

## PERSONAL INFORMATION

## Letitia Petrescu



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Sex F | Nationality Romanian

## PROFESSIONAL EXPERIENCE

January 2021 – up to date

Associate Professor  
Babeş-Bolyai University  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, Romania  
Faculty of Chemistry and Chemical Engineering  
Courses and teaching activities for: Computer Aided Design CAD (bachelor level) & Process Intensification (master level)

**Business or sector:** Education & Research

October 2014 – January 2021

Lecturer  
Babeş-Bolyai University  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, România  
Faculty of Chemistry and Chemical Engineering  
Courses and teaching activities for: Computer Aided Design CAD (bachelor level), Process Intensification (master level), Chemical reaction Engineering (bachelor level)

**Business or sector:** Education & Research

2016 – up to date

Member in the following research projects:

International Projects:

RESTORE- *Renewable Energy based seasonal Storage Technology in Order to Raise Economic and environmental sustainability of DHC*, 2021-2025

*Hybrid Solvent – Membrane for post-combustion CO<sub>2</sub> capture and utilization*, Nr. 2019 - CRPs, RO-NO-2019-0379, 2020 - 2023

CONVERGE - *Carbon valorisation in energy-efficient green fuels*, Horizon 2020, Nr. 818135, 2018-2022

STEPWISE SEWGS - *Technology platform for cost effective CO<sub>2</sub> reduction in the iron & steel industry*", Horizon 2020, Nr. 640769, 2015 - 2019

*Advanced thermo-chemical looping cycles for the poly-generation of decarbonised energy vectors: Material synthesis and characterisation, process modelling and life cycle analysis*, Romanian-Swiss Research Programme (RSRP), IZERZO\_141976/1, 2013 - 2015

National Projects:

*Valorificarea Carbonului pentru Producerea Combustibililor Ecologici, Energetic Eficienti*, PN-III-P3-3.6-H2020-2020-0058, 2020 – 2022

*Validarea tehnologiei inovative de calcium looping pentru decarbonizarea proceselor industriale mari consumatoare de energie primară de origine fosilă (INNOCAL)*, Contract 474PED/2020, PN-III-P2-2.1-PED-2019-0181, 2020-2022

*Dezvoltarea de soluții inovative pentru decarbonizarea sistemelor industriale mari consumatoare de energie prin aplicarea tehnologiilor de captare, utilizare și stocare a dioxidului de carbon*, PCE, PN-III-P4-ID-PCE-2016-0031, 2017 - 2019

*Optimizarea și validarea instalației pilot demonstrative de captare CO<sub>2</sub> utilizând tehnologia prin absorbție chimică*, PN-III-P2-2.1-PED-2016- 0558, 2017 - 2018

*Dezvoltarea de soluții inovative pentru decarbonizarea sistemelor industriale mari consumatoare de energie prin aplicarea tehnologiilor de captare, utilizare și stocare a dioxidului de carbon*, PN-III-P4-ID-PCE-2016-0031, 2017 - 2019

*Metode inovative de captare a dioxidului de carbon prin chemical looping aplicate sistemelor de poli-generare vectori energetici decarbonizați*, Idei – Proiecte de cercetare exploratorie (PCE), PN-II-ID-PCE-2011-3-0028, 2011 – 2015

Babeş-Bolyai University  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, Romania  
Faculty of Chemistry and Chemical Engineering

February 2013 - September 2014 **Business or sector:** Education & Research  
Research Assistant:  
*Advanced thermo-chemical looping cycles for the poly-generation of dearbonised energy vectors: Material synthesis and characterisation, process modelling and life cycle analysis* (Romanian-Swiss research programme, (2013- 2015);  
*Innovative methods for chemical looping carbon dioxide capture applied to energy conversion processes for decarbonised energy vectors poly-generation* , Research and Exploration projects (PCE), PN-II-ID-PCE-2011-3-0028, (2011 – 2015).

