

# GIESCO 2025

ABOVE AND BELOW:  
Towards the future



July  
27 - 31  
2025

[www.GiESCO2025.com](http://www.GiESCO2025.com)

Dear colleagues,

It is with great pleasure and deep appreciation that we welcome you to **GiESCO2025**, the 23rd International Meeting of the International Cluster of Experts in Vine Management, held from **July 27 to 31, 2025**, at **Hochschule Geisenheim University**, in the heart of Germany's iconic Rheingau wine region.

This conference takes place under the slogan: “**Above and Below – Towards the Future**”. It reflects our shared commitment to addressing the complex challenges facing viticulture in the 21st century - from soil health and biodiversity to water management, climate resilience, digitalization, and sustainability. We believe this offers fertile ground for scientific dialogue and interdisciplinary exchange.

The organization of GiESCO2025 has been a collective effort shaped by collaboration, creativity, and friendship. Many colleagues contributed ideas, time, and energy, and we are deeply grateful to all helpers and volunteers. Thanks to their dedication, we have been able to assemble a rich and diverse program. We are especially thankful to:

- The **GiESCO Scientific Committee** for its guidance and trust in selecting 9 keynotes, 55 oral presentations, 50 flash presentations, and nearly 160 posters;
- **IVES (International Viticulture and Enology Society)** for enabling the publication of proceedings through OENO One, securing long-term visibility of your work;



- Our **sponsors and donators**, whose contributions helped realize the event;
- The host, **Hochschule Geisenheim University**, for infrastructure and support.

Over the years, GiESCO has become one of the world's leading scientific platforms in viticulture. It is a place where knowledge is exchanged, networks are formed, and new collaborations emerge. **The GiESCO2025 program** reflects this spirit - not only through its scientific presentations, but also via special features such as the **Professional Day**, the **Young Researcher Award**, and **Industry Tours** to vineyards and wineries in the Rheingau and nearby regions. These elements aim to create a dynamic and enriching conference experience - combining academic excellence with the cultural and practical richness of viticulture.

Naturally, in organizing an event of this scale, a hiccup or two may occur. We kindly ask for your understanding and assure you that behind every detail stands a committed team working to make your participation smooth and rewarding.

Our goal is to foster inspiring scientific exchange, strengthen connections within the community, and encourage future-oriented thinking. Whether this is your first GiESCO or a return visit, we hope you leave Geisenheim with fresh ideas, new contacts, and a renewed sense of purpose.

We wish you a stimulating and memorable time here in the Rheingau - among colleagues, friends, vineyards, and visions for the future.

**With warm regards and on behalf of the Organizing Committee of GiESCO2025**

Laurent Torregrosa (Chair GiESCO)  
Vine-Wine Science & Education Division  
Montpellier

Johanna Döring, Susanne Tittmann, Matthias Friedel & Manfred Stoll  
Department of General and Organic Viticulture  
Geisenheim



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## POSTER





## LOCATION

Hochschule Geisenheim University is situated in the Rheingau-Taunus region in the Federal State of Hesse. Frankfurt, a major international metropolis in the Rhine-Main Area, with a major international airport (Flughafen Frankfurt am Main, FRA) is only half an hour away by car. The University Town Geisenheim can be found on the Rhine river, between Wiesbaden and Rüdesheim.

