UNIVERSITÀ DEGLI STUDI DI MILANO

Curriculum vitae

AL MAGNIFICO RETTORE
DELL'UNIVERSITA' DEGLI STUDI DI MILANO **COD. ID: 4612**

Il sottoscritto chiede di essere ammesso a partecipare alla selezione pubblica, per titoli ed esami, per il conferimento di un assegno di ricerca presso il Dipartimento di Scienze Agrarie e Ambientali - Produzione, Territorio, Agroenergia

Responsabile scientifico: Prof. Fabrizio Adani

Elisa CLAGNAN

CURRICULUM VITAE

INFORMAZIONI PERSONALI

Cognome	CLAGNAN
Nome	Elisa
Data Di Nascita	03.10.1989

OCCUPAZIONE ATTUALE

Incarico	Struttura
Assegnista di ricerca	Libera Università di Bolzano

ISTRUZIONE E FORMAZIONE

Titolo	Corso di studi	Università	anno conseguimento titolo
Laurea Triennale	Biology - Curriculum: Cellular and Molecular Biology and Technology Thesis: *Histochemical localization of ROS in the lichen Parmotrema perlatum (Huds.) M. Choisy by confocal microscopy.*	Università degli studi di Trieste	2011
Laurea Magistrale o equivalente	Functional Genomics Thesis: *Quorum sensing studies in Pseudomonas fuscovaginae UPB 0736 a broad host range emerging plant pathogen.*	Università degli studi di Trieste	2013
Dottorato Di Ricerca	Civil and Structural Engineering Thesis: *Nitrogen source, transformation and fate within intensive dairy systems to inform sustainable intensification.*	University of Sheffield	2018

LINGUE STRANIERE CONOSCIUTE

Lingue	Livello di conoscenza
Inglese	C1
Tedesco	B1

PREMI, RICONOSCIMENTI E BORSE DI STUDIO

anno	Descrizione premio
2013	Walsh Fellowship

ATTIVITÀ DI FORMAZIONE O DI RICERCA

descrizione dell'attività	
Aug 2014 - Mar 2019	**Freelance translator** Aglatec 14 Srl, Milano o Freelance translator (English>Italian) of European Patents; o Areas of expertise: biology, biotechnology, clinical trials, environment and pharmaceutics.
Sep 2013 - May 2018	**PhD in Civil and Structural Engineering - Walsh fellow** University of Sheffield - GPRG and APS groups TEAGASC (The Irish Agriculture and Food Development Authority) - Johnstown Castle o Examination of the concept of sustainable intensification in terms of impacts and relationships of drainage systems installed at intensive sites with different soil drainage classes, water quality, N transfer, N transformation, N fate and microbial community in order to develop a management tool; o Expertise in physiochemical, gaseous, isotopic, microbial and molecular techniques; o Plan, design, validate and carry out fieldwork, experiments and data analyses.
Dec 2014	**Internship trainee** Helmholtz-Centre for Environmental Research - UFZ (Halle) o Learning methods for collection, analysis and data analyses of water stable isotopes such as N (NO_3^-, NH_4^+, N_2O and N_2) and H_2O ($\delta^{14/15}N$, $\delta^{1/2}H$ and $\delta^{16/18}O$).
Dec 2012 - Oct 2013	**Internship trainee** ICGEB Trieste - Bacteriology and Plant Bacteriology group o Characterisation of the genes associated to the quorum sensing of the bacterium *P. fuscovaginae* for phenotypic and molecular functions; o Performing tests for antimicrobial activities, enzymes secretion, movement, exopolysaccharides and IAA production, biofilm formation, oxidative stress resistance, C-sources, growth curves and AHL profiling; o Performing cloning techniques, amplifications, ligations, conjugations and RNA sequencing.
Jan 2012 - Nov 2012	**Participant at the Massachusetts Institute of Technology synthetic biology competition - iGEM (International Genetically Engineered Machine)** ICGEB Trieste - Bacteriology and Plant Bacteriology group/Molecular Immunology group Università degli studi di Trieste o Engineering of a safe probiotic platform for protein expression; o Use of fundamental techniques for the manipulation of the DNA and verification of the results.
Mar 2010 - Dec 2011	**Internship trainee** Università degli studi di Trieste, Department of Life Science

- Fieldwork and samples collection, storage and preparation;
- Performing techniques for the perpetuation and the preparation of cultures of lichens in anoxic condition, separation of the two lichenic symbionts and perpetuation of the algal symbiont in solid culture;
- Qualitative and quantitative study of Reactive Oxygen Species.

