

## INFORMAȚII PERSONALE

## Letitia Petrescu



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Sexul F | Naționalitatea Română

## EXPERIENȚA PROFESIONALĂ

Ianuarie 2021 – prezent

Conferențiar

Universitatea Babeș-Bolyai, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, România  
Facultatea de Chimie și Inginerie Chimică

Predarea de cursuri, seminarii și lucrări de laborator pentru disciplinele:  
CAD și software specific ingineriei chimice (nivel licență)  
Intensificarea proceselor de transfer (nivel master)

Tipul sau sectorul de activitate: Educație și Cercetare

Octombrie 2014 – Ianuarie 2021

Lector

Universitatea Babeș-Bolyai, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, România  
Facultatea de Chimie și Inginerie Chimică

Predarea de cursuri, seminarii și lucrărilor de laborator pentru disciplinele:  
CAD și software specific ingineriei chimice (nivel licență)  
Intensificarea proceselor de transfer (nivel master)  
Bazele ingineriei reacțiilor chimice (seminar - nivel licență)

Tipul sau sectorul de activitate: Educație și Cercetare

2016 - prezent

Membru în echipele de cercetare ale proiectelor:

Proiecte internaționale:

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

Proiecte naționale:

*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

Universitatea Babeș-Bolyai, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, România  
Facultatea de Chimie și Inginerie Chimică

Tipul sau sectorul de activitate: Educație și Cercetare

Asistent Cercetare

Proiecte:

*Advanced thermo-chemical looping cycles for the poly-generation of dearbonised energy vectors: Material synthesis and characterisation, process modelling and life cycle analysis* (Proiect trienal Romania-Elveția, (2013 - 2015);

*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).

Universitatea Babeș-Bolyai, Cluj-Napoca  
Mihail Kogalniceanu nr.1, RO-400084, Cluj-Napoca, România  
Facultatea de Chimie și Inginerie Chimică

Tipul sau sectorul de activitate: Educație și Cercetare

Februarie 2013 - Septembrie  
2014

Ianuarie 2008 - Decembrie 2012

Chimist

Proiecte:

*Process Indicator Benchmarking*: elaborarea, selecția, calculul și analiza indicatorilor de performanță tehnologică, economică și ecologică pentru diferite instalații de obținere a celulozei și hârtiei

*apiMAX software*: modelarea, simularea și analiza și compararea diferitelor instalații de obținere a celulozei și hârtiei în vederea optimizării acestora.

API ROMANIA, str.Eftimie Murgu nr.11B, Cluj-Napoca, România  
American Process Inc., 750 Piedmont Avenue N.E., Atlanta Georgia GA 30308, USA

Iulie 2004 - Decembrie 2007

Tipul sau sectorul de activitate: Consultanță în Ingineria Chimică

Bursă de studiu

Proiecte:

*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, Italia

Octombrie 2003 - Iulie 2004

Tipul sau sectorul de activitate: Transfer Tehnologic pentru Dezvoltare Durabilă

Asistent Cercetare

Proiecte:

*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)

Institutul de Cercetare în Chimie Raluca Ripan Cluj-Napoca  
Str. Fântânele nr.30, Cluj-Napoca, 400294, jud. Cluj, România

Tipul sau sectorul de activitate: Cercetare

## EDUCAȚIE ȘI FORMARE

Ianuarie 2005 - Decembrie 2007

Doctor în Inginerie Chimică

Scrieți nivelul  
EQF, dacă îl  
cunoașteți

Universitatea din Padova - Universitatea din Trieste, Italia  
(Università degli Studi di Padova - Università degli Studi di Trieste)

Titlul echivalat de Centrul Național de Recunoaștere și Echivalare a Diplomelor - Ministerul Educației,  
Cercetării și Inovării

Titlul lucrării de doctorat:

Computer Aided Design of Sustainable Industrial Processes

(în traducere: Proiectarea Asistată de Calculator a Proceselor Industriale Durabile)

Octombrie 2003 - Iunie 2004

Masterat în Inginerie Chimică

Universitatea Babeș-Bolyai, Cluj-Napoca

Facultatea de Chimie și Inginerie Chimică

Specializarea: Inginerie de Proces Avansată

Lucrarea de Masterat:

