



UNIVERSITÀ  
DI TRENTO



## FormID

Centro di competenza  
per la formazione dei docenti e  
l'innovazione didattica

# TEAM EXPERIENCES FOR INNOVATIVE TEACHING AND LEARNING AT UNITRENTO

In the framework of  
the ECIU Team Award 2019  
for Innovation in Teaching  
and Learning



European Consortium of Innovative Universities



The University of Trento is a partner of the European Consortium of Innovative Universities (ECIU), one of the main international networks of high intensity research universities, aimed at fostering collaboration in innovative teaching, research and knowledge exchange.

In this context, the University of Trento took part in the initiative promoted by the ECIU for the awarding of a prize for the design and implementation of innovative teaching practices enacted through cooperation between teachers, between teachers and external experts to the academic context and between teachers and students; based on the assumption that innovation in teaching and learning can lead to better results if implemented through shared projects, the award is called “Team Award” ([www.eciu.org/the-eciu-team-award](http://www.eciu.org/the-eciu-team-award)).

The initiative was created to identify and reward forms of teaching based on “creative” approaches aimed at researching innovative methodologies focused on student’s effective learning and awareness, approaches that are change-oriented and ready to “challenge the conventional thinking”, thus leading to effective forms of improvement of the learning processes in the university environment. “Challenging conventional thinking” is the fundamental element characterizing the agreement among the Consortium’s partners.

Participation in the ECIU Team Award was an opportunity to learn about some of the many experiences of innovative and participatory teaching already started at the University of Trento for several years and to discuss about future developments. With this purpose the candidates for the Award have agreed to share their experiences in the form of short presentations.

The FormID, a competence center established for teacher training and educational innovation within the framework of the University Strategic Project 2017-2021, is willing to involve the entire university community for continuing this dialogue and developing proposals and initiatives in the field of university teaching and learning and their innovation.

Prorector for teaching and learning  
Paola Iamiceli

## The Applied Interdisciplinary Labs (AILS)

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**Mariangela Franch, Roberta Raffaelli**

The master degree in Management of Sustainability and Tourism (MaST) was launched in 2015 with the deep conviction that a complex issue such as sustainability management requires a shift towards innovative teaching and learning approaches. Applied interdisciplinary labs (AILS) are the key student-centered teaching innovation of MaST. AILs can be defined as an interdisciplinary project-based/problem-based learning activity that are adopted by four couples of courses (8 out of the total 12 ones). Each couple of professors jointly identifies, sometimes involving external stakeholders, a research question or an economic problem. In the first 36 teaching hours, each professor provides students with concepts, methods and tools of his/her own discipline. In the last 12 hours (the last 3 weeks of semester), the students work together in the classroom in small groups (5 people), tackling the research question by jointly applying knowledge and tools acquired in the two courses. During the group work, both professors are in the classroom to give advice and suggestions, when requested, but each group has to find its own way to develop the project. Group members present the output of the project work to an extended audience composed by other classmates, a group of MaST professors and few external stakeholders interested in the project. This final presentation is an important occasion for peer learning and self-evaluation. The project work is assessed, marked (and contributes to the final grade of the courses) in terms of content, presentation skills and ability to do group work.

## BioLaw Project (BLP)

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**Lucia Busatta, Carlo Casonato, Simone Penasa, Cinzia Piciocchi, Elisabetta Pulice, Marta Tomasi,**

The BioLaw Project (BLP) aims to build solid and widespread knowledge about topics related to the relationship between law and life sciences, as well as artificial intelligence, through academic and professional education, research and dissemination.

The project is intended to develop in-depth knowledge of cutting-edge topics at the crossroad between law, life sciences and bioethics. Students are actively involved in the research activities of the project through courses and dissemination activities.

Law Students can take advantage of the materials collected on the website of the project and of academic articles published on the BioLaw Journal (class A scientific journal). They are also involved in the research of new topics and materials to be disseminated through the website and are actively involved in the writing of new file-cards. This helps them in improving their legal skills, through direct contact with legal sources (laws, reports and decisions) and in improving their critical analysis capacities. Drafting new file-cards is also a good instrument to help them in refine their

writing and synthesis skills, and in developing a positive attitude towards legal writing, in view of their future professional commitments (either academic or forensic).

