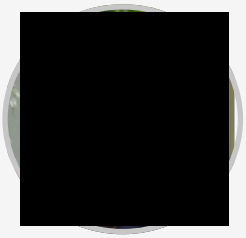
europass



Carolina Perna

Data di nascita: [redacted] | **Nazionalità:** [redacted] **Sesso:** [redacted] |

Numero di telefono: [redacted] | **Indirizzo e-mail:**

[redacted] **Sito web:**

[redacted]

Indirizzo: [redacted]

ESPERIENZA LAVORATIVA

30/11/2019 – 31/10/2021 Firenze, Italia

ASSEGNISTA DI RICERCA UNIVERSITÀ DEGLI STUDI DI FIRENZE

Assegnista di ricerca perso il Dipartimento DAGRI dell'Università degli Studi di Firenze nell'ambito del progetto INTRACERT: inerente l'uso dell'agricoltura di precisione nella produzione del grano per l'annata 2019-2020 e nell'ambito del progetto KATTIVO: Kit per la modifica di Atomizzatori in grado di eseguire Trattamenti con Tecnologia Innovativa e a dose Variabile Ottimizzata. Collaboratrice all'interno del Laboratorio Agrismart della Scuola di Agraria di Firenze. Cultrice della Materia per il corso "laboratorio di agricoltura digitale e di alta tecnologia" (B029750,)

28/10/2020 – 28/10/2020 Livorno, Italia

DOCENTE (CULTORE DELLA MATERIA) REGIONE TOSCANA

Docente all'interno del modulo: "Digitalizzazione nell'uso delle tecnologie di precisione e supporti digitali per trasferimento dati sui trattori" nel corso "Training manageriale nel settore agroalimentare", organizzato nell'ambito del progetto "OPERA - Organizzare e promuovere energie per il rilancio dell'attività" della Regione Toscana (CUP D54J17000170007).

10/05/2021 – 04/03/2022 Arezzo, Italia

DOCENTE (CULTORE DELLA MATERIA) DREAM FORMAZIONE E CONSULENZA

Docente per corso di formazione nell'ambito della digitalizzazione nelle aziende agricole, dell'uso dei sistemi informativi geografici, del monitoraggio metereologico e del monitoraggio della biodiversità

01/11/2021 – ATTUALE Firenze, Italia

PHD STUDENT (DOTTORANDA DI RICERCA) UNIVERSITÀ DEGLI STUDI DI FIRENZE

Dottoranda di ricerca con tesi a tema: applicazione di soluzioni di agricoltura di precisione e digitalizzazione nella coltivazione e produzione olivicola

ISTRUZIONE E FORMAZIONE

30/09/2016 – 29/04/2019 Firenze, Italia

LAUREA MAGISTRALE IN SCIENZE E TECNOLOGIE AGRARIE (CLASSE LM-69) Università degli Studi di Firenze

Conoscenze relative alle tecniche per il miglioramento qualitativo e quantitativo delle produzioni vegetali, alla gestione dei sistemi colturali in diversi contesti ambientali, alla progettazione, gestione e certificazione dei sistemi e dei processi delle produzioni di qualità.

Indirizzo Piazza di San Marco, 4, 50121 Firenze (FI), Piazzale delle Cascine, 18 - 50144 Firenze (FI), 50121, Firenze, Italia

Sito Internet https://www.unifi.it/ | **Campo di studio** Scienze Agrarie | **Voto finale** 110 e lode |

Tesi Risposta della vite alle condizioni di stress idrico indotte dalla gestione del suolo

30/09/2012 – 25/04/2016 Firenze, Italia

LAUREA IN SCIENZE E TECNOLOGIE AGRARIE Università degli Studi di Firenze

Conoscenze e competenze operative su aspetti agronomici, quantitativi e qualitativi delle produzioni - problemi del territorio agrario (es. aspetti catastali, topografici e cartografici) - stima dei beni fondiari, dei mezzi tecnici, degli impianti e dei prodotti di interesse agrario e alimentare - progettazione semplice e alla gestione di strutture e impianti in campo agrario, compreso il verde.

