Curriculum Vitae (CV)

1. Personal details

- **Name**: Patrick Niyirora
- **Nationality**: Rwandan| **Date of birth**: 21/05/1998| **Gender**: Male
- **Phone number**: +3903508989382| **Email address**: niyipa05@gmail.com
- **LinkedIn**: https://www.linkedin.com/in/patrick-niyirora-21562b153/
- **Address**: Milan, Italy

2. Degrees

- 14/10/2024, EU Erasmus Mundus Joint Master of Science, Sustainable Biomass and Bioproducts Engineering - Chemical Engineering, Lappeenranta-Lahti University of Technology LUT, Wrocław University of Science and Technology and University of Castilla-La Mancha, https://emjm-sbbe.eu/
  (GPA: ***4.71/5.0***)
- 15/08/2022, Bachelor of Science, Chemical Engineering, Eskisehir Osmangazi University, Odunpazarı/Eskişehir, Türkiye, https://kimyamuh.esogu.edu.tr/
  (GPA: ***3.21/4.0***)

3. Language skills

- Native language: Kinyarwanda
- Other language skills: English (C1), Turkish (C1), and French (B2)

4. Current employment

- 01/01/2026 – now, PhD Student, Industrial Chemistry and Chemical Engineering, Polytechnic University of Milan

5. Work experience

- 01/10/2024 – 01/01/2026, Managing Director, Lathabrews Ltd, Kigali, Rwanda; soft drinks bottling company in Rwanda.
- 15/01/2024 – 12/09/2024, MSc researcher, Wrocław University of Science and Technology (Department of Process Engineering and Technology of Polymer and Carbon Materials) in Wrocław, Poland; ***Developed two novel rhenium-based heterogeneous catalysts for continuous-flow reduction of nitroaromatics. Designed 3-D printed catalytic columns with a focus on sustainable process engineering. Performed in-depth characterization (FT-IR, HPLC, SEM, EDX, HRTEM, ICP-OES, XPS, and UV-Vis). Funded by Poland's National Science Centre (UMO-2020/39/D/ST8/01352), resulting in two patent applications and two peer-reviewed publications***.
- 28/06/2023 – 28/07/2023, Intern, Environmental Remediation of Water and Soil Institute for Chemical and Environmental Technology (ITQUIMA) in Ciudad Real, Spain; ***Researched biogas production from Phragmites australis (absorbs pollutants from water and soil), using ultrasound treatment to enhance yield and analysing residual biomass for biodegradability.***
- 06/07/2022 – 25/07/2022, Intern, Production Engineer, Ben Plastik, Eskişehir, Türkiye; ***Performed production planning and quality control of produced plastics.***
- 06/02/2022 – 25/02/2022, Intern, Quality Assurance/Quality Control, Haskan Paint, Ankara, Türkiye***; Conducted quality control tests on paints, adhesives, and related products during and after production, ensuring compliance with company standards and recommending improvements when products failed to meet quality requirements.***
- 12/09/2021 – 30/09/2021, Intern, Chemical Engineering Laboratories, Eskişehir Osmangazi University - Chemical Engineering Department, Eskişehir, Türkiye; ***Performed comprehensive experiments across Analytical Chemistry, Physical Chemistry, Spectroscopy, and Chemical Engineering.***

6. Research output

- Total number of publications**:** 3
  (**2** peer-reviewed review article, **1** MSc thesis)

1. **Catalytic Production of Aromatic Amines from Nitroaromatics – Addressing a Critical Challenge in Environmental Remediation**
   Chemistry – A European Journal (Wiley)
   DOI: 10.1002/chem.202500281
   Authors: Patrick Niyirora, Piotr Cyganowski
   Database: Web of Science, Scopus
2. **Continuous Flow-Mode Synthesis of Aromatic Amines in a 3D-Printed Fixed Bed Reactor Loaded with Amino Sugar-Stabilized Re Apparent Nanoparticles**
   MDPI – Molecules
   DOI: 10.3390/molecules30183782
   Authors: Patrick Niyirora, Joanna Wolska, Mateusz M. Marzec, Krystian Sokolowski, Anna Leśniewicz, Anna Dzimitrowicz, Andrzej Bernasik, Marek Bryjak, Piotr Cyganowski
3. **Recovery of fine chemical products from agricultural wastes**
   Master's Thesis, LUT University
   Open Access: LUTPub
   Author: Patrick Niyirora

7. Skills

- **Catalysis & Materials**: Heterogeneous catalyst design, flow chemistry, 3D-printed reactors, biomass valorization
- **Analytical Techniques**: FT-IR, UV-Vis, HPLC, SEM, EDX, XPS, HRTEM, ICP-OES, XRD, NMR and more
- **Process Engineering**: Aspen Plus, Aspen HYSYS, ChemCad, MATLAB/Octave, Python, STATISTICA, process design & optimization
- **Research & Communication**: Scientific writing, project planning, interdisciplinary collaboration, multicultural teamwork
- **Soft Skills**: problem-solving, cross-functional communication, adaptability, and project management.