


## INFORMAȚII PERSONALE



## Stefan Cristian Galusnyak

 Universitatea Babeș-Bolyai, Facultatea de Chimie și Inginerie Chimică, Arany Janos 11, RO-400028, Cluj-Napoca, Cluj, România  
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Sex: M | Data nașterii: 19/08/1995 | Naționalitatea: Român

## EXPERIENȚA PROFESIONALĂ

- |              |  |
|--------------|--|
| 2024-prezent | <b>Asistent universitar</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br>Departamentul de Inginerie Chimică   |
| 2023-prezent | <b>Asistent cercetare științifică</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br>Proiect de cercetare: Calcium looping to capture CO <sub>2</sub> from industrial processes by 2030 (CaLby2030), HORIZON Europe Framework Programme, Nr. 101075416                  |
| 2022-prezent | <b>Asistent cercetare științifică</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br>Proiect de cercetare: Renewable Energy based seasonal Storage Technology in Order to Raise Economic and environmental sustainability of DHC (RESTORE), Orizont 2020, Nr. 101036766 |
| 2021-prezent | <b>Asistent cercetare științifică</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br>Proiect de cercetare: Advanced thermo-chemical systems for flexible low-carbon energy generation and storage applications, PN-III-P4-ID-PCE-2020-0032                              |
| 2020-2022    | <b>Asistent cercetare științifică</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br>Proiect de cercetare: Carbon Valorisation in Energy-efficient Green fuels (CONVERGE), Orizont 2020, Nr. 818135   |
| 2019-2020    | <b>Inginer chimist</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br>Proiect de cercetare: Carbon Valorisation in Energy-efficient Green fuels (CONVERGE), Orizont 2020, Nr. 818135  |

## EDUCAȚIE ȘI FORMARE

- |           |   |
|-----------|---|
| 2020-2024 | <b>Diplomă de Doctor în domeniul Ingineriei Chimice</b><br>Școala Doctorală de Inginerie Chimică, Universitatea Babeș-Bolyai, Cluj-Napoca, România  |
| 2018-2020 | <b>Diplomă de Master</b><br>Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România<br><br><ul style="list-style-type: none"> <li>▪ Evaluarea impactului asupra mediului a procesului de obținere a biodieselului folosind metodologia LCA</li> </ul> |
| 2018-2020 | <b>Diplomă de absolvire a modului pedagogic – Nivel 2</b>   |

Departamentul Pentru Pregătirea Personalului Didactic, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România

2014-2018 **Diplomă de Inginer**

▪ Nivelul 2

Facultatea de Chimie și Inginerie Chimică, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România

2014-2017 **Diplomă de absolvire a modului pedagogic – Nivel 1**

▪ Modelarea matematică și proiectarea reactorului de reformare primară a gazului metan cu vapori de apă, parte integrantă a unei instalații de obținere a amoniacului, cu o capacitate de 1200 tone per zi

Departamentul Pentru Pregătirea Personalului Didactic, Universitatea Babeș-Bolyai Cluj-Napoca, Cluj-Napoca, România

2010-2014 **Diplomă de Bacalaureat**

▪ Nivel 1

Colegiul Național Decebal, Deva, Hunedoara, România

## COMPETENȚE PERSONALE

Limba(i) maternă(e) Română

Alte limbi străine cunoscute

	ÎNȚELEGERE		VORBIRE		SCRIS
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleză	C2	C1	C2	C2	C2
Franceză	A2	A2	A2	A2	A2

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

Competențe de comunicare

- Aptitudini excelente de comunicare atât scrise, cât și verbale dobândite în urma experienței în domeniul academic
- Abilități de ascultare empatică și vorbitor cu spirit de convingere

Competențe organizatorice / manageriale

- Gândire analitică
- Leadership
- Lucru în echipă
- Soluționarea problemelor
- Managementul timpului

Competențe dobândite la locul de muncă

- Modelarea și simularea proceselor
- Evaluarea impactului asupra mediului folosind metodologia ciclului de viață (LCA)

Competențe digitale

- E.C.D.L Core certification

Permis de conducere

- AM
- B1
- B

## INFORMAȚII SUPLIMENTARE

Specializări și calificări

- 2021 – International Summer School for PhD Students on Methods and Technologies for Energy Transition and Climate protection, Faculty of Energy and Environmental Engineering, Department of Thermal Engineering, Gliwice, Polonia