Indirizzo Piazza di San Marco, 4, 50121 Firenze (FI), Piazzale delle Cascine, 18 - 50144 Firenze (FI), 50121, Firenze, Italia

Sito Internet https://www.unifi.it/ | **Campo di studio** Scienze Agrarie | **Voto finale** 110 e lode |

Tesi Metodi non distruttivi per la misura della maturità dell'uva

COMPETENZE LINGUISTICHE

Lingua madre: **ITALIANO**

Altre lingue:

	COMPRENSIONE		ESPRESSIONE ORALE		SCRITTURA
	Ascolto	Lettura	Produzione orale	Interazione orale	
INGLESE	C1	C1	B2	B2	B2
SPAGNOLO	B2	B2	B2	B2	B1
FRANCESE	B1	B1	A2	A2	A2

Livelli: A1 e A2: Livello elementare B1 e B2: Livello intermedio C1 e C2: Livello avanzato

COMPETENZE DIGITALI

Sistemi operativi

Ottima padronanza dei sistemi operativi Windows | Buone competenze nell'uso delle piattaforme Android e Windows

Software

Buona padronanza del software Qgis | Padronanza del Pacchetto Office (Word Excel PowerPoint ecc) | Buona padronanza del software AutoCAD | Padronanza sufficiente del software R

Internet

Utilizzo del broswer | Gestione autonoma della posta e-mail | Utente base social network

Linguaggio informatico

Conoscenza base del linguaggio Python

ULTERIORI INFORMAZIONI

PUBBLICAZIONI

Smart farming introduction in the wine farms: a systematic review and a new proposal – 2020

The study shows a new methodological proposal for vine farms management, consequently to the progressive development of the technological innovations and their adoption into farms. The study was carried out in Italy involving farmers, workers or owners of wine farms who are progressively introducing on the farm or using precision agriculture technologies. The methodology proposed was divided in four stages, (1. understanding the changes in action; 2. identifying the added value of Smart Farming processes; 3. verifying the reliability of new technologies; 4. adjust production processes) that can be applied at different levels in vine farms to make the adoption of precision agriculture techniques and technologies harmonious and profitable. Data collection was carried out using both a participant-observer method in brainstorming sessions, where the authors reflected on the significance of technology adoption means and how to put them in practice and interviews, questionnaire survey, diaries, and observations. Moreover, project activities and reports provided auxiliary data. The findings highlighted the issues of a sector which, although the wide investment and finance options, lacks a structure of human, territorial and organisational resources for a successful adoption of technological innovations. The work represents a basis for future development of models for strategic scenario planning and risk assessments for farmers, policymakers, and scientists

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Reliability of new technologies: local ecosystem readiness level, a composite index – 2021

Presentation: 22/07/2021

The study defines an index to assess the effectiveness and consistency of the farming systems' actors. The local ecosystem readiness level (LERL) Index was developed to evaluate the presence and solidity of networks between the agricultural system entities locally. The local precision agriculture technology (PAT) ecosystem's efficiency is determined by the skill's growth and key actor's competence level. Nine indicators structured the LERL index, measured on a normalised scale from -20 (low) to +100 (high). The LERL measures and analyses the consistency of the PAT adoption proposed and provides a comprehensive analysis of how PAT adoption occurs locally.
Local ecosystem readiness level precision agriculture technology

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ECPA Conference - Budapest 2021

Assessment of soil and vegetation index variability in a traditional olive grove: a case study – 2022

The study was carried out in two olive orchards, with a 6x4 m planting layout; the mean plants' height was 3 m. To assess soil variability an EMI analysis was performed. The field was completely mapped at 0-50, 100 cm deep. After the evaluation of the electric resistivity, maps were created. The proximal OptRx Crop Sensor (Ag Leader, Iowa, USA) was used to assess the plant vegetation index. This sensor was mounted on a tractor and positioned at a height of 2 m from the ground to assure the acquisition of the vegetation index for all the assessed plants. NDVI and NDRE index were measured. To georeferenced all the acquisitions, a GNSS system was installed on the tractor (Ag Leader GPS6500 GNSS receiver, Ag Leader, Iowa, USA). Through this method, site-specific olive canopy NDVI NDRE data gathering was performed. Soil characterization maps revealed significant in-field differences in electric resistivity for all the evaluated deeps, through this analysis a homogeneous resistivity-value map was created. The data points of every sampling were interpolated within the whole plots by ordinary kriging through the GIS software QGIS (GNU General Public License). NDVI and NDRE predictive maps were developed using ordinary kriging fitting the best variogram. An exploratory correlation analysis was performed between NDVI, soil proximal sensing (EMI 0.5, EMI 1, RP), and soil strength, to highlight the statistical relationships between the main parameters used for this study. Collected data were analysed and interpolated by k-means clustering to make thematic maps.