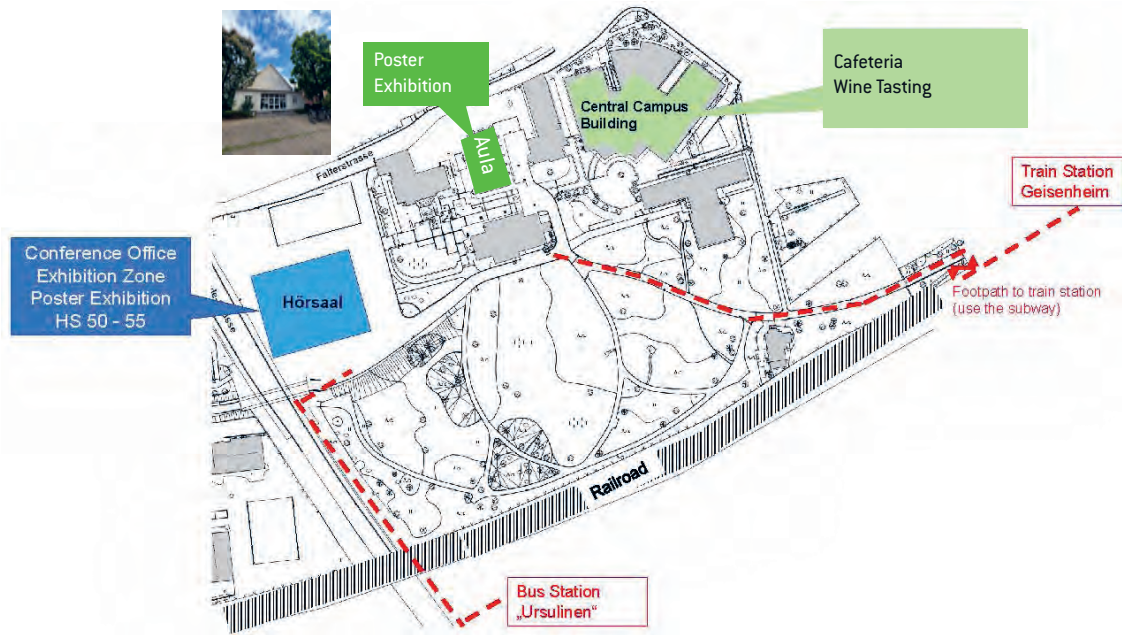
## HOW TO GET HERE

Frankfurt International Airport (FRA), metro (S-Bahn) to Wiesbaden, regional train (Regionalzug) to Geisenheim.

Frankfurt Hahn Airport (HHN), Taxi-Shuttle to Geisenheim

By car (direction Rüdesheim am Rhein): From the A3 / A5 take the A66 in direction Wiesbaden/Rüdesheim. Hochschule Geisenheim University is signposted from the B42.









Conference Office,  
Lecture Hall 50-51,  
Poster Exhibition HS 52 - 55



For financial and logistic support of the conference we thank the following companies and foundations:

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GIESCO 2025

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Weingut Wegeler . Weingut Weiler . Winzer von Erbach .



## WELCOME RECEPTION 27.07.25

### REGISTRATION AND WELCOME RECEPTION

5pm - 8pm registration in the new lecture hall and Welcome Get-together at our “Fass” in front of the administrative building!

### SHUTTLE BUS:

Morning departures are at 7:30 am & 7:45 am in Rüdesheim at the Bus parking lot and

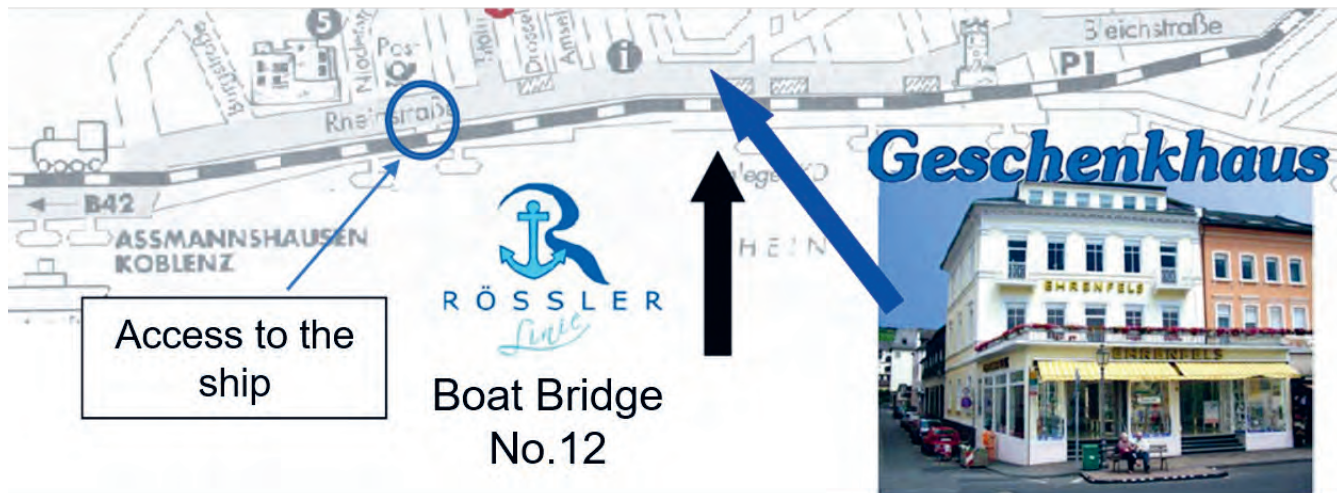
from Geisenheim to Rüdesheim, Monday evening departures are at 7.30 pm & 7.45 pm and on Wednesday and Thursday evening the departures are at 5.30 pm & 5.45 pm  
Bus Parkplatz P4 - „Rheinhalle“, Geisenheimer Straße, Rüdesheim am Rhein