Babeş-Bolyai University, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, Romania  
Faculty of Chemistry and Chemical Engineering

January 2008 - December 2012 **Business or sector:** Education & Research  
Chemist  
Projects:  
*Process Indicator Benchmarking:* Development, Selection, Calculation and Analysis of Key Performance Indicators for Various Pulp and Paper Mills  
*apiMAX software:* Simulation and Analysis of Various Pulp and Paper Mills  
API ROMANIA, Eftimie Murgu street no.11B, Cluj-Napoca, Romania  
American Process Inc., 750 Piedmont Avenue N.E., Atlanta Georgia GA 30308, USA

July 2004 - December 2007 **Business or sector:** Consultancy in Chemical Engineering  
Fellowship  
Projects:  
*Decision Support Tools for Sustainable Industrial Development: Process Simulation*  
*Cleaner Production and Sustainable Industrial Development*  
International Center for Science and High Technology,  
United Nations Industrial Development Organization, ICS-UNIDO  
AREA Science Park, Padriciano 99, 34012 Trieste, Italy

October 2003 - July 2004 **Business or sector:** Technological transfer and Sustainability  
Junior Research Assistant:  
*Polioxometalați-substanțe catalitice și biologice active* (Proiect CERES)  
*Tehnologii noi de obținere a unor compuși de molibden de calitate specială pentru industria sărmelor* (Proiect RELANSIN)  
Chemical Institute of Research Raluca Ripan Cluj-Napoca  
Str. Fântânele 30, Cluj-Napoca, 400294, Cluj, Romania  
**Business or sector:** Research

## EDUCATION AND TRAINING

January 2005 - December 2007 **PhD in Chemical Engineering**  
University of Padua - University of Trieste, Italy  
Department of Chemical, Environmental and Raw Materials  
Engineering (DICAMP) Graduate in 18 April 2008  
PhD Thesis  
Computer Aided Design of Sustainable Industrial Processes

October 2003 - June 2004 **Master of Science in Advanced Process Engineering**  
Babeş-Bolyai University, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, Romania  
Faculty of Chemistry and Chemical Engineering  
Specialization: Advanced Process Engineering  
Master Thesis: "Modellation, Simulation and Control of a Fluid Catalytic Cracking Unit using the Recurrent Neural Networks"

October 2003 - June 2004 **Master of Science in Pharmaceutical Industrial Technology**

University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania, Faculty of Pharmacy  
Cluj-Napoca, Romania

Master Thesis: Formulation of Compressed Pills for the Pharmaceutical Industry:  
Technology and Process Parameters

October 1998 - June 2003

**Chemical Engineer**

Babeş-Bolyai University, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, Romania  
Faculty of Chemistry and Chemical Engineering

Specialization: Computer-Aided Engineering of Chemical Systems  
Bachelor Thesis: "Modellation, Simulation and Control of a Fluid Catalytic  
Cracking Unit Using Neural Networks"

**PERSONAL SKILLS**

Mother tongue Romanian

**Other language(s)**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
Italian	C2	C2	C2	C2	C1
	CILS certificate (Certificazione di Italiano come Lingua Straniera) - released by Università per Stranieri di Siena level C2 score 86/100 - CILS certificate (Certificazione di Italiano come Lingua Straniera) - released by Università per Stranieri di Siena level B2 score 93/100				
Franch	A1	A2	A1	A1	A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

**Communication skills**

Excelent communication skills due to the participation and coordination of various research projects,  
participation to various events (conferences, workshops, project proposals)

Organisational / managerial skills	Very good organisational and managerial skills Coordination of 3 projects (two HORIZON 2020 international projects and one national project)
Job-related skills	Planning of research activities Coordination of project proposals Supervision of bachelor/master thesis Planning of research activities
Computer skills	Life Cycle Assessment (LCA): GaBi PC Systems: Windows Editors: MS Office (Word, Excel, Power Point, Visio, Access) Process Simulators: Aspen Plus, ChemCad, PROII, apiMAX, COCO-COFE Matlab Visual Basic Molecular Modelling: Material Studio, TURBOMOLE