The freshness of students' minds, moreover, is a catalyst for the project's innovation, as students are more keen to address new communication tools and to enhance the dialogue with different disciplines.

## CLab Trento (Contamination Lab)

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### **Alessandro Rossi**

CLab Trento (Contamination Lab) is an innovative learning environment focused on experiential, hands-on entrepreneurial education, where students from different backgrounds work in teams at developing a business idea, by engaging with experienced instructors, coaches and mentors, with the final goal of developing creative and unique solutions to customer problems and turning ideas into a real business opportunity.

CLab Trento offers a unique facility (a large open space/co-work facility) hosting various innovation and entrepreneurship educational activities complementing standard academic curricula of UniTrento students by introducing elements related to soft skills, teamwork, laboratorial and problem-based learning and mentoring by external experts (entrepreneurs, managers, startuppers) from the local ecosystem.

Its unique environment, where instructors and students are immersed in a truly interdisciplinary and highly diverse educational experience, challenges conventional thinking on education by promoting a hands-on, learning-by-doing approach where students are forced to get out of their comfort zone and engage with highly diverse teammates, instructors, mentors and corporate and institutional third parties.

Such cross-fertilization of ideas is truly a transformative element for all participants and, overall, contributes at fostering T-shaped education strategies at UniTrento by leveraging diversities in problem-based teamwork on I&E topics. Alumni of the programme (currently in its 7th year of operation) report life and career changing effects in their attitudes, self-confidence, self-efficacy, awareness and skill sets toward innovation and entrepreneurship, as well as perceived improvements in terms of their soft skills and employability in the international job market.

## Conflict Managers of Tomorrow Project (CTM)

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### **Silvana Dalla Bontà**

Conflict is an ever present process in human relations, as it inevitably affects the individual and social dimensions of human existence.

In today's globalised and multicultural world, conflict has evolved into a multi-faceted phenomenon which poses new challenges to society. Inspired by the latest efforts from the European Union, the Conflict Managers of Tomorrow Project has a two-

fold aim: in the short-term, the project will train a generation of settlement-oriented young professionals that will develop specific skills and knowledge on negotiation and mediation techniques; in the long-term, the project will contribute to spreading the use of alternative dispute resolution as a preferred alternative to court litigation.

The project is highly interdisciplinary and based on a “learning by doing” approach, which is in turn implemented through coaching and peer teaching. The main focus of the project lays on training and educating students to participate in national and international negotiation and mediation competitions, both in Italian and in English. Thanks to such hands-on experience, students gain a thorough understanding of conflict dynamics and learn how to achieve negotiated or mediated solutions through problem solving and effective communication. Students are thus provided with an all-round set of skills, ranging from hard to soft and life skills, and develop an ability to bridge differences and create value by unlocking the potential of alternative dispute resolution. This is not only beneficial to the students involved in the project, but also to the social context they will operate in as next generation professionals.

## **EUREGIO Challenge on Image Forensics (Turning the classroom into a virtual crime scene)**

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### **Giulia Boato**

In the context of a collaboration between the University of Trento and the University of Innsbruck, we had the opportunity to explore a new teaching modality for a signal processing course with an interdisciplinary cohort of students from both universities (master on information and communication technologies, master on computer science, master on mathematics, EIT master on security). Observing recent developments in innovative teaching, we targeted an educational approach that included the following:

- Experience with real problems: This allows students to have hands-on learning outcomes that would consolidate theoretical concepts while leaving them freedom to creatively develop their own approach.
- Teamwork: This aspect let students strengthen their communication and cooperation skills, embrace different viewpoints on problems, and improve both their technical and soft skills while working toward a common goal.
- Elements of gamification: These offer students the chance to engage with the problem in an entertaining way while competing against other teams under fair rules and defined scoring criteria.