- Publicații
- S.C. Galusnyak, L. Petrescu, V.-C. Sandu, C.-C. Cormos, Environmental impact assessment of green ammonia coupled with urea and ammonium nitrate production, *Journal of Environmental Management*, 2023, 343, 118215
  - S.C. Galusnyak, L. Petrescu, D.-A. Chisalita, C.-C. Cormos, M. Ugolini, From secondary biomass to bio-methanol through CONVERGE technology: an environmental analysis, *Energies*, 2023, 16, 2726
  - D.-A. Chisalita, L. Petrescu, S.C. Galusnyak, C.-C. Cormos, Environmental evaluation of hydrogen production employing innovative chemical looping technologies – A Romanian case study, *International Journal of Hydrogen Energy*, 2023, 48, 12112-12128
  - C.-C. Cormos, M. Dragan, L. Petrescu, S. Dragan, A.-M. Cormos, S.C. Galusnyak, F.M. Ilea, A.-M. Bathori, Techno-economic evaluation of synthetic natural gas production based on biomass gasification with CO<sub>2</sub> capture, *Chemical Engineering Transactions*, 2023, 103, 7-12
  - S.C. Galusnyak, L. Petrescu, C.-C. Cormos, Classical vs. reactive distillation technologies for biodiesel production: an environmental comparison using LCA methodology, *Renewable Energy*, 2022, 192, 289-299
  - S.C. Galusnyak, L. Petrescu, C.-C. Cormos, Environmental impact assessment of post-combustion CO<sub>2</sub> capture technologies applied to cement production plants, *Journal of Environmental Management*, 2022, 320, 115908
  - S.C. Galusnyak, L. Petrescu, D.-A. Chisalita, C.-C. Cormos, Life cycle assessment of methanol production and conversion into various chemical intermediates and products, *Energy*, 2022, 259, 124784
  - A. Mio, L. Petrescu, A.-V. Luca, S.C. Galusnyak, M. Fermeglia, C.-C. Cormos, Carbon dioxide capture in the iron and steel industry: thermodynamic analysis, process simulation, and life cycle assessment, *Chemical and Biochemical Engineering Quarterly*, 2022, 36, 255-271
  - S.C. Galusnyak, I.D. Dumbrava, L. Petrescu, S. Dragan, C.-C. Cormos, Assessment of CO<sub>2</sub> utilization technologies into valuable C<sub>1</sub> organic chemicals: a modelling and simulation analysis, *Chemical Engineering Transactions*, 2022, 94, 397-402
  - C.-C. Cormos, M. Dragan, C. Dinca, A.-M. Cormos, S. Dragan, I.D. Dumbrava, F.M. Ilea, S.C. Galusnyak, Economic assessment of green hydrogen production from biomass gasification with chemical absorption and membrane-based CO<sub>2</sub> capture, *Chemical Engineering Transactions*, 2022, 94, 277-282
  - S.C. Galusnyak, L. Petrescu, D.-A. Chisalita, C.-C. Cormos, Life cycle assessment of bio-methanol derived from various raw-materials, *Chemical Engineering Transactions*, 2021, 86, 667-672
  - C.-C. Cormos, S. Dragan, A.-M. Cormos, L. Petrescu, V.-C. Sandu, I.D. Dumbrava, S.C. Galusnyak, 10<sup>th</sup> international Conference on Energy and Environment (CIEM), 2021, 1-5
  - S.C. Galusnyak, L. Petrescu, C.-C. Cormos, Techno-economic and environmental assessment of hydrogen production based on natural gas steam reforming process, *STUDIA UBB CHEMIA*, 2020, 65(4), 7-19
  - L. Petrescu, S.C. Galusnyak, D.-A. Chisalita, C.-C. Cormos, Modelling and simulation of methanol and biodiesel production processes using innovative technologies, *Chemical Engineering Transactions*, 2020, 80, 181-186
  - L. Petrescu, S.C. Galusnyak, D.-A. Chisalita, C.-C. Cormos, Modelling and simulation of methanol production and conversion into various chemical intermediates and products, *Computer Aided Process Engineering (ESCAPE)*, 2020, 48, 553-558
  - S.C. Galusnyak, S. Dragan, Mathematical modelling of steam methane reforming process, *STUDIA UBB CHEMIA*, 2019, 64(4), 7-18