## ADDITIONAL INFORMATION

### A. ISI Articles

1. *Assessment of hybrid solvent – membrane configurations for post-combustion CO<sub>2</sub> capture for super-critical power plants*, Calin-Cristian Cormos, **Letitia Petrescu**, Ana-Maria Cormos, and Cristian Dinca, *Energies*, 2021, **14**(16), 5017 (factor 3,004)
2. *Process simulation coupled with LCA for the evaluation of liquid - liquid extraction processes of phenol from aqueous streams*, **Letitia Petrescu**, Silvia Burca, Maurizio Fermeglia, Andrea Mio, Calin-Cristian Cormos, *Journal of Water Process Engineering*, 41, 2021, 102077 (factor 5,485)
3. *Membrane technology applied to steel production: Investigation based on process modelling and environmental tools*, Alexandra Veronica Luca, Letitia Petrescu, *Journal of Cleaner Production*, 2021, 294, 126256 (factor ISI 9,297)
4. *Assessment of flexible carbon capture and utilization options applied to gasification plants*, **Letitia Petrescu**, Cristian Dinca, Calin-Cristian Cormos, *UBB Chemia 2020, LXV*, 4, 21 - 34 (factor ISI 0,49).
5. *Techno-economic and environmental assessment of hydrogen production based on natural gas steam reforming*, Stefan Galusnyak, **Letitia Petrescu**, Calin-Cristian Cormos, *UBB Chemia 2020, LXV*, 4, 7 - 19 (factor ISI 0,49).
6. *Investigation, simulation and comparison of various routes for bioethanol production*, **Letitia Petrescu**, Ana-Maria Posa, *Studia UBB Chemia 2020, LXV*, 3, 119 - 134 (factor ISI 0,49).
7. *Environmental evaluation of European ammonia production considering various hydrogen supply chains*, Dora-Andreea Chisalita, **Letitia Petrescu**, Calin-Cristian Cormos, *Renewable and Sustainable Energy Reviews*, Vol. 130, 109964, 2020 (factor ISI 14,982).
8. *Modeling and Simulation of Methanol production from Coke Oven Gas (COG)*, **Letitia Petrescu**, Dumitrita-Aura Crisan, *Studia UBB Chemia 2020, LXV*, 2, 29 - 44 (factor ISI 0,49).
9. *Techno-Economic and Environmental Evaluations of Decarbonized Fossil-Intensive Industrial Processes by Reactive Absorption & Adsorption CO<sub>2</sub> Capture Systems*, Ana-Maria Cormos, Simion Dragan, **Letitia Petrescu**, Vlad Sandu and Calin-Cristian Cormos, *Energies* 2020, 13, 1268 (factor ISI 2,702).
10. *Life Cycle Assessment of SEWGS Technology Applied to Integrated Steel Plants*, **Letitia Petrescu**, Dora Andreea Chisalita, Calin-Cristian Cormos, Giampaolo Manzolini, Paul Cobden, H.A.J van Dijk, *Sustainability* 2019, 11, 1825; (factor ISI 2,576).
11. *Assessing the environmental impact of an integrated steel mill with post-combustion CO<sub>2</sub> capture and storage using the LCA methodology*, Dora-Andreea Chisalita, **Letitia Petrescu**, Paul Cobden, H.A.J (Eric) van Dijk, Ana-Maria Cormos, Calin-Cristian Cormos, *Journal of Cleaner Production*, Volume 211, 1015-1025, 2019 (factor ISI 9,297).
12. *Carbon capture and utilisation technologies applied to energy conversion systems and other energy-intensive industrial applications*, Ana-Maria Cormos, Cristian Dinca, **Letitia Petrescu**, Dora Andreea Chisalita, Szabolcs Szima, Calin-Cristian Cormos, *Fuel*, 211, 883-890, 2018 (factor ISI 6,609).