We selected digital image forensics as a suitable topic because students have to slip into the role of expert witnesses or police investigators on a mission to detect image forgeries. Our students were taught a range of image forensics methods in conventional lectures in preparation for the challenge, which replaced part of the written exam typical for this course. We devised this challenge as a teaching experiment, implementing the principles described previously and making our best effort toward balancing realism and complexity for an attractive in-class experience.

## FinLab - Financial Planning Lab

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### Graziano Coller, Davide Panizzolo

FinLab main goal is to enhance interaction among students, teachers, firms (mainly SMEs) and their consultants in order to develop a concrete financial analysis fulfilled by teams of students. Italian entrepreneurial landscape is characterized by the presence of a huge number of SMEs (mainly small or micro enterprises) lacking knowledge and resources to achieve a correct financial management and planning. In this context, the possibility to organize a continuous consultancy service for SMEs and their consultants is one of the answers to overcome the existing technological and knowledge gap. Starting from this point, FinLab provides students practical knowledge to prove the feasibility of this solution. The main partners of this project are students, teachers and firms, and its main feature is interaction among this partners. Teachers, beyond a limited number of traditional lessons, manage the interaction with firms and organize the work of student teams. Students work in teams, collaborate with firms using financial models to analyze the firm and give them a feedback in terms of the results of this analysis. Firms provides data and informations and learn tools and methodologies to improve their financial management.

## GREAT! Get Ready for Exams Advanced Training

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### Paolo Sommaggio

The initiative is called GREAT, i.e. Get Ready for Exams-Advanced Training. This is a coaching and training program aimed at students of any year of the degree course, to train them to take the best university exams. The program aims to provide students with the tools to raise their awareness of the challenge of the exam, in order to best address the performance required, both from an argumentative, rhetorical, and psychological point of view. The program provides for the implementation of two (identical) cycles of conferences-laboratories during the course of the academic year. Each cycle will be divided into three phases:

- 1 2-hour workshop-conference on how to manage the exam from an argumentative point of view, with practical examples and exercises (teachers: Prof. Sommaggio and/or his collaborators)
- 1 2-hour workshop-conference on how to manage exam stress and correlative performance anxiety, with practical advice (teachers: professional psychologists)
- 1 2-hour workshop-conference on how to manage one's own body and surrounding space during public speaking (which can be considered as the exam), with practical advice (teachers: professional actors).

## Innovation and Entrepreneurship at University of Trento

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**Lorenzo Angeli, Andrea Capaccioli, Andrea Guarise, Massimiliano Luca, Milena Stoycheva**

The project consists in a course focusing on empowering students through the application of innovative teaching methods. We minimise the use of frontal lectures, and leverage instead many forms of educational technologies, team-based learning, student-teacher co-creation, and a debate structure called “Technology Battles”. The course empowers ICT students to critically assess technology, teaching them how they can make a real impact in the economy and society with their expertise. The course started as a run-of-the-mill “Economics and Management” course, but has undergone a deep redesign, which continues each year with continuous assessment and tweaking to best fit the expectations and needs of the students. In the last four years, the course has expanded its teaching team, and experimented its methods at many scales, from 40 to more than 150 students. It has produced research papers, and its teaching methods are experimented and deployed in other universities through the EIT Digital network. As a course that aims to address innovation, it orients its students to the future, rejecting the concept that innovation can be taught by applying logics belonging to the past. Students take co-ownership of the class in an entrepreneurial spirit, making this a course not about instructing, but about creating knowledge by combining disciplines, practices and people.

## JPT Jet Propulsion Theatre

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**Andrea Brunello, Stefano Oss**

JPT project, a permanent theatre workshop, explores two areas of research: on the one side it enhances the concept of outreach, on the other it is a research project in and of itself. JPT is an innovative, ground breaking and unique multidisciplinary activity, that lies at the interface between science and art, human beings, society and the philosophy of science. The project can act as a transformative agent at all levels of engagement, involving professional performing artists (Arditodesio Company), researchers, science educators and facilitators, in order to promote science engagement with students, teachers and general audiences. Through this approach, we can challenge conventional ideas about teaching by identifying imaginative methods to generate curiosity and wonder among the students. The project aims at creating a fertile environment for learning and also for disseminating science. JPT works closely with scientists: it relies on research work already realised, which needs to be explained to students and non technical audiences. At last, JPT project can be seen as an excellent tool to provide alternative, non formal and informal learning to students, empowering them to get more engaged in their science studies