Modelarea, Simularea și Conducerea Evoluată de Proces a Instalației de Cracare Catalitică  
folosind Rețele Neuronale Recurente

Octombrie 2003 - Iunie 2004

Masterat în Industrie Farmaceutică

Universitatea de Medicină și Farmacie Iuliu Hațieganu, Cluj-Napoca

Facultatea de Farmacie

Specializarea: Tehnologie Farmaceutică Industrială

Lucrarea de Masterat:

Formularea și tehnologia de fabricație a comprimatelor

Octombrie 1998 - Iunie 2003

Licență în Inginerie Chimică

Universitatea Babeș-Bolyai, Cluj-Napoca  
 Facultatea de Chimie și Inginerie Chimică  
 Specializarea: Informatica Sistemelor Chimice  
 Lucrarea de Licență:  
 Modelarea, Simularea și Conducerea Evoluată de Proces a Instalației de Cracare Catalitică folosind Rețele Neuronale Artificiale

## COMPETENTE PERSONALE

Limba(i) maternă(e) Româna

### Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleză	C1	C2	C1	C1	C1
Italiană	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				
Franceză	A1	A2	A1	A1	A1

Niveluri: A1/2: Utilizator elementar - B1/2: Utilizator independent - C1/2: Utilizator experimentat  
 Cadrul european comun de referință pentru limbi străine

### Competențe de comunicare

Competențele de comunicare  
 Bune competențe de comunicare dobândite prin:  
 participarea și coordonarea diferitelor proiecte de cercetare,  
 participarea la diferite evenimente (conferințe, workshopuri, depunerea de proiecte de cercetare)  
 conducerea a peste 25 de lucrări de licență și masterat.  
 Abilități de ascultare, spirit de echipă, empatie.

**Competențe organizaționale/manageriale**

Scrieți competențele organizaționale/manageriale.  
Bune competențe organizaționale/manageriale dobândite prin coordonarea a 3 proiecte de cercetare (două internaționale de tip HORIZON 2020) și unul național

**Competențe dobândite la locul de muncă**

Planificarea unei munci de cercetare.  
Experiență în planificare și coordonarea activităților didactice și a proiectelor de cercetare

**Competențe informatice**

Competențele informatice deținute.  
PC Systems: Windows  
Editors: MS Office (Word, Excel, Power Point, Visio, Access)  
Simulatoare de proces: Aspen Plus, ChemCad, PROII, apiMAX, COCO-COFE  
Matlab  
Analiza ciclului de viață Life Cycle Assessment (LCA): GaBi  
Visual Basic  
Modelare Moleculară: Material Studio, TURBOMOLE

**INFORMATII SUPLIMENTARE**
**Lista de lucrări**
**A. Lucrări ISI**

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 Fermeglia, 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 Fermeglia, 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 Fermeglia, 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).

#### **Publicații in extenso apărute în lucrările principalelor conferințe internaționale**

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 June 2019 through 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. Alte lucrări apărute în reviste naționale de specialitate**

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. Prezentări orale la conferințe**

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 (conferință online)
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, (conferință online).
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 Mai, 2021 (conferință online)
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 Februarie 2021 (workshop online).
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 Septembrie, 2020 (conferință online).
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 Septembrie 2020 (conferință online).
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 Octombrie, 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 - *RICCCE21*, 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 Octombrie 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, Suedia, 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 Mai 2017, Cagliari, Sardinia, Italia.
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, Italia, 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* Fermeiglia 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 Fermeiglia, Gennaro Longo, **Letitia Toma**, Oral presentation, AIChE Annual Meeting, Salt Lake City, Utah, USA, 4 - 9 Noiembrie, 2007.
20. *A CAPE OPEN Unit Operation for the Evaluation of Environmental Impact of a Chemical Process*, Maurizio Fermeiglia, Gennaro Longo, **Letitia Toma**, CAPE OPEN European Conference, Heidelberg, Germania, 7 - 9 Martie 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 Iulie, 2005.

#### **Poster la conferințe**

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 Venetia, Italia (conferință online)
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 Mai, 2021 (conferință online)
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 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 Aprilie, 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, Cehia.
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, Spania, 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.