### ON TUESDAY,

we are leaving at lunchtime for an Industry tour, returning to Rüdesheim around 10-11 p.m.



## LOCATION OF THE GALADINNER - RÜDESHEIM AM RHEIN



MONDAY 28.07.25

## OPENING CONFERENCE SESSION

Laurent Torregrosa, President GiESCO

John Barker General Director, OIV

IVES

Hans Reiner Schultz, President of the Geisenheim University

Manfred Stoll, on behalf of the Organizing Committee of GiESCO2025

Kees van Leeuwen: **Above and below – research challenges for the future of winegrape production**; Rudolf Hermanns foundation  
keynote speaker



## SESSION I - SOIL AND WATER MANAGEMENT

CHAIR: AURELIE METAY, L'INSTITUT AGRO, MONTPELLIER

Time	Name	Type	Title
09:30 - 09:55	Javaux, Mathieu UC Louvain	Keynote	The key role of soil texture on vine water status under water - limited conditions
09:55 - 10:02	Fernandez Garcia, Rafaèle (presented by Saint Cast, Clement)	F0	Field heterogeneity of soil properties influences root architecture and anatomical development in vineyards
10:02 - 10:15	Damásio, Miguel	S0	Root water uptake patterns in rootstock - Scion interactions influence grape water use strategies in a mediterranean vineyard
10:15 – 10:45	Coffee Break		
10:45 - 10:58	Diverres, Geraldine	S0	Above and below: Soil moisture and soil temperature interact to alter grapevine water relations
10:58 - 11:11	Hofmann, Marco	S0	Water balance modeling for climate change adaptation and knowledge transfer
11:11 - 11:24	Smith, Jason	S0	Factors influencing cover crop water competition in vineyards and implications for future drought adaptation:



11:24 - 11:37	Weihbrecht, Katharina	S0	Under - vine cover crops in viticulture: Impact of different weed management practices on weed suppression, yield and quality of grapevine cultivar Riesling
11:37 - 11:44	de Gracia, M: Isabel (presented by Santesteban, Gonzaga)	S0	Water dynamics in vineyard soils and vines, and their responses to under - vine cover crops
11:44 - 11:57	Wong, Connie T. F.	S0	Linking soil C cycling and microbial diversity under regenerative management in Northern California (USA) vineyards
11:57 - 12:04	Calabrese, Francesco	F0	Effects of mulching with municipal solid waste (MSW) - compost on the soil microbiota and decomposition activity in a productive vineyard in Apulia (Italy)
12:04 - 12:17	Mosleh, Iman Samiei	S0	Exploring magnesium deficiency in Welschriesling grapevines: a multi - omics approach to address viticultural challenges
12:17 - 12:24	Lucchetta, Marco	S0	Adapting to nutrient - poor soils and climate variability: a study on fertilization strategies in 'Glera' vineyards
12:24 - 12:31	Damásio, Miguel	S0	Root water uptake patterns in rootstock - Scion interactions Influence grape water use strategies in a mediterranean vineyard
12:30 – 2.00	Lunch Break at Campus Building		