12th International AIIA Conference: September 19-22, 2022 Palermo - Italy

Evaluating multispectral responses of an olive tree canopy at different heights using ground-vehicle-mounted proximal sensing

– 2023

Conference: 14th European Conference on Precision Agriculture
Data gathering with an optical sensor. was carried out in an olive orchard located in Scandicci (Florence, Italy). The collection was undertaken by positioning the sensor at three different heights from the ground: 1.2, 2.4, and 3.6 m. The sensor was mounted on a tractor and connected to a GNSS receiver. The sensor measured the NDVI and NDRE indices. ANOVA, t-test, and Cohen's D were carried out. Geostatistical analyses were also carried out through inverse distance weighting interpolation. The T-test and the interpolation established statistical and geostatistical differences between the data collected at the three

heights. This led to the conclusion that the necessity to evaluate the effect of canopy height in data collection for olive orchard management is necessary.

Perna C, Sarri D., Luglio S.M., Lisci R., Vieri M.

Remote Sensing Data to Support Integrated Decision Making in Cultural and Natural Heritage Management. Impasses and opportunities for collaboration in agricultural areas

– 2023
Authors: Opitz, R., Baldwin, E., De Smedt, P., Verhegge, J., Campana, S., Mayoral-Herrera, V., Powlesland, D., Vieri, M., Perna, C. and Sarri, D.
Internet Archaeology 62. https://doi.org/10.11141/ia.62.10
Remote and near surface sensing data are widely used in archaeology and heritage management for feature discovery, change detection and monitoring, as an input to predictive modelling, and in the planning process. While global and regional datasets are widely used for some purposes, data are regularly acquired specifically for archaeological projects because of the very high spatial resolution required for feature detection and assessments of archaeological significance and the need for data on subsurface features. The sensing data collected for archaeology cover limited areas and only a few types of sensors, known to produce data efficiently, are regularly employed. Precision agriculture is beginning to produce large quantities of varied sensing data across extensive landscape areas. This situation creates an opportunity to adapt and reuse precision agricultural data for archaeology and heritage work, extending covering and enhancing our understanding of archaeology in contemporary agricultural landscapes. Equally, there is potential for coordinated data collection, collecting data once for multiple applications, and to add value through analyses which bring together perspectives from multiple related domains to model long-term processes in anthropogenic soil systems. This article provides a high-level overview of policy and technological developments which create the potential for sensing data reuse, coordinated data collection, and collaborative analyses across archaeological, agricultural, and agri-environmental applications while underscoring the structural barriers which, at present, constrain this potential. It highlights examples where the development of interoperable data and workflows can promote tighter integration of archaeology and cultural heritage management with sustainable agricultural land management and support integrated decision making.

Practicing Critical Zone Observation in Agricultural Landscapes: Communities, Technology, Environment and Archaeology

– 2023
Authors: Opitz R., De Smedt P., Mayoral-Herrera V., Campana S., Vieri M., Baldwin E., Perna C., Sarri D., Verhegge J.
Land **2023**, *12*(1), 179; https://doi.org/10.3390/land12010179
The aims of agricultural land management change continuously, reflecting shifts in wider societal priorities. Currently, these include addressing the climate crisis, promoting environmental sustainability, and supporting the livelihoods of rural communities while ensuring food security. Working toward these aims requires information on the character of agricultural land and how dynamic processes influence it. Remote and near-surface sensing data are important sources of information on the characteristics of soils, plants, water, topography, and related processes. Sensing data are collected, analysed, and used in decision-making by specialists in multiple domains connected to land management. While progress has been made to connect the use of sensing data across agricultural and environmental applications under the umbrella of integrated sustainable land management, archaeological and heritage uses of these data remain largely disconnected. This creates barriers to accounting for the impacts of past human activities on contemporary agricultural landscapes through the alteration of soils, topography, and plant communities. In parallel, it hinders the creation of knowledge about the archaeological features which form an essential part of the heritage of agricultural landscapes. The ipaast-czo project explores the potential of a coordinated approach across all these domains, which would reduce these barriers and provide benefits by better integrating information generated using sensing. To do so, both conceptual and practical barriers to developing shared practices and how these might be overcome were considered. In this study, a conceptual framework designed to create a shared understanding of how agricultural landscapes work and enable collaboration around their management was proposed. This framework treats present-day rural agricultural landscapes as Critical Zones: complex entities shaped by long-term human–environment interactions including contemporary farming. Practitioners in precision agriculture and archaeological remote and near-surface sensing, as well as users of these data, were engaged using workshops and interviews. The relationships between practitioners' objectives, data requirements for their applications, and their perceptions of the benefits and disadvantages of changing working practices were interrogated. The conceptual framework and assessment of practical benefits and challenges emerging from this work provide a foundation for leveraging shared sensing data and methods for long-term integrated sustainable land management