13. *Environmental assessment of IGCC power plants with pre-combustion CO<sub>2</sub> capture by chemical & calcium looping methods*, **Letitia Petrescu**, Calin-Cristian Cormos, Journal of Cleaner Production, 158, 233-244, 2017 (factor ISI 9,297).
14. *Life Cycle Assessment for supercritical pulverized coal power plants with post-combustion carbon capture and storage*, **Letitia Petrescu**, Davide Bonalumi, Gianluca Valenti, Ana-Maria Cormos, Calin-Cristian Cormos, Journal of Cleaner Production, 157, 10-21, 2017 (factor ISI 9,297).
15. *Modeling and simulation of fuels production from syngas*, **Letitia Petrescu**, Arpad Imre-Lucaci, Cristina Izabella Berci, Studia Chemia, LXII, 4, Tom II, 231-240, 2017 (factor ISI 0,49).
16. *Life Cycle Analysis applied to acrylic acid production process with different fuels for steam generation*, **Letitia Petrescu**, Maurizio Fermeiglia, Calin-Cristian Cormos, Journal of Cleaner Production, 133, 294-303, 2016 (factor ISI 9,297).
17. *Waste reduction (WAR) algorithm applied for environmental impact assessment of coal gasification with carbon capture and storage*, **Letitia Petrescu**, Calin-Cristian Cormos, Journal of Cleaner Production 104, 220-235, 2014 (factor ISI, 9,297).
18. *Assessment of chemical looping-based conceptual designs for high efficient hydrogen and power co-generation applied to gasification processes*, Calin-Cristian Cormos, Ana-Maria Cormos, **Letitia Petrescu**, Chemical Engineering Research and Design, 92, 741 - 751, 2014 (factor ISI 3,739).
19. *Computer Aided Design for Sustainable Industrial Processes: Specific Tools and Applications*, Maurizio Fermeiglia, Gennaro Longo, **Letitia Toma**, AIChE Journal, Vol. 55, No.4, 1065 - 1078, 2009 (factor ISI 3,519).
20. *COWAR: A CAPE OPEN Software Module for the Evaluation of Process Sustainability*, Maurizio Fermeiglia, Gennaro Longo, **Letitia Toma**, Environmental Progress & Sustainable Energy, Vol.27, No.3, 373 - 382, 2008 (factor ISI 1,989).
21. *Simulation and Model Predictive Control of the Fluid Catalytic Cracking Unit Using Artificial Neural Networks*, Vasile Mircea Cristea, **Letitia Toma** and Paul Șerban Agachi, Revue Roumaine de Chimie, 52 (12), 1157 - 1166, 2007 (factor ISI 0,381).

#### Articles published on the international conferences

1. *Life Cycle Assessment of Bio-methanol Derived from Various Raw-materials*, Stefan C. Galusnyak, **Letitia Petrescu**, Dora A. Chisalita, Calin C. Cormos, Chemical Engineering Transactions, Vol.86, 2021, 667-672.
2. *Decarbonization of Fossil Energy-intensive Industrial Processes using Innovative Calcium Looping Technology*, Calin Cristian Cormos , Ana-Maria Cormos, **Letitia Petrescu**, Cristian Dinca, Chemical Engineering Transactions, Vol.86, 2021, 937-942.
3. *Modelling and Simulation of Methanol and Biodiesel Production Processes using Innovative Technologies*, **Letitia Petrescu**, Stefan C. Galusnyak, Dora A. Chisalita, Calin C. Cormos, Chemical Engineering Transactions, Vol.80, 181-186, 2020.
4. *Modelling and Simulation of Methanol Production and Conversion into Various Chemical Intermediates and Products*, **Letitia Petrescu**, Stefan-Cristian Galusnyak, Dora-Andreea Chisalita, Calin-Cristian Cormos. Proceedings of the 30<sup>th</sup> European Symposium on Computer Aided Process Engineering, Elsevier, Book ISBN: 9780128233771, volume 48, 553 - 558, 2020.
5. *Environmental comparison of various ammonia production plants with carbon capture and storage*, D.A. Chisalita, **L.Petrescu**, C.C. Cormos, 14<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croatia, 1 - 6 October, 2019.
6. *Reducing Carbon Footprint of Energy-Intensive Applications by CO<sub>2</sub> Capture Technologies: An Integrated Technical and Environmental Assessment*, A.M. Cormos, S. Dragan, **L. Petrescu**, D.A. Chisalita, S. Szima, V.C. Sandu, C.C. Cormos, Chemical Engineering Transactions, vol.76, 2019, 1033-1038.
7. *Sorption-enhanced water-gas shift technology platform for cost effective CO<sub>2</sub> reduction in the iron & steel industry*, Van De Water, L.G.A. , Lukashuk, L., Van Dijk, H.A.J. , Cobden, P.D., Lundqvist, M. , Manzolini, G. , **Petrescu, L.** , Van Der Veer, S. , Mancuso, L., Johns, J., Bellqvist, D., 12th Natural Gas Conversion Symposium 2019, Pages 544-547 12th Natural Gas Conversion Symposium 2019; San Antonio; United States; 2-6 June 2019.