## **Master Course on Circular Economy for Materials Processing (MC CEMP)**

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**Andrea Dorigato, Michele Fedel, Cinzia Menapace, Massimo Pellizzari, Vincenzo Sglavo**

Circular economy and resource efficiency are important aspects of sustainable development within industry and modern society. To introduce the concept of sustainable development, a wide range of knowledge is required on the optimizations during the different phases, from the handling of raw materials, to manufacturing and the applications up to the end-of-life phase and recycling.

The Master Course on Circular Economy for Materials Processing (MC-CEMP), offered to the students of the Master in Materials and Production Engineering (MPE) for the first time in the Academic year 2018-2019, is part of a larger project created by a pool of seven European universities/institutions and one steel Association supported by EIT-Raw Materials (European Institute of Innovation & Technology).

This project is aimed at building knowledge in state-of-the-art circular economy and resource efficiency practices to ensure that future graduate engineers have the skills to develop more sustainable processes in raw materials value chains. Partners from countries with state-of-the-art CE and Resource Efficiency practices (Finland, Sweden, Estonia, Italy, Slovakia and Poland) worked together to develop the course curriculum and the digital course content.

At Trento University the pilot MC-CEMP was offered as elective to MPE students, also including the students participating to the double degree program in SUstainable MAterials (SUMA), supported by EIT Raw Material and awarded by the EIT label. Eleven students participated to the first course edition.

The course was proposed with a multidisciplinary approach and the innovative scope of the course was recognized by both the students and the teachers involved.

## **PeIS - Teaming up in Social Innovation**

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**Letizia Caporusso, Francesca Sartori, Domenico Tosini**

The elective curriculum in Social Innovation and Project Management (PeIS) was designed to motivate students who are at risk of dropping out and/or who are considering ending their studies after graduating. Indeed, national statistics showed that half of the students who obtain a BA in Sociology in Trento did not proceed with an MA. Furthermore, locally conducted surveys revealed that half of them entered the job market in positions – and with a salary – which were lower than those of peers who never started university, while the other half carried on with a job they already started before graduation.

PelS addresses these issues and empowers students with hands-on experience and concrete abilities that can be easily appreciated by, and deployed in the labour market, thus bridging the gap between (social) businesses and academia. Participants attend two years of the standard BA in Sociology, which provides a methodological and theoretical background in Social Sciences, but in the third year they enter an innovative teaching and learning environment. Lectures are taught by a team of (non-academic) professionals who adopt project work techniques to address actual cases in the fields of social innovation project management, (social) communication and HR management. Students are supported by a tutor in the selection process needed to find an internship, thus mocking the “real job” search. Local, national, and international for- and non-profit businesses and organizations are engaged in company presentations and in an interdisciplinary project, where students and lecturers contribute to the innovation of a selected NGO.

## Psychologists' professions

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**Lorenzo Avanzi, Michela Vignoli**

The main goals of the project are:

- To enrich students' knowledge about the technical and non-technical skills they need to become psychologists;
- To guide the students towards their academic future and professional choices, providing information about the articulation of different professional activities in the field of applied psychology for the first construction of a professional role model.

The project provides the involvement of expert practitioners psychologists in order to enhance and reinforce students' (enrolled in the bachelor psychology program) knowledge about the technical and non-technical skills needed to perform the job effectively, and to give the students more awareness about what are the psychological professions and consequently to guide them in the choice of the master's degree course.

Psychologists invited belong to very different disciplines in the applied psychology domain in order to broaden the views and representations of the students. The course provides the involvement of the students with discussions and questions in class. Furthermore, the students have to develop a group work activity on a specific psychology profession in order to reinforce the new knowledge obtained and analyse in a deeper way the psychology profession they think interest them the most.

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