

Siglinda PERATHONER



Siglinda PERATHONER gained her PhD in Chemical Science in 1988 working on the photophysics and photochemistry of supramolecular systems with V. Balzani and Nobel Laureate J.M. Lehn. From 2001 she joined the University of Messina and is full professor of Industrial Chemistry presently. She has coordinated many EU projects and is currently coordinator of the EU project OCEAN on new industrial electrocatalytic paths of CO₂ conversion. She has been active for over 30 years in the field of catalysis and author of about 400 publications, including several in the top 1%, and several communications to international congresses, as well as co-editor of books or special issues of international journals of catalysis. In addition, she is co-author of several highly cited works in international journals and has been chair of various international conferences, workshops and symposia on catalysis. She is the editor of the Wiley VCH book "Sustainable Industrial Chemistry", of the Wiley & Soon book "Green Carbon Dioxide: Advances in CO₂ Utilization" and of the Elsevier book "Horizons in Sustainable Industrial Chemistry and Catalysis". He has contributed to various encyclopedias, including "Reduction of greenhouse gas emissions by catalytic processes" in the Handbook of Climate Change Mitigation and "Artificial Leaves" in the Kirk-Othmer Encyclopedia of Chemical Technology. She was co-chair of Europacat 2017, an important event in the catalysis community and was chair of several other conferences. The current h-index is 71 (47 from 2016), about 20,000 citations (Google Scholar), and i₁₀-index of 264. Prizes and awards include the Special Award in 2008 from "Altran Foundation for Innovation", for the project on the development of artificial leaves for CO₂ conversion, the finalist position in 2010 for the European Sustainable Chemistry Award (EuCheMS), the participation in 2011 the film "NanoInLife" produced by the European Commission to show the results of nanotechnology to the public. Her research interests include nanostructured oxides and nanocarbon materials for heterogeneous, photo- and electro-catalytic applications.

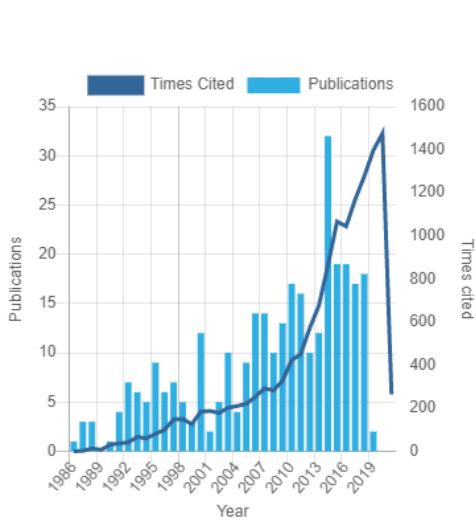
Web page: <http://ww2.unime.it/catalysis/recent.html>

