

# Alessandro Cascioli

ENERGY ENGINEER · PHD

Viale Aleardi, 6, Terni, Umbria, 05100, Italy

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## Summary

Dynamic Energy Engineer with a PhD in Sustainable Energy and Technologies. Strong interest in cybersecurity, coding and AI development. Passionate about driving impactful change by developing and implementing effective strategies that align with the Sustainable Development Goals.

## Work Experience

### Syntex GreenTech

SUSTAINABILITY CONSULTANT

Perugia, Italy

Oct. 2023 - Present

- Developed an innovative ESG strategy, driving sustainability while reducing financial risks through data-backed decision-making.
- Conducted comprehensive sustainability impact assessments, identifying key risks and opportunities for business growth.
- Developed Sustainability reports following both the GRI and EFRAG frameworks.
- Developed autonomously a platform to speed up the collection of information and monitoring of KPIs.
- Clients in the following sectors: footwear, pharmaceutical, logistics, transportation, clothing, energy, food trade.

### I.T.S. Umbria Academy

LECTURER

Perugia, Italy

Oct. 2023 - Present

- Lecturer for the training unit "Project Management" for no. 18 hours in the course "Energy Efficiency"

### Free University of Bozen-Bolzano

POSTDOCTORAL RESEARCH AND TEACHING ASSISTANT

Bozen, Italy

Nov. 2022 - Present

- RFD project - Recovery of strategic materials from sewage sludge (acronym RFD).
- FRONTSH1P project - A FRONTrunner approach for the transition to a circular and resilient future: deployment of systemic solutions with the support of local clusters and the development of regional community-based innovation schemes.
- Performed techno-economic analysis to optimize process conditions and reduce costs.
- Developed simulations and models to foster the understanding of thermochemical processes.
- Applied data analysis techniques to experimental datasets, such as peak de-convolution and curve fittings.
- Developed a machine learning model to predict the biocrude oil yield.
- Teaching assistant for the course "Energetics" of the B.Sc. in Industrial and Mechanical Engineering.
- Teaching assistant for the course "Power Production, CHP and District Heating Systems" of the M.Sc. in Energy Engineering.
- Support in the supervision of PhD and Master students.

### SGS

ISO 27001:2013/2022 AUDITOR TRAINEE

Italy

Aug. 2021 - Present

- ISO/IEC 27001:2013 - Information Security Management lead auditor training.
- ISO/IEC 27001:2022 - Information security, cybersecurity and privacy protection.

### SGS

CONSULTANT

Italy

Oct. 2018 - Oct. 2019

- Dealer training for stock audit on assignment from a certifying organization for a leading heavy machinery manufacturer.
- Audits held in Italy.

### Qualitas S.r.l.

CONSULTANT AND AUDITOR

Perugia, Italy

Jul. 2018 - Present

- ISO/IEC 27001 - Information Security Management internal audits for a consulting company.

### SGS

AUDITOR

Europe

Apr. 2017 - Oct. 2019

- 2nd party compound audit on assignment from a certifying organization for a leading automobile manufacturer.
- Audits held in Italy and abroad (Austria, Germany, Finland, Poland, Portugal, Sweden).

### Baruffaldi S.r.l.

CONSULTANT

Perugia, Italy

Oct. 2016 - Oct. 2019

- CE homologation processes of motorcycle helmets, goggles and gloves.
- Management of relationships with suppliers, mainly not Italian (China and Pakistan).

## Skills

<b>Programming</b>	SQL, Python, JavaScript, TypeScript, C, Bash, Dart, LaTeX, Matlab
<b>Scientific computing</b>	NumPy, SciPy, Sympy, Pandas, LMFIT
<b>Machine learning</b>	TensorFlow, Keras, PyTorch, Scikit-learn, XGBoost
<b>Data visualization</b>	Tableau, Matplotlib, Seaborn, Plotly, Altair, Sigmaplot
<b>Dashboards and app development</b>	Streamlit, Dash, Django, Flask, React, React Native, NextJS, AstroJS, Flutter, PySide, TKinter
<b>Database management</b>	PostgreSQL, MySQL, SQLite, MongoDB, SuperbaseDB

## Certificates

2023	<b>Specific course for ESG-SDGs Auditor/Lead Auditor and Consultant related to the ESG-SDGs Rating:2022©</b>	<a href="#">CERTIFICATION Srl</a>
2023	<b>ISO/IEC 27001:2022 Transition Course</b>	<a href="#">SGS</a>
2023	<b>DeepLearning.AI TensorFlow Developer Specialization</b>	<a href="#">Coursera</a>
2020	<b>State examination for the qualification to practice as an Energy and Nuclear Engineer</b>	<a href="#">University of Trento</a>
2019	<b>ISO/IEC 27001:2013 - Information Security Management Systems Auditor/Lead Auditor Training Course</b>	<a href="#">SGS</a>

