

# 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 Technology. Strong interest in cybersecurity, coding and AI development. Passionate about driving impactful change by developing and implementing effective strategies that align with global sustainability goals.

## Work Experience

### Syntex GreenTech

Perugia, Italy

SUSTAINABILITY CONSULTANT

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.

### Free University of Bozen-Bolzano

Bozen, Italy

POSTDOCTORAL RESEARCH AND TEACHING ASSISTANT

Nov. 2022 - Present

- 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, and M.Sc. in Energy Engineering.
- Support in the supervision of PhD and Master students.

### SGS

Italy

ISO 27001:2013/2022 AUDITOR TRAINEE

Aug. 2021 - Present

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

### SGS

Italy

CONSULTANT

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.

Perugia, Italy

CONSULTANT AND AUDITOR

Jul. 2018 - Present

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

### SGS

Europe

AUDITOR

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.

Perugia, Italy

CONSULTANT

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>	CERTIFICATION Srl
2023	<b>ISO/IEC 27001:2022 Transition Course</b>	SGS
2023	<b>DeepLearning.AI TensorFlow Developer Specialization</b>	Coursera
2020	<b>State examination for the qualification to practice as an Energy and Nuclear Engineer</b>	University of Trento
2019	<b>ISO/IEC 27001:2013 - Information Security Management Systems Auditor/Lead Auditor Training Course</b>	SGS

## 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.

## Publications

### 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>

## Honors & Awards

### INTERNATIONAL AWARDS

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

Copenhagen,  
Denmark

## Skills

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

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