8. *Assessing Energy and CO<sub>2</sub> Emission Reduction from Ammonia Production by Chemical Looping as Innovative Carbon Capture Technology*, Dora-Andreea Chisalita, **Letitia Petrescu**, Ana-Maria Cormos, Calin-Cristian Cormos, Proceedings of the 28<sup>th</sup> European Symposium on Computer Aided Process Engineering - ESCAPE 28, Elsevier, Book ISBN: 9780444642356, volume 43, 1269 - 1274, 2018.
9. *Assessing the CO<sub>2</sub> Emissions Reduction from Cement Industry by Carbon Capture Technologies: Conceptual Design, Process Integration and Techno-economic and Environmental Analysis*, Calin-Cristian Cormos, Ana-Maria Cormos, **Letitia Petrescu**, Proceedings of the 27<sup>th</sup> European Symposium on Computer Aided Process Engineering - ESCAPE 27, Elsevier, Book ISBN: 9780444639653, volume 40, 2593 - 2598, 2017.
10. *Process design and integration of various carbon capture approaches into the energy sector and other energy-intensive industrial applications*, Calin-Cristian Cormos, **Letitia Petrescu**, Ana-Maria Cormos, Serban Agachi. Computer Aided Chemical Engineering 38, 265-270, 2016.
11. *Life Cycle Assessment of Natural gas-based Chemical Looping for Hydrogen Production*, **Letitia Petrescu**, Calin C. Cormos, Christoph R. Müller. Energy Procedia 63, 7408 - 7420, 2014.
12. *Evaluation of calcium looping as carbon capture option for combustion and gasification power plants*, C.C. Cormos, **L. Petrescu**, Energy Procedia 51, 154 - 160, 2014.
13. *Assessment of Hydrogen Production Systems based on Natural Gas Conversion with Carbon Capture and Storage*, Calin-Cristian Cormos, **Letitia Petrescu**, Ana-Maria Cormos, Computer Aided Chemical Engineering, Vol. 33, 1081 - 1086, 2014 (ISBN – 978-0-444-63434-4).
14. *Assessment of Hydrogen and Power Co-generation based on Biomass Direct Chemical Looping Systems*, Calin-Cristian Cormos, Ana-Maria Cormos, **Letitia Petrescu**. Chemical Engineering Transactions, vol. 39, 247 - 252, 2014.
15. *Process Sustainability Prediction: A Computer Aided Design tool for Sustainable Industrial Development* Fermeiglia M., **Toma L.**, Longo G. ECOSYSTEMS AND SUSTAINABLE DEVELOPMENT (VII) 165 - 176, 2011 (ISBN 978-1845645106).
16. *Molecular simulation techniques for sustainable technology and environmental applications: general overview and case studies*, Paolo Cosoli, Maurizio Fermeiglia, Marco Ferrone, Sabrina Pricl, **Letitia Toma**, Chemical Engineering Transactions Vol. 13, 351 - 358, 2008.
17. *Development of a Process Sustainability Prediction (PSP) Framework*, Maurizio Fermeiglia, Gennaro Longo, **Letitia Toma**. Chemical Engineering Transactions, Vol. 11, 761-766, 2007.
18. *A Hierarchical Approach for the Estimation of Environmental Impact of a Chemical Process: from Molecular Modelling to Process Simulation*, Maurizio Fermeiglia, Gennaro Longo, **Letitia Toma**. Computer Aided Chemical Engineering, Vol.24, 1199-1204, 2007 (ISBN 978-0-444-53157-5).

## B. Other articles

1. *Life cycle analysis (LCA) of various alternatives for benzene production*, **Letitia Petrescu**, Bulletin of Romanian Chemical Engineering Society, Vol. 2, No. 2, ISSN 2360 - 4697, 2015.
2. **Oral presentation on various conferences**
  1. *Application of carbonate looping cycle as an energy-efficient decarbonization process of key fossil-intensive industrial applications*, Calin-Cristian Cormos, Simion Dragan, Ana-Maria Cormos, **Letitia Petrescu**, Vlad-Cristian Sandu, Ionela-Dorina Dumbrava, Stefan Cristian Galusnyak, 10th International Conference on Energy and Environment CIEM 2021, 14 - 15 Octombrie 2021, Bucuresti, Romania
  2. *Environmental Impact Assessment of Post-combustion CO<sub>2</sub> Capture Applied to Cement Production Plants*, Stefan Cristian Galusnyak, Alexandra , **Letitia Petrescu**, Calin Cristian Cormos, 16<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), 10-15 Octombrie, 2021, Dubrovnik, Croatia.
  3. *Environmental evaluation of H<sub>2</sub> production employing innovative chemical looping technologies*, Chisalita Dora-Andreea, **Petrescu Letitia**, Cormos Calin-Cristian, International Conference on Hydrogen Production, *ICH2P 2021*, 19-23 Septembrie 2021 (online conference)