## SESSION II - VARIETIES AND ROOTSTOCKS IN RESPONSE TO FUTURE CHALLENGES

Time	Name		Title
2:00 - 2:25	<b>Ollat, Nathalie</b> Rudolf Hermanns foundation keynote speaker	<b>Keynote</b>	<b>Rootstocks: How the dark side of the vine can enlight the future?</b>
2:25 - 2:38	Bernardo, Sara	SO	Disentangling the sources of variation in stomatal regulation in field - grown cultivar - rootstock combinations
2:38 - 2:45	Kita, Y.	FO	Streamlining Rootstock Selection: New Indices for Efficiency and Stability in Viticulture
2:45 - 2:52	Iglesias - Irizibar, Andoni	FO	Rootstock selection moderates the effect of rising temperatures through drought tolerance and modulation of stomatal conductance
2:52 - 3:05	Berdeja, Mariam P.	SO	Effects of grapevine mycorrhizal association on fine root dynamics depend on rootstock genotype
3:05 – 3:12	Chedid, Elsa	FO	Transcriptomic analyses of wild Vitis species under drought conditions for next - generation breeding of grapevine rootstocks
3:12- 3:25	Bellon, Oscar	SO	Hormone metabolism regulates fruit maturation in a slow ripening grape genotype
3:25 – 4:00	Coffee Break		



4:00 – 4:13	Schwander, Florian	SO	Early ripening in cool climate viticulture varieties is mainly based on a mutation in ‘pinot precocé noir’
4:13 - 4:20	Amede, Asfaw Degu	FO	Use of Grape - Derived Cells to Disclose the Role of cytMDH and PEPC in Grape Malate Accumulation
4:20 - 4:27	Zenoni, Sara presented by Marianna Fasoli	FO	DNA - free genome editing confers disease resistance in grapevine varieties
4:27 - 4:40	Sharma, Sadikshya	SO	Genetics of adventitious root formation in grapevines
4:40 - 4:53	Gastou, Pierre	SO	Exploring the mechanisms underpinning grapevine susceptibility to ESCA in a range of <i>Vitis vinifera</i> L. cultivars
4:53 – 5:00	Villa - Llop, Ana	FO	Bench grafting techniques in grapevine: impacts on nursery success and vineyard establishment
5:00 – 5:07	Schüttler, Armin	FO	How Sensory Quality of wines can be accessed as a trait in MAS grape vine breeding
5:07 – 5:14	Heinekamp, Tom	FO	Identification of QTLS for sunburn resilience in grapevine berries
5:14 – 5:21	Bald, Alexandra	FO	Exploring induced mutagenesis as a tool for grapevine Intra - varietal improvement: Increased diversity in ripening periods and bunch traits with climate resilience potential
5:11 – 5:24	Margaryan, Kristine	SO	Biodiversity and genetic profiling of autochthonous grapevine varieties in armenia: a key to sustainable viticulture



## HGU EXPERIMENTAL FACILITY TOUR

Start at 5:45 pm in front of the lecture hall.

We will take you on a guided tour of the campus  
and present our experimental facilities