CV prof. Siglinda Perathoner

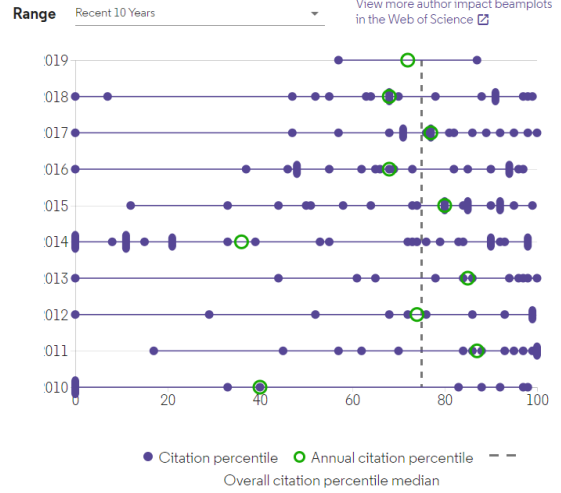
Date of birth	12 May 1958																																																								
Nationality	Italian																																																								
Education & Career	<p>1984: "Laurea" degree in Chemistry, Univ. of Bologna, Italy (prof. V. Balzani)</p> <p>1985-1988 PhD in Chemical Science, Univ. of Bologna, Italy (prof. V. Balzani)</p> <p>1989-1996 Post-doc contract and research grants, Univ. of Bologna, Italy</p> <p>1999-2001 Post-doc contract and research grants, Univ. of Messina, Italy</p> <p>2001-2003 Researcher (Industrial Chemistry), Univ. Messina</p> <p>2003-2018 Associate prof. (Industrial Chemistry), Univ. Messina</p> <p>2018-today Full prof. (Industrial Chemistry), Univ. Messina</p> <p>2016-today: Coordinator of the Laboratory of Catalysis and Sustainable Production and Energy (CASPE), INSTM Reference Center</p> <p>The PhD was in collaboration with Nobel Laureate J.M. Lehn (various publications in common).</p> <p>She was coordinator of EU projects CAT-MED (ICA3-2002-10096), ELCAT (FP6-2003-NEST-A / 2400)], INCAS (NMP2-LA-2010-245988), OCEAN (SPIRE 10-2017) and scientific responsible (PI) of several European projects for UdR Univ. Messina, among which the EU Coordinated Action CONCORDE (nanostructured oxides) and the EU project NATAMA (FP6-2004-NMP-32583, Nano engineered thin films for advanced materials applications).</p> <p>The ELCAT project is one of the 10 selected projects from the EU Commissions in the first call of the NEST area (between the over 200 presented in all the fields of science) as "new research frontiers which may produce a significant breakthrough for the science".</p>																																																								
Academic Papers and qualification	<p>She was author of over 400 publications (according to IRIS official University database 301 peer reviewed paper, 95 peer reviewed chapters in books and 15 monographs), about half of which in the last decade, and over 400 communications at International Congresses, guest Editor of 9 special issues of international journals, co-editor of various books among which the Wiley VCH book "Sustainable Industrial Chemistry", the Wiley & Soon book "Green Carbon Dioxide: Advances in CO₂ Utilization" and the Elsevier book "Horizons in Sustainable Industrial Chemistry and Catalysis". Current bibliometric threshold values are over four-five times larger than those of the scientific sector.</p> <p>Author of various contributions to encyclopaedias on topics of catalysis (Encyclopedia of Catalysis, Enciclopedia Treccani), co-author of several reviews on International Journals. She also served as chairperson in various sessions of international meetings.</p>																																																								
Bibliometric data	<p><i>From Google Scholar (March 2021)</i> https://scholar.google.com/citations?user=XLhzfAoAAAAJ&hl=en</p> <ul style="list-style-type: none"> - Citations: 19668 (9416 from 2016) - h-index: 71 (47 from 2016) - <i>i10-index</i>: 264 (164 from 2016) <table border="1"> <caption>Annual Citation Counts (Estimated from Chart)</caption> <thead> <tr> <th>Year</th> <th>Citations</th> </tr> </thead> <tbody> <tr><td>1995</td><td>10</td></tr> <tr><td>1996</td><td>15</td></tr> <tr><td>1997</td><td>20</td></tr> <tr><td>1998</td><td>25</td></tr> <tr><td>1999</td><td>30</td></tr> <tr><td>2000</td><td>35</td></tr> <tr><td>2001</td><td>40</td></tr> <tr><td>2002</td><td>45</td></tr> <tr><td>2003</td><td>50</td></tr> <tr><td>2004</td><td>55</td></tr> <tr><td>2005</td><td>60</td></tr> <tr><td>2006</td><td>65</td></tr> <tr><td>2007</td><td>70</td></tr> <tr><td>2008</td><td>75</td></tr> <tr><td>2009</td><td>80</td></tr> <tr><td>2010</td><td>85</td></tr> <tr><td>2011</td><td>90</td></tr> <tr><td>2012</td><td>95</td></tr> <tr><td>2013</td><td>100</td></tr> <tr><td>2014</td><td>110</td></tr> <tr><td>2015</td><td>120</td></tr> <tr><td>2016</td><td>130</td></tr> <tr><td>2017</td><td>140</td></tr> <tr><td>2018</td><td>150</td></tr> <tr><td>2019</td><td>160</td></tr> <tr><td>2020</td><td>1700</td></tr> <tr><td>2021</td><td>1500</td></tr> </tbody> </table>	Year	Citations	1995	10	1996	15	1997	20	1998	25	1999	30	2000	35	2001	40	2002	45	2003	50	2004	55	2005	60	2006	65	2007	70	2008	75	2009	80	2010	85	2011	90	2012	95	2013	100	2014	110	2015	120	2016	130	2017	140	2018	150	2019	160	2020	1700	2021	1500
Year	Citations																																																								
1995	10																																																								
1996	15																																																								
1997	20																																																								
1998	25																																																								
1999	30																																																								
2000	35																																																								
2001	40																																																								
2002	45																																																								
2003	50																																																								
2004	55																																																								
2005	60																																																								
2006	65																																																								
2007	70																																																								
2008	75																																																								
2009	80																																																								
2010	85																																																								
2011	90																																																								
2012	95																																																								
2013	100																																																								
2014	110																																																								
2015	120																																																								
2016	130																																																								
2017	140																																																								
2018	150																																																								
2019	160																																																								
2020	1700																																																								
2021	1500																																																								