## Prezentări conferințe

- S.C. Galusnyak, L. Petrescu, D.-A. Chisalita, C.-C. Cormos, Techno-environmental assessment of methanol production using chemical looping technologies, 15<sup>th</sup> International Conference on Sustainable Energy and Environmental Protection (SEEP – 23), London, England, 25 – 28<sup>th</sup> July 2023, oral presentation
- L. Petrescu, S.C. Galusnyak, F.A. Grozav, I.L. Arpad, C.-C. Cormos, Technical evaluation and comparison of various value-added products derived from glycerol, 18<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES – 23), Dubrovnik, Croatia, 24 – 29<sup>th</sup> September 2023, oral presentation
- C.-C. Cormos, M. Dragan, L. Petrescu, A.-M. Cormos, S. Dragan, S.C. Galusnyak, A.-M. Bathori, Assessment of hydrogen production from sorption-enhanced biomass gasification with CO<sub>2</sub> capture feature, 18<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES – 23), Dubrovnik, Croatia, 24 – 29<sup>th</sup> September 2023
- C.-C. Cormos, M. Dragan, L. Petrescu, S. Dragan, A.-M. Cormos, S.C. Galusnyak, F.M. Ilea, A.-M. Bathori, Techno-economic evaluation of synthetic natural gas production based on biomass gasification with CO<sub>2</sub> capture, 26<sup>th</sup> Conference on Process Integration for Energy Saving and Pollution Reduction (PRES – 23), Thessaloniki, Greece, 8 – 11<sup>th</sup> October, 2023
- S.C. Galusnyak, I.D. Dumbrava, L. Petrescu, S. Dragan, C.-C. Cormos, Assessment of CO<sub>2</sub> utilization technologies into valuable C1 organic chemicals: a modelling and simulation analysis, 25<sup>th</sup> Conference on Process Integration for Energy Saving and Pollution Reduction (PRES – 22), Bol, Croatia, 5 – 8<sup>th</sup> September 2022, oral presentation
- S.C. Galusnyak, L. Petrescu, C.-C. Cormos, Environmental impact assessment of green ammonia coupled with urea production, 17<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES – 22), Paphos, Cyprus, 6 – 10<sup>th</sup> November 2022, oral presentation
- C.-C. Cormos, M. Dragan, C. Dinca, A.-M. Cormos, S. Dragan, I.D. Dumbrava, F.M. Ilea, S.C. Galusnyak, Economic assessment of green hydrogen production from biomass gasification with chemical absorption and membrane-based CO<sub>2</sub> capture, 25<sup>th</sup> Conference on Process Integration for Energy Saving and Pollution Reduction (PRES – 22), Bol, Croatia, 5 – 8<sup>th</sup> September 2022, poster
- L. Petrescu, A.M. Cosprundan, S.C. Galusnyak, C.-C. Cormos, Biodiesel production using various methanol sources: investigation based on process modelling and simulation tools, 14<sup>th</sup> International Conference on Sustainable Energy and Environmental Protection (SEEP – 22), London, England, 12 – 15<sup>th</sup> September 2022, oral presentation
- C.-C. Cormos, L. Petrescu, A.-M. Cormos, S. Dragan, S.C. Galusnyak, I.D. Dumbrava, F.M. Ilea, V.C. Sandu, Techno-economic and environmental assessment of cement production plants integrated with CO<sub>2</sub> capture, 16<sup>th</sup> International Conference on Greenhouse Gas Control Technologies (GHGT – 16), Lyon, France, 23 – 27<sup>th</sup> October 2022, poster presentation
- L. Petrescu, S.C. Galusnyak, C.-C. Cormos, From various bio-sources to green hydrogen production: A critical technical comparison and discussion, 13<sup>th</sup> International Conference on Hydrogen Production (ICH2P – 13), 11 – 14<sup>th</sup> December 2022, oral presentation
- S.C. Galusnyak, L. Petrescu, D.-A. Chisalita, C.-C. Cormos, Life cycle assessment of bio-methanol derived from various raw-materials, 15<sup>th</sup> International Conference on Chemical and Process Engineering (iCheap – 15), Naples, Italy, 23 – 26<sup>th</sup> May 2021, poster presentation
- S.C. Galusnyak, A.V. Luca, L. Petrescu, C.-C. Cormos, A cradle-to-gate LCA analysis of biodiesel production coupled with post-combustion CO<sub>2</sub> capture applied to cement plants, 13<sup>th</sup> International Conference on Sustainable Energy and Environmental Protection (SEEP – 21), Vienna, Austria, 13 – 16<sup>th</sup> September 2021, oral presentation
- S.C. Galusnyak, L. Petrescu, C.-C. Cormos, Environmental impact assessment of post-combustion CO<sub>2</sub> capture applied to cement production plants, 16<sup>th</sup> Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES – 21), Dubrovnik, Croatia, 10 – 15<sup>th</sup> October 2021, oral presentation
- C.-C. Cormos, S. Dragan, A.-M. Cormos, L. Petrescu, V.C. Sandu, I.D. Dumbrava, S.C. Galusnyak, Application of carbonate looping cycle as an energy-efficient decarbonization process of key fossil-intensive industrial applications, 10<sup>th</sup> International Conference on Energy and Environment (CIEM – 21), Bucharest, Romania, 14 – 15<sup>th</sup> October 2021, oral presentation

## Proiecte de cercetare

- CarbON Valorisation in Energy-efficient Green fuels (CONVERGE), HORIZON 2020, Nr. 818135
- Renewable Energy based seasonal Storage Technology in Order to Raise Economic and environmental sustainability of DHC (RESTORE), HORIZON 2020, Nr. 101036766
- Advanced thermo-chemical systems for flexible low-carbon energy generation and storage applications, PN-III-P4-ID-PCE-2020-0032
- CarbON Valorisation in Energy-efficient Green fuels (CONVERGE), Awarding participation in HORIZON 2020, PN-III-P4-ID-PCE-2020-0032
- Calcium looping to capture CO<sub>2</sub> from industrial processes by 2030 (CaLby2030), HORIZON Europe Framework Programme, Nr. 101075416