Didattica immersiva nell'Ingegneria Agraria. Un caso d'uso nel Laboratorio di Agricoltura Digitale e di Alta Tecnologia

– 2022
Authors: Vieri M, Sarri D., Luglio S.M., Perna C
DOI: 10.36253/978-88-5518-646-9.13
The chapter describes experiences of 360° videos use by the Agrismart Lab Group of the University of Florence. The Agrismart Lab Group focuses on the technological transfer of information obtained during the research phase to provide the greatest possible diffusion and dissemination of discoveries regarding the technological-digital revolution in the agricultural sector. Dissemination, applications, and teaching are the main outcomes of our research activities, and we have fully utilized the SEPA360 project's resources. In particular, the student will be able to see smart farming examples both in the field and in the immersive teaching lab having clearer theoretical notions by 360° viewers. Two case studies (tractor 4.0 and Agrobot) are included in the interactive videos, which are utilized both for learning and verification.

RETI E AFFILIAZIONI

31/12/2014 – ATTUALE Via di Colle Ramole, 11 – Loc. Bottai, Firenze
Socio CIA (Confederazione Italiana Agricoltori)

PATENTE DI GUIDA

Patente di guida: B

ESPERIENZE ALL'ESTERO

03/11/2018 – 31/03/2019
Viaggio studio

Viaggio Studio in Uruguay presso l'Universidad de la Republica de Montevideo, FAGRO (Facultad de Agronomia), Montevideo, e presso INIA (Intituto Nacional de Investigacion Agropecuaria) di Las Brujas (Canelones). Lo scopo del viaggio studio è stato quello di seguire corsi presso la facoltà di agraria e di condurre sperimentazioni ai fini della tesi magistrale presso l'istituto di ricerca INIA

16/10/2022 – 19/10/2022
Workshop

Partecipazione ad il workshop del progetto IPAAST - Archeologia ed agricoltura di precisione presso Maldon, York, Regno Unito.

Link https://ipaast-czo.glasgow.ac.uk/

QUALIFICAZIONI

16/07/2020 – ATTUALE
Cultrice della Materia per il corso "Laboratorio di agricoltura digitale e di alta tecnologia"

Cultrice della Materia per il corso "Laboratorio di agricoltura digitale e di alta tecnologia", corso del curriculum Progettazione e gestione per i biosistemi agro-territoriali della Laurea Magistrale in Scienze e Tecnologie Agrarie della Scuola di Agraria dell'Università degli Studi di Firenze

CERTIFICAZIONI

09/05/2016 – ATTUALE
Certificato di abilitazione all'acquisto e all'utilizzo dei prodotti fitosanitari

20/12/2016 – ATTUALE
Certificato RSPP

15/09/2019 – 08/12/2019
Attestato di frequenza corso di Primo Livello da Sommelier

30/04/2021 – ATTUALE
Addetti ad attività alimentare semplice (HACCP ai sensi del Regolamento CE 852/2004, Deliberazione della Regione Toscana n° 1031/99, Legge regionale Toscana n° 24/2003, Deliberazione Giunta Regionale Toscana n°559/2008)

09/05/2021 – 09/05/2024

Attestato Addetto di Primo Soccorso nelle aziende di tipo A (secondo quanto previsto dal D.L. gs 81/2008 e s.m.i. e dal D.M. 388 del 15 luglio 2003)

31/03/2021 – 31/03/2026

Abilitazione all'uso dei Trattori Agricoli e Forestali (Accordo Stato-Regioni n°53 del 22 febbraio 2012, Art 73, comma 5, D.Lgs 81/2008)