ATTIVITÀ PROGETTUALE

Anno	Progetto
Mar 2020 - Currently	**Research assistant** Free University of Bolzano/Bozen - Environmental and Agricultural Microbiology Group /Agricultural and Agro-Environmental Sciences Group o Main project: INSIDE - Effect of the increase in nitrogen deposition on microbial soil communities through techniques based on DNA and RNA analysis in mountain forest ecosystems
Mar 2019 - Mar 2020	**Research assistant** Free University of Bolzano/Bozen - Environmental and Agricultural Microbiology Group o Main project: TRETILE - A microbe-based value chain: TREatment and valorisation of texTILE wastewater (collaboration with: Politecnico di Milano, Università degli Studi di Milano Bicocca, Università degli Studi di Milano, Lariana Depur s.p.a., Stamperia di Cassina Rizzardi); o In charge of molecular analyses for projects with UniTN and Rome CNR on the evaluation of the microbial communities of multiple bioreactors; o Evaluation of diversity, distribution and abundance of key algal, fungal and bacterial species. o Development of qPCR methods for 16S and nitrogen cycle functional genes; o NGS of 16S rRNA genes for bacteria, 18S for algae, Shotgun Sequencing. Tailor-made bioinformatics protocols; o Fingerprinting analysis tests (LH-PCR, ARISA); o Confocal and epifluorescence microscopy (FISH); o Co-supervisor of a B.Sc. student - thesis: Evaluation of the interaction between HDPE micro and nanoplastics and P. abietaniphila and C. sordidicola using flow cytometry.

CONGRESSI, CONVEGNI E SEMINARI

Data	Titolo	Sede
2015	Oral presentation *Beyond nitrate: developing multi-isotopic approaches to quantify the fate and transport of nitrogen within catchments.* N.S. Wells, K. Knoeller, E. Clagnan, O. Fenton, S.F. Thornton, S.A. Rolfe, M. Brauns.	International Symposium on Isotope Hydrology: Revisiting Foundations and Exploring Frontiers - IAEA (International Atomic Energy Agency), Vienna, Austria.
27-29 June 2016	Oral presentation *Nitrogen loss, source, transformation and attenuation within an intensive dairy farm in SE Ireland.* O. Fenton, E. Clagnan, S.F. Thornton, S.A. Rolfe, P. Tuohy, J. Murphy, N.S. Wells, K. Knoeller.	19th Nitrogen Workshop - Sveriges Lantbruks Universitet, Skara, Sweden.
2016	Oral presentation *Nitrogen loss, source, transformation and attenuation on dairy farms in Ireland.* O. Fenton, E. Clagnan, S.F. Thornton, S.A. Rolfe, P. Tuohy, J. Murphy, N. Wells, K. Knöller.	International Drainage Symposium, University of Minnesota, Minneapolis, Minnesota.
2016	Oral presentation *Nitrogen loss, source, transformation and attenuation within an intensive dairy farm in*	Groundwater Managing our Hidden Asset - Birmingham University, Birmingham, United Kingdom.

	SE Ireland. E. Clagnan, S.F. Thornton, S.A. Rolfe, P. Tuohy, J. Murphy, N.S. Wells, K. Knöller, O. Fenton.	
2016	Oral presentation *Does drainage of poorly drained soils affect their nitrogen attenuation capacity? Evidence from six dairy farms in south Ireland.* E. Clagnan, S.F. Thornton, S.A. Rolfe, P. Tuohy, J. Murphy, N.S. Wells, K. Knoeller, O. Fenton.	Resilience Emerging from Scarcity and Abundance - International Annual Meeting of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Phoenix, Arizona.