Publons (Web of Science ResearcherID A-6257-2010) (March, 2021)

PUBLICATIONS IN WEB OF SCIENCE	SUM OF TIMES CITED	H-INDEX	AVERAGE CITATIONS PER ITEM	AVERAGE CITATIONS PER YEAR
300	13.919	58 [®]	46.4	397.7



Web of Science Author Impact Beamplot



About 75% median citation percentile (1980-2019)

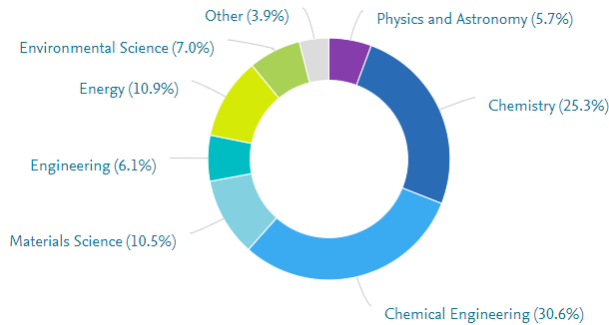
Scopus - S. Perathoner (March, 2021)

Citations: 15231 (340 cited papers)

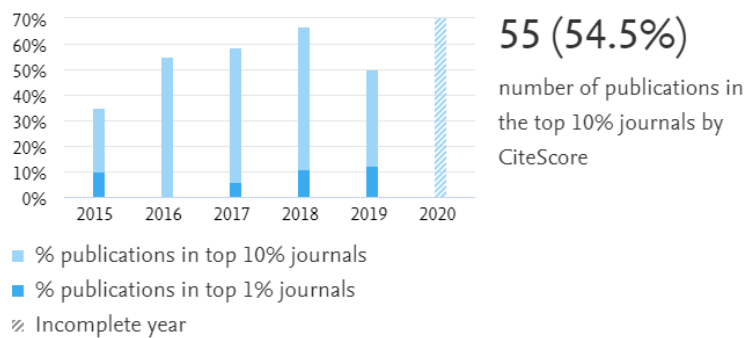
h-index: 62

SciVal - S. Perathoner (March, 2021)

Publications by subject area








Publications in Top Journal Percentiles by CiteScore Percentile



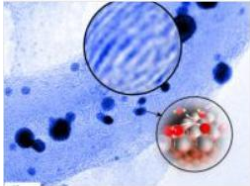
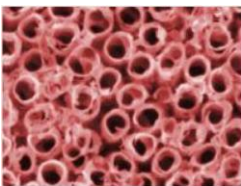
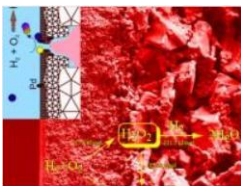

About 45% international collaborations.

