNRAVELING THE EFFECT OF PREPARATION METHOD AND Y-DOPED CERIA CONTENT Tabakova Tatyana, Ivanov Ivan, Zanella Rodolfo, Karakirova Yordanka, Petrova Petya, Sobczak Janusz W., Lisowski Wojciech, Kaszkur Zbigniew, Munteanu Gabriel, Ilieva Lyuba	Poster
Poster	110	MULTICRITERIAL COMPARATIVE ANALYSIS ON POWER SUPPLY OF RENEWABLE ENERGY VEHICLES: HYDROGEN FUEL CELL VEHICLES VS. BATTERY ELECTRIC VEHICLES Felseghi Raluca-Andreea, Filote Constantin, Rey Adrian-Radu, Cârlea Filip, Oprea Claudiu, Răboacă Maria Simona	Poster
S9	112	ANALYSIS OF HYDROGEN PRODUCTION FROM MUNICIPAL SOLID WASTE GASIFICATION Ozturk Merve, Dincer Ibrahim	Oral
S13	113	PERFORMANCE ASSESSMENT OF HYDROGEN PRODUCTION FROM ALUMINUM WATER REACTIONS Oruc Onur, Dincer Ibrahim	Oral
S3	114	DEVELOPMENT OF A HYTHANE BASED COMBINED CYCLE INTEGRATED WITH GASIFICATION AND ANAEROBIC DIGESTION SUBSYSTEMS Sorgulu Fatih, Dincer Ibrahim	Oral
S7	116	EFFECT OF MEDIUM PH ON THE STABILITY OF ZNO NANOFLOWER ELECTRODES FOR PHOTOELECTROCHEMICAL HYDROGEN GENERATION Sankir Nurdan Demirci, Coskun Ozlem, Altaf Cigdem Tuc, Abdullayeva Nazrin, Oymez Alp Eren, Kullahcioglu Burkay, Sankir Mehmet	Oral
S6	19	IMPORTANCE OF USING CCTV INSPECTION SYSTEMS DURING ENTIRE LIFESPAN OF SEWER SECTIONS Chira Teodor Valeriu, Bolboacă Andrei, Iacob Cristina, Deac Anagabriela, Mureşan Dan	Oral



Section no.	Reference no.	Title & Authors	Presentation type
Poster	23	IMPROVING THE OPERATION OF A WASTEWATER TREATMENT PLANT IN ROMANIA Iacob Cristina, Deac Anagabriela, Chira Teodor Valeriu, Bolboacă Andrei	Poster



Notes