PUBBLICAZIONI

Articoli su riviste

Peer reviewed publications

- Clagnan, E., Thornton, S.F., Rolfe, S.A., Tuohy, P., Peyton, D., Wells, N.S., Fenton, O., 2018. *Influence of artificial drainage system design on the nitrogen attenuation potential of gley soils: Evidence from hydrochemical and isotope studies under field-scale conditions.* Journal of Environmental Management, 206, 1028-1038. https://doi.org/10.1016/j.jenvman.2017.11.069
- Clagnan, E., Thornton, S.F., Rolfe, S.A., Wells, N.S., Knoeller, K., Fenton, O., 2018. *Investigating "net" provenance, N source, transformation and fate within hydrologically isolated grassland plots.* Agricultural Water Management, 203, 1-8. https://doi.org/10.1016/j.agwat.2018.02.031
- Clagnan, E., Thornton, S.F., Rolfe, S.A., Wells, N.S., Knoeller, K., Murphy, J., Tuohy, P., Daly, K., Healy, M.G., Ezzati, G., von Chamier, J., Fenton, O., 2019. *An integrated assessment of nitrogen source, transformation and fate within an intensive dairy system to inform management change.* PlosOne, 14(7). https://doi.org/10.1371/journal.pone.0219479
- Clagnan, E., Thornton, S.F., Rolfe, Krol, D., Richards, K., Lanigan, G., Tuohy, P., Fenton, O., 2020. *Nitrogen transformation processes and gaseous emissions from a humic gley soil at two water filled pore spaces.* Soil and Tillage Research, 198. https://doi.org/10.1016/j.still.2019.104543
- Mosca Angelucci, D., Clagnan, E., Brusetti, L., Tomei, M.C., 2020. *Anaerobic phenol biodegradation: kinetic study and microbial community shifts under high concentrations dynamic loading.* Applied Microbiology and Biotechnology. https://doi.org/10.1007/s00253-020-10696-8

Other publications

- Wall, D.P., Fenton, O., Clagnan, E., Tuohy, P., Murphy, P., Buckley, C., Bondi, G., 2019. *Nutrient balance and soil condition: effects on dairy grassland productivity.* International Fertiliser Society, proceedings, 828.

Publications in preparation

- Clagnan E., Brusetti L., Visigalli S., Bargna M., Bergna G., Ficara E., Canziani R., Bellucci M. *PN/Anammox for the treatment of textile wastewater, performance and microbial community of a sequencing batch reactor.* Chemical Technology and Biotechnology.
- Clagnan, E., Petrini, S., Brusetti, L., Foladori, P., *Structure and composition of microbial wastewater communities in two biological wastewater treatment processes.* in preparation. Applied Microbiology and Biotechnology.

ALTRE INFORMAZIONI

TECHNICAL SKILLS

- **Molecular and microbial techniques:** cloning, amplifications, ligations, conjugations, DNA extraction, PCR, q-PCR, T-RFLP, NGS and shotgun sequencing, solid and liquid cultures, strain conservation, tests for bacterial phenotypes, growth curves, AHL profiling, creation of synthetic constructs, western blots.
- **Isotopic techniques:** collection, analysis and data analyses of N (NO_3^-, NH_4^+, N_2O and N_2) and H_2O naturally occurring stable isotopes ($\delta^{14/15}N$, $\delta^{1/2}H$ and $\delta^{16/18}O$) in plant/grass, soil, water substrates, isotopic enrichment incubation studies.
- **Gaseous techniques:** collection, analysis and data analyses of dissolved gases (N_2O, excess-N_2, CO_2 and CH_4) within shallow and groundwater, chamber experiments of gas (N_2O, N_2, CO_2 and CH_4) emissions.
- **Wet chemistry.**
- **Software packages:** DADA2, QIIME2, KRAKEN2, MG-RAST, PICRUSt2, SSPS (Statistical analyses), R Sofware, LIMS, Strider, Peak Scanner Software 2.0.
- Competence in data collections and analysis, experience with **fieldwork** and working with different substrate materials (e.g. plant/grass, soil, water).
- Capable of planning analytical work according to **health and safety directions.**
- **Microscopy techniques:** FISH (familiarity with fluorescence and confocal microscopy).
- Extras: Biosafety/Biosolids Awareness Training - LabSafety.ie; Chemical Safety Awareness & Spill Response Training - LabSafety.ie; Biodiversity Management and Conservation of Small Freshwater Wetlands Training - Trieste Natural History Museum, Biokarstic Studies; 1° Grado AR (Level I Diver) (FIPSAS) - Bolzano Sub/Sporttaucher Club Bozen; 1st Level Speleology Course - Karst Studies Society A.F. Lindner.

COMMUNICATION SKILLS

- Good **communication skills** gained through multiple oral presentations at multiple international scientific conferences.
- Good ability to **teamwork** and communicate with people from varied background and fields.
- Good ability to **collaborate** with different parties e.g. past collaborations with international institutions and projects while member of multiple research groups within different countries.
- Ability to **write** in English and translate up to scientific peer reviewed standards.

Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del DPR n. 445/2000.

Il presente curriculum, non contiene dati sensibili e dati giudiziari di cui all'art. 4, comma 1, lettere d) ed e) del D.Lgs. 30.6.2003 n. 196.

Luogo e data: Bolzano, 29.06.2020

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