23.2 average number of citations per publication

Topics and metrics	Topics Entity: Perathoner, Siglinda · Year range: 2015 to 2020 · Data source: Scopus, up to 24 Mar 2021 ·				
		By this Researcher	Worldwide		
		Scholarly Output	Field-Weighted Citation Impact	Prominence percentile	
	Topic				
	Fuel Production; Anodic Oxidation; Solar ... T.74087	25	2.50	78.608	
	Hydroxymethylfurfural; Levulinic Acids; Ethyl Levulinate ... T.1144	10	0.92	99.948	
Carbon Dioxide Electroreduction; Electrocatalysts; Chemical Reduction ... T.3479	10	2.21	99.979		
Methane Production; Natural Gas Substitutes; Synthesis Gas ... T.8259	8	4.15	99.689		
Nitrogen Fixation; Electrocatalysts; Electrosynthesis ... T.42290	5	6.78	99.875		
Selected recent plenary/invited lectures	<i>Selected recent plenary/invited lectures (full list at http://ww2.unime.it/catalysis/invited-lecture.html)</i>				
	2020				
	<ul style="list-style-type: none"> SINCHEM Winter School 2020, Feb 4-6, 2020 Bologna, Italy; plenary lecture 				
	2019				
	<ul style="list-style-type: none"> First International Bunsen-Discussion-Meeting on Fundamentals and Applications of (Photo) Electrolysis for Efficient Energy Storage, April 1 – 5, 2019 in Taormina, Italy; invited lecture Summer School "Making Business with new technologies within green chemistry & sustainable energy", plenary 				
	2018				
	<ul style="list-style-type: none"> SIG-SIMP Conference (Geosciences for the environment, natural hazard and cultural heritage), Catania (Italy), 12-14 Sept. 2018, invited CARBOCAT VIII - 8th International Symposium on Carbon for Catalysis, Porto (Portugal), 26th-29th June 2018, keynote 2018 BIST (Barcelona Institute of Science and Technology) Conference, June 27th, 2018, Barcellona (Spain), invited (dialogue: The energy re-evolution: To be clean or not to be) Science Academy - Bologna Institute, 50th Years of Heterogeneous Catalysis, 22 June 2018, Bologna (Italy), invited 				
	2017				
	<ul style="list-style-type: none"> Ernst Haage Symposium, November 22-24 2017, Mülheim - Germany, plenary Workshop on CO2, Univ. Malaya (Kuala Lumpur, Malesia), 20 July 2017, plenary CIS-7 (7th Czech-Italian-Spanish Symposium on Catalysis), June 13-17th 2017, Trest (Czech Rep.), plenary Workshop on Science & Techn Innov for Brasil, UNESP Araraquara (Brasil), March, 9-10th, 2017, plenary Univ. of Malaya, Nanocat Lecturship, 19th Jan 2017, Kuala Lumpur (Malesia), plenary 				
	2016				
<ul style="list-style-type: none"> Workshop on "Next Generation Energy Storage Technologies: Challenges and Opportunities", 2-3rd December 2015, Taormina, Italy, New approaches to recycle CO2 and reduce emissions, invited NANOTECHITALY 2015 (Sect.: Bio-Inspired and Bio-Based Technologies), Bologna, Nov. 25 – 27th, 2015, Artificial photosynthetic leaves: their role for sustainable future, invited Third International Conference on Catalysis for renewable sources: fuel, energy, chemicals (CRS-3), Catania, , September 6 - 11, 2015, Integrating bio - and solar refineries: an effective new option, plenary 					