4. *A Cradle-To-Gate LCA Analysis Of Biodiesel Production Coupled With Post-Combustion CO<sub>2</sub> Capture Applied To Cement Plants*, Stefan Cristian Galusnyak, Alexandra Veronica Luca, **Letitia Petrescu**, Calin Cristian Cormos, 13<sup>th</sup> International Conference on Sustainable Energy & Environmental Protection, SEEP 2021, 13-16 Septembrie, 2021, Viena, Austria, (online conference).
5. *Decarbonization of Fossil Energy-intensive Industrial Processes using Innovative Calcium Looping Technology*, Calin-Cristian Cormos, Ana-Maria Cormos, **Letitia Petrescu**, Cristian Dinca, 15<sup>th</sup> International Conference on Chemical And Process Engineering ICHEAP15, Napoli, 23-16 May, 2021 (online conference)
6. CONVERGE technology for efficient methanol production: Energy and Environmental analysis, **Letitia Petrescu**, International workshop on CO<sub>2</sub> capture and utilization/ Eindhoven/ 16-17 February 2021 (online workshop).
7. *Environmental assessment of bio-methanol production process using LCA methodology*, **L. Petrescu**, S. C. Galusnyak, D. A. Chisalita, C. Cormos, *Environmental assessment of bio-methanol production process using LCA Methodology*, 19<sup>th</sup> International Conference Life Cycle and Sustainable Development, Cluj-Napoca, Romania, 24 - 25 September, 2020 (online conference).
8. *Modelling and Simulation of Methanol Production and Conversion into Various Chemical Intermediates and Products*, **Letitia Petrescu**, Stefan-Cristian Galusnyak, Dora-Andreea Chisalita, Calin-Cristian Cormos. 30<sup>th</sup> European Symposium on Computer Aided Process Engineering - ESCAPE 30, Milano, Italia, 31 August -2 September 2020 (online conference).
9. *Reducing Carbon Footprint of Energy-Intensive Applications by CO<sub>2</sub> Capture Technologies: An Integrated Technical and Environmental Assessment*, A.M. Cormos, S. Dragan, **L. Petrescu**, D.A. Chisalita, S. Szima, V.C. Sandu, C.C. Cormos, Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, Pres, Agios Nikolaos, Creta, Grecia, 20 - 23 October, 2019.
10. *Environmental comparison of various ammonia production plants with carbon capture and storage*, D.A. Chisalita, **L. Petrescu**, C.C. Cormos, 14<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croatia, 1 - 6 October, 2019.
11. *Chemical looping technology -An energy efficient way for reducing carbon footprint of fossil-based industrial processes*, C.C. Cormos, **L. Petrescu**, A.M. Cormos, D.A. Chisalita, 21<sup>st</sup> Romanian International Conference on Chemistry and Chemical Engineering - RICCE21, Mamaia, Romania, 4 - 7 September 2019.
12. *Cost effective CO<sub>2</sub> reduction in the Iron & Steel Industry by means of the SEWGS technology: STEPWISE project*, H.A.J. van Dijk, P.D. Cobden, M. Lundqvist, **L. Petrescu**, L. Lukashuk, G. Manzolini, C. van Dijk, L. Mancuso, J. Johns, D. Bellqvist, 14<sup>th</sup> International Conference on Greenhouse Gas Control Technologies, GHGT-14, Melbourne, Australia, 21 - 25 October 2018.
13. *Environmental assessment of an integrated steelmill with carbon capture and storage*, **Letitia Petrescu**, Dora Andreea Chisalita, Calin-Cristian Cormos, Ana-Maria Cormos, Paul Cobden, H.A.J (Eric) van Dijk, 7<sup>th</sup> High Temperature Solid Looping Network Meeting, Lulea, Sweden, 2017.
14. C.C. Cormos, C. Dinca, **L. Petrescu**, A.M. Cormos, *Carbon capture and utilisation technologies applied to energy conversion systems and other energy-intensive applications*, 8th Clean Coal Technologies conference - CCT2017, 8 - 12 May 2017, Cagliari, Sardinia, Italy.
15. *Life Cycle Assessment of Integrated Gasification Combined Cycle plants with pre-combustion CO<sub>2</sub> capture by chemical & calcium looping*, **L. Petrescu**, C. Müller, C.C. Cormos, 6<sup>th</sup> High Temperature Solid Looping Network Meeting, Milano, Italy, 2015.
16. *Life Cycle Assessment of Natural gas-based Chemical Looping for Hydrogen Production*, **Letitia Petrescu**, Calin C. Cormos, Christoph R. Müller. GHGT-12 Austin, Texas, USA, 2014.
17. *Environmental Evaluation of IGCC-based Chemical Looping Processes*, **L. Petrescu**, C.C. Cormos. 5<sup>th</sup> High Temperature Solid Looping Network Meeting, Cambridge, UK, 2013.
18. *Process Sustainability Prediction: A Computer Aided Design tool for Sustainable Industrial Development* Fermeglia M., **Toma L.**, Longo. 8<sup>th</sup> International Conference on Ecosystems and Sustainable Development (ECOSUD 2011), 13 - 15 Aprilie, 2011, Alicante, Spain.