## Education

### Free University of Bozen-Bolzano

[Bozen, Italy](#)

PHD IN SUSTAINABLE ENERGY AND TECHNOLOGY

*Oct. 2019 - Oct. 2022*

- Thesis: Hydrothermal liquefaction of biomass and biocrude upgrading: fundamentals, experimental analysis and modelling.
- Spent 5 months as a visiting PhD in the Advanced Biofuels Lab of Aalborg University, Denmark.
- Developed and commissioned a pilot plant for the production of biocrude oil to be upgraded to SAF (Sustainable Aviation Fuels).
- Process modelling through optimization algorithms to find thermodynamic equilibrium.
- Performed techno-economic analysis to optimize process conditions and reduce costs.
- Support in the supervision of master students.
- Preparation of technical reports, visualizations, and presentations.

### Free University of Bozen-Bolzano

[Bozen, Italy](#)

M.SC. IN ENERGY ENGINEERING

*Sep. 2017 - Oct. 2019*

- Thesis: Valorization of residues from parapharmaceutical and herbal medicine production: a case study.

### University of Perugia

[Perugia, Italy](#)

B.E. IN MECHANICAL ENGINEERING

*Sep. 2013 - Apr. 2017*

- Erasmus + of 6 months at the FAU Erlangen-Nürnberg, Germany.

## Languages

<b>Italian</b>	Native or bilingual proficiency, C2
<b>English</b>	Professional working proficiency, C1
<b>German</b>	Independent user, B2

# Appendix

## Publications

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### 78th national congress ATI (2023)

V. BENEDETTI, A. CASCIOLI, S. FASOLI, A. AREF, F. PATUZZI, M. BARATIERI

2023

- Continuous Hydrothermal Liquefaction of microalgae for biocrude oil production

### Bioresource Technology

V. BENEDETTI, A. CASCIOLI, M. PECCHI, M. BARATIERI

2024

- Fast screening of catalyst performances in hydrothermal processes for biofuel production using differential scanning calorimetry
- DOI: <https://doi.org/10.1016/j.biortech.2024.130934>

### Fuel Processing Technology

M. PECCHI, A. CASCIOLI, A. R. MAAG, J. L. GOLDFARB, M. BARATIERI

2022

- Uncovering the transition between hydrothermal carbonization and liquefaction using differential scanning calorimetry
- DOI: <https://doi.org/10.1016/j.fuproc.2022.107349>

### Fuel

A. CASCIOLI, M. BARATIERI

2021

- Enhanced thermodynamic modelling for hydrothermal liquefaction
- DOI: <https://doi.org/10.1016/j.fuel.2021.120796>

## Conferences and Seminars

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### WasteEng22 - The 9th International Conference on Engineering for Waste and Biomass Valorisation

[Copenhagen, Denmark](#)

ORAL

2022-06-27 - 2022-06-30

Legitimation of differential scanning calorimetry for the study of hydrothermal carbonization and liquefaction.

### EUBCE 2022 - 30th European Biomass Conference and Exhibition

[Online](#)

ORAL

2022-05-09 - 2022-05-12

A Newly Designed Pilot-Scale Continuous Reactor for Hydrothermal Liquefaction: Preliminary Results and Validation of an Enhanced Thermodynamic Model.

### WasteEng21 - The 8th International Conference on Engineering for Waste and Biomass Valorisation

[Online](#)

ORAL

2021-05-31 - 2021-06-04

Valorisation of lignocellulosics residues from herbal medicine production.

### EUBCE 2021 - 29th European Biomass Conference and Exhibition

[Online](#)

ORAL

2021-04-26 - 2021-04-29

Hydrothermal carbonization of lignocellulosic biomass from para-pharmaceutical and herbal medicine production.

### EUBCE 2020 - 28th European Biomass Conference and Exhibition

[Online](#)

POSTER

2020-07-06 - 2020-07-09

Exploitation of lignocellulosic biomass from para-pharmaceutical and herbal medicine production.

## Honors & Awards

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### INTERNATIONAL AWARDS

2022 **Springer Nature's Best Oral Flash Award**, WasteEng2022 Conference

[Copenhagen, Denmark](#)

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