Awards and Recognition	<p>2006: EU project ELCAT (coord. S. Perathoner): selected between EU successful stories, one of the 8th projects selected in all the area of energy</p> <p>2008: "Altran Foundation for Innovation", special Award for the project on the development of artificial trees for the conversion of CO₂</p> <p>2010: finalist of the 2010 European Sustainable Chemistry Award (EuCheMS)</p> <p>2011: "NanoInLife", movie produced from the European Commission to show to the public the results of nanotechnology; interview to S. Perathoner and presentation of the results on CO₂ (one of the 10 examples selected in EU of all nanotechnology area)</p>
Academia	<p>2009-11: Member of the Directive of Italian Association of Zeolites</p> <p>2012-14: Member of the Directive of Interdivisional Group of Catalysis of Italian Chemical Society</p>
Visiting professor	2015-17: Academic Icon (Univ. Malaya, Kuala Lumpur, Malaysia)
Teaching activities	<ul style="list-style-type: none"> - 2002-today: as professor of Industrial Chemistry, teaching in various courses of the scientific sector CHIM/04 (Industrial Chemistry); - average in the period 2004-2014: 21,3 CFU (5,5 courses) - 2001-today: member of the PhD Board on "Engineering and Chemistry of Materials" (University of Messina) - 2003-2004: professor at the 2nd level Master in "Risk Management" - 2007-2008: professor at the 2nd level Master in "Production of H₂ and mobility based on fuel cells" - 2007-2008: professor at Master of 1st level in "Management and Monitoring the Environmental Risk"
Internationalization activities	<ul style="list-style-type: none"> - responsible for UNIME of the European Doctorate SINCHEM (Sustainable Industrial Chemistry), - responsible for UNIME of various international collaboration, between which with Univ. Malaya (Univ. di Kuala Lumpur, Malesia) and University of Queensland (Australia) - collaboration (as proof by common publications in the last 5 years) with over 10 worldwide research centers and companies - visiting professor Univ. Malaya (Malesia) in years 2015-2017 - Tutor of several PhD these with international co-tutele (5) - Member of the international panel of evaluation (Appointment Committee for Director, Max Planck Institute for Chemical Energy Conversion, germany) - Member of the committee of selection of international research projects (EC, ANR - France)
Chairperson	<ul style="list-style-type: none"> - Chairperson in international conferences: 14 in years 1999-2017 - Invited conferences, years 2010-2017: 17 plenary, 6 keynote, 12 invited
Coordination and scientific responsibility	<p>NATIONAL PROJECTS</p> <p>National Coordinator</p> <ul style="list-style-type: none"> - PRIN 2017: CO₂ as only source of carbons for monomers and polymers: a step forwards circular economy (CO₂ ONLY), national scientific coordinator <p>Scientific Responsible (PI)</p> <ul style="list-style-type: none"> - PRIN 2003: Materiali multifunzionali nanostrutturati con migliorata attività fotocatalitica. 24th months, Scientific responsible for UniME - PRIN 2007: Processi sostenibili di 2a generazione di produzione H₂ da sorgenti rinnovabili, 24th months, Scientific responsible for UniME - PRIN 2010: Meccanismi di attivazione della CO₂ per la progettazione di nuovi materiali per l'efficienza dell'energia e delle risorse, 36th months, Scientific responsible for UniME - PON01_01725: Nuove Tecnologie Fotovoltaiche per Sistemi Intelligenti Integrati in Edifici (Fotovoltaico), 36th months from 1st Oct 2011, Scientific responsible for UdR UniME - PON02_00355_3416798. ENERGETIC: Tecnologie per l'ENERGIA e l'Efficienza energETICa, 36th months from 1st Jan 2012, Scientific responsible for UdR UniME