19. *CAPE OPEN Modules for the Process Sustainability Prediction Framework- Description and Applications*, Maurizio Fermeglia, Gennaro Longo, **Letitia Toma**, Oral presentation, AIChE Annual Meeting, Salt Lake City, Utah, USA, 4 - 9 November, 2007.
20. *A CAPE OPEN Unit Operation for the Evaluation of Environmental Impact of a Chemical Process*, Maurizio Fermeglia, Gennaro Longo, **Letitia Toma**, CAPE OPEN European Conference, Heidelberg, Germania, 7 - 9 March 2007.
21. *Neural Networks Used for Model Predictive Control of the Fluid Catalytic Cracking Unit* M. V. Cristea, **L. Toma**, S. P. Agachi, 7<sup>th</sup> World Congress of Chemical Engineering, Glasgow, UK, 10-14 July, 2005.

#### **Poster conferences**

1. *CO<sub>2</sub> capture by membrane applied to steel production process*, Alexandra-Veronica Luca, **Letitia Petrescu**, ICECCE012 2022: 16 International Conference on Environmental Chemistry and Chemical Engineering, 11-12 Noiembrie, 2022 Venice, Italy (online conference)
2. *Life Cycle Assessment of Bio-methanol Derived from Various Raw-materials*, Stefan C. Galusnyak, **Letitia Petrescu**, Dora A. Chisalita, Calin C. Cormos, 15<sup>th</sup> International Conference on Chemical And Process Engineering ICHEAP15, Napoli, 23-16 May, 2021 (online conference)
3. *Environmental Assessment of Biomethanol production process using LCA Methodology*, **Letitia Petrescu**, Stefan Cristian Galusnyak, Dora-Andreea Chisalita, Calin-Cristian Cormos, 19th International Conference Life Cycle and Sustainable Development, 24-25 September 2020, Cluj-Napoca, Romania
4. *Investigation of Coke Methanol Production Process from Coke Oven Gas using process flow-modelling tools*, Aura-Dumitrița Crisan, Letiția Petrescu, 16<sup>th</sup> International Conference "Students for Students", 3-7 April, 2019, Cluj-Napoca, Romania.
5. *Environmental assessment of carbon capture and storage technologies applied to steel production*, **L. Petrescu**, D.A. Chisalita, C.C. Cormos, G. Manzolini, P. Cobden, H.A.J van Dijk, Chisa, 25-29 August, 2018, Praga, Czech Republic.
6. *Assessment of chemical & calcium looping technologies as promising carbon capture options applied to energy-intensive industrial applications*, Calin-Cristian Cormos, Simion Dragan, **Letitia Petrescu**, Dora Chisalita, Ana-Maria Cormos, WCCE-10, 10<sup>th</sup> World Congress of Chemical Engineering, Barcelona, Spain, October 2017.
7. *Evaluation of chemical looping-based carbon capture options for coal gasification plants*, Calin-Cristian Cormos, Arpad Imre-Lucaci, Ana-Maria Cormos, **Letitia Petrescu**, 9<sup>th</sup> European Congress of Chemical Engineering ECCE 9, 21-25 April, The Hague, Netherlands, 2013.