**TUESDAY 29.07.25**

**SESSION III - DIGITIZATION, MECHANIZATION AND ROBOTICS**

**CHAIR: MATTEO GATTI, UNIVERSITÀ CATTOLICA DI SACRO CUORE**

Time	Name		Title
08:15 - 08:40	Fuentes, Sigfredo University of Melbourne	Keynote	Unleashing the power of artificial intelligence for viticulture and oenology on earth and space
08:40 - 08:53	Luo, Hankun	S0	Estimating grapevine crop coefficients at high resolution using open - source satellite data
08:53 - 09:00	Shmuleviz, Ron	F0	Intra - vineyard spatial variability explored over multiple seasons by sensor - based techniques in the Valpolicella area
09:00 - 09:20	Poblete - Echeverria, Carlos	S0	Computer vision and AI in viticulture: Bunch morphology analysis and phenology classification
09:20 - 09:33	González, María Ignacia	S0	Development of spectral indices to monitoring non - destructive of ripeness for water stressed grapevine ( <i>Vitis vinifera</i> L.) using contour map optimization
09:33 - 09:40	Hernandez, Ines (presented by Tardáguila, Javier)	F0	Automated Detection of Downy Mildew in Vineyards Using Explainable Deep Learning
09:40 - 09:53	Kicherer, Anna	F0	Evaluating the suitability of hyper - and multispectral imaging to detect endogenic diseases in grapevine



09:53 – 10:00	Laroche Pinel, Eva	F0	Drone - mounted hyperspectral remote sensing and machine learning for enhanced detection of grapevine red blotch virus
10:00 - 10:30	Coffee break		

## SESSION IV - DATA MANAGEMENT & MODELING

Time	Name		Title
10:30 - 10:55	Dai, Zhanwu Beijing	Keynote	Data integration via modeling for adaptation to climate change and efficiency breeding in grapevine
10:55 - 11:08	Vivin, Philippe	S0	A 3D model - assisted approach to uncover genotypic diversity and phenotypic plasticity in the root system architecture of young grafted grapevines:
11:08 - 11:21	Fichtl, Lukas	S0	Grapevine root system architecture: empirical insights and first steps towards in silico studies
11:21 - 11:28	Wong, Calvin	F0	Extraction - modelling approach demonstrates grapevine rooting patterns varies significantly as a result of contrasting ground management and growing environment in cover cropped vineyards:
11:28 - 11:35	Holzapfel, Bruno	F0	Carbohydrate dynamics in Shiraz to determine seasonal allocation to the perennial and annual parts in respect to climatic challenges
11:35 - 11:42	Kahlen, Katrin	F0	Simulating berry sunburn in virtual vineyards



11:42 - 11:55	Parker, Amber K:	S0	Advanced phenology due to climate change is projected to shift precipitation patterns for key cultivar - region combinations in New Zealand
11:55 - 12:08	Perez, Mickaël (presented by: Metay, Aurelie)	S0	Qualitative modelling of factors influencing the development of Black rot, for the prediction of damage to bunches
12:08 - 12:15	Schneider, Salome	F0	VitiProtect - Development and testing of a downy mildew AI forecasting model for Swiss Viticulture

## INDUSTRY TOUR

We have organized seven interesting tours to the surrounding wine regions. They will start around 1:00 PM at the lecture hall building. The tours will go to Rheinhessen, the Middle Rhine, with one group remaining in the Rheingau region. Additionally, two different tours will visit the Palatinate, one the Nahe and one is visiting the Hessian Bergstraße.

In your documents (lanyards) you will find the tour number you are taking part in. Please make sure that you board the bus with your tour number.



**WEDNESDAY 30.07.25**

**SESSION V - ORGANIC AND SUSTAINABLE VITICULTURE**

Time	Name		Title
08:15 - 08:40	Renaud-Gentié, Christel USC INRAE Angers	Keynote	Vineyard soils: perspectives of extension specialists
08:40 - 08:52	Thiollet-Scholtus, Marie	SSO	Challenges and opportunities for increasing organic carbon in vineyard soils: perspectives of extension specialists
08:52 - 09:04	Collins, Cas	FO	Under - vine and between the rows: Investigating sustainable floor management in vineyards
09:04 - 09:10	Menger, Anja	FO	Evaluation of biodegradable mulch for weed control with focus on vineyard performance
09:10 - 09:16	Merot, Anne	SO	Towards stopping pesticides use in vineyard: characterization of on - farm solutions
09:16 - 09:28	Steng, Katharina	SO	Uncovering the influence of vineyard management on fungal community structure and functional diversity within above - ground compartments
09:28 - 09:40	Caliani, Natalia	SO	Unveiling the impact of seasonal weather and fungicide spraying on vineyard autochthonous yeast populations: implications for Riesling wine quality
09:40 - 09:52	Schlich, Sven	FO	Assessing the carbon footprint of wine production in Germany to identify additional climate change mitigation potentials in viticulture





09:52 - 09:58	Tachini, R.	FO	Carbon footprint as a function of inter - annual climate variability in Uruguayan viticulture production systems
09:58 - 10:04	Heger, Thierry	SO	Sustainable vineyard management at the regional scale: insights from a Swiss winegrowing region
10:04 - 10:16	Foerster, Carlotta	SO	Hidden costs of wine: quantifying environmental externalities of organic and integrated management
10:16 - 10:22	Facciano, Luca	SO	Integrated sustainability assessment in viticulture: An indicator - Based approach applied to organic vineyards
10:22 - 10:34	Rauhöft, Dennis	FO	Economic comparison of viticultural cultivation systems: Evaluating costs across integrated, organic, and biodynamic practices
10:34 - 10:40	Schelezki, Olaf	FO	Growers' attitudes towards organic certification: The case of central Otago, New Zealand
10:40 – 11.10	Coffee Break		



## SESSION VI - MAINTAINING AND IMPROVING BIODIVERSITY

Time	Name		Title
11:10 - 11:35	Leyer, Ilona, Geisenheim University	Keynote	The potential of viticultural landscapes for enhancing biodiversity and ecosystem services
11:35 - 11:47	Fournier, Paola	S0	Mining belowground and aboveground microbiome data to identify microbial biomarkers of grapevine health and yield
11:47 – 11:59	Durney, Cèlien	S0	Impact of technical itineraries on the diversity and the functioning of arbuscular mycorrhizal fungi and associated microorganisms in vineyards soils and grapevine roots
11:59 - 12:11	Reiff, Jo Marie	S0	Reduced fungicide sprayings: a biodiversity boost?
12:11 - 12:17	Chargy, Manon	F0	Monitoring the establishment of a synthetic microbial community with a potential biocontrol activity against grapevine downy mildew using a microfluidic qPCR chip
12:17 - 12:23	Cachão, Miguel	F0	Pests and biodiversity management on a climate change scenario: a practical case
12:23 - 12:29	Mody, Carsten	F0	Effects of management and seed mixture on species composition of vineyard inter - row vegetation, soil characteristics and grape berry traits
12:29 - 12:35	Wersebeckmann, Vera	F0	Terracing in steep slope viticulture and its potential to promote biodiversity in vineyard ecosystems
12:35 - 12:41	Foerster, Mira	F0	Measures to promote biodiversity in viticulture - how do socio - economic factors influence implementation?

12:45 – 2:00 Lunch Break



## SESSION VII PHYSIOLOGICAL RESPONSES TO ABIOTIC AND BIOTIC STRESS

Time	Name		Title
2:00 - 2:25	Pallas, Benoît, Montpellier	<b>Keynote</b>	<b>Mitigating the impact of climate change: insights from phenotyping and modeling</b>
2:25 - 2:38	Frioni, Tommaso	SSO	Soil incorporation of new superabsorbent hydrogels to improve vine tolerance to summer stress: physiological validation and vineyard applications
2:38 - 2:51	Hammermeister, Abby	SO	Dialing in remote measurements of grapevine water stress by incorporating whole plant physiological responses
2:51 - 2:58	Laurent, Cécile	SO	Investigating the variability of basal crop coefficient across diverse production contexts in commercial vineyards
2:58 - 3:12	Violet, Martha	SSO	Grapevine gas exchange responses to combined variations of leaf water, nitrogen and carbon status – a case of study of fungi tolerant varieties
3:12 - 3:25	Yao, Xue-Chen	SO	Developmental Stage - Specific effects of high temperature on aroma accumulation in 'Marselan' Grapes from the Helan Mountain Region
3:25