	<ul style="list-style-type: none"> - INSTM/Regione Lombardia 2013: Ferriti di lantanio per nuove fonti di energia (Ferriti-NFE), 24th months, Scientific responsible for UdR ME of INSTM <p>EU PROJECTS</p> <p>Scientific coordinator</p> <ul style="list-style-type: none"> - FP6-2003-NEST-A: Electrocatalytic Gas-Phase Conversion of CO₂ in Confined Catalysts (ELCAT), 42th months, Coordinator of the project - FP5-ICA3-2002-10096 Novel Catalytic Technologies for the treatment of wastewater from Agro-food and industrial productions in MED Countries, 36th months, Coordinator of the project - FP7-NMP2-LA-2010-245988 Integration of Nanoreactor and multisite CAlysis for a Sustainable chemical production (INCAS), 48th months, Coordinator of the project - H2020-767798: Oxalic acid from CO₂ using Eletrochemistry At demonstration scale (OCEAN), on-going, 48th months, Coordinator of the project <p>Scientific responsible (PI) for UdR UniME</p> <ul style="list-style-type: none"> - FP6-2002-NMP-1: Coordination of Nanostructured Catalytic Oxides Research and Development in Europe (CONCORDE), 27th months, scientific responsible for UdR UniME - FP6-2004-NMP-32583 Nano engineered thin films for advanced materials applications (NATAMA), 36th months, Scientific responsible for UdR ME - FP7-2012- 309701: Eco-friendly biorefinery fine chemicals from CO₂ photo-catalytic reduction (ECO2CO₂), 36th months, Scientific responsible for UdR ME - FP7-2014- 621210 (FCH JU). Integrated High-Temperature Electrolysis and Methanation for Effective Power to Gas Conversion (HELMETH), 36th months, Scientific responsible UdR ME - 532475-1-IT-2012-1-ERA MUNDUS-EMJD Erasmus Mundus Joint Doctorate Programmes "Sustainable INdustrial CHEMistry", 96th months, Scientific responsible for UdR ME - IAPP CONTRACT 324292-2013. BIOFUR: BIOpolymers and BIOfuels from FURan based building blocks. A Marie Curie Industry-Academia Partnerships and Pathways, 36th months, Scientific responsible for UdR ME - FETPROACT-2016, An Artificial Leaf: a photo-electro-catalytic cell from earth-abundant materials for sustainable solar production of CO₂-based chemicals and fuels (A-LEAF)“Project ID: 732840, scientific responsible for UdR ME - H2020-NMBP-ST-IND-2018-2020, PowerPlatform: Establishment of platform infrastructure for highly selective electrochemical conversions (PERFORM), project 820723, Scientific responsible for UdR ME <p>With companies</p> <ul style="list-style-type: none"> - Project with ALTA, 1 years (2010) - Project with Toyota, 2 years (2011-2012)
Academia	<p>2009-11: Member of the Directive of Italian Association of Zeolites</p> <p>2012-14: Member of the Directive of Interdivisional Group of Catalysis of Italian Chemical Society</p>
Chair of International Conference (selection)	<ul style="list-style-type: none"> - 8th European Workshop on Selective Oxidation (Turku, Finland, 9-30 Aug. 2007). Chairpersons: F.Cavani, V.C. Corberan, G Centi, G. Mestl, S. PERATHONER, P. Ruiz - Catalysis for a Sustainable Chemistry: Walking to the Frontiers between Homogeneous and Heterogeneous Catalysis, Messina, May 4th, 2009. Chairperson: S. PERATHONER - CIS-3/AIZ-2009 3rd Czech-Italian-Spanish Trilateral Meeting on catalysis and Micro/Meso-Porous Materials and IX National Conference on Science and Technology of Zeolites, 21-25th June, 2009, Acireale (CT). Chairpersons: S. PERATHONER, S. Quartieri - 5th International Symposium on Carbon for Catalysis - Carbocat-V, June, 28th 30th, 2012 - Bressanone/Brixen. Chairpersons: C. Milone, L. Prati, S. PERATHONER

	<ul style="list-style-type: none"> - 6th IDECAT/ERIC-JCAT Conference on Catalysis, Design advanced multifunctional catalysts for sustainable processes, 3-6th March 2013, Bressanone/Brixen. Chairpersons: S. PERATHONER, A. Jentys, C. Claver. - XVII National Congress of Catalysis GIC 2013 and XI National Congress of Zeolites Science and Technology, 15 - 18 September 2013, Riccione, scientific committee - XVIII Scuola Nazionale di Scienza e Tecnologia dei Materiali - Ischia 16-20 Luglio 2014, scientific committee - 6th Czech-Italian-Spanish Conference on Molecular Sieves and Catalysis joint with GIC 2015 Congress (XVIII National Congress of Catalysis) and AIZ 2015 Congress (XII National Congress of Zeolites Science and Technology), 14th to 17th June, 2015, Amantea (CS), Italy. Chairpersons: G. Giordano, S. PERATHONER, L. Marchese. - Europacat 2017, 13th European Congress on Catalysis, August 27 to 31, 2017 in Florence, Italy. Chairpersons: Gabriele CENTI, Rinaldo PSARO, Giorgio STRUKUL and Siglinda PERATHONER - XIII Italian Congress of Zeolites Science and Technology (AIZ2017), 1-2 September 2017, Florence, Italy. Chairpersons: Siglinda Perathoner, Girolamo Giordano - 4th Euro Asia Zeolite Congress (4th EAZC), 27th to 30th January 2019 in Taormina (ME), Italy . Chairpersons: Siglinda Perathoner, Girolamo Giordano, S.B. Hong
<p style="text-align: center;">Research fields</p>	<p>Research interests are in the areas of applied heterogeneous catalysis, chemical reaction engineering, and reaction mechanisms. Present research interests embrace the development of industrial heterogeneous catalysts for applications in the field of innovative selective oxidation processes, environment protection and sustainable energy.</p> <p><i>Main field:</i> Heterogeneous catalysis and catalytic technologies, chemical processes with low environmental impact, development of nanomaterials for applications in the field of the treatment and control of gaseous and liquid emissions, catalysis for sustainable processes and energy, development of electrocatalysts for fuel cells and electrochemical devices, nanostructured photocatalysts for water splitting, membranes for H₂ separation</p> <p><i>Other fields:</i> Cleanup technologies (gas & liquid emissions), environmental catalysis, industrial catalytic processes, solid catalysts (mixed oxides and zeolites, especially containing transition metals, mesoporous materials, nanostructured oxides and carbon), greenhouse gas reduction, use of solar energy, fuel cells and (photo)electrocatalytic devices</p> <div style="display: flex; justify-content: space-around; align-items: center;">     </div> <p>Systems based on nanotubes and nano-structures. Based on metal nanoclusters deposited over carbon or metal-oxides organized 1D-type nanostructures, for applications ranging from electrodes in PEM and PEC devices, to photoactive thin films, sensors, advanced microreactors, and catalysts for novel energy and chemical processes.</p> <p>Materials for solar fuels & renewable energy. Synthesis, characterization and testing for applications ranging from advanced coating and photoactive materials, to novel catalysts and devices in sustainable chemical processes, and for energy (biomass conversion, renewable H₂, solar fuels from CO₂).</p> <p>Catalytic membranes. Based on Pd-alloy supported thin films for applications from environment protection (reduction of nitrate in water) to chemical synthesis (H₂O₂ direct synthesis) and energy. Recent focus is on the new energy-efficient membrane-based processes for the production of H₂ by</p>

	<p>CH₄ steam reforming and syngas by catalytic partial oxidation.</p> <ul style="list-style-type: none">- Chemo-catalytic processes for ligno-cellulosic biorefineries. Development of novel catalysts for the conversion of ligno-cellulosic biomass (in particular waste materials) to novel platform molecules (furfurals) and the catalytic upgrading of the latter to biofuels (gasoline and diesel) or chemicals
Web site	http://ww2.unime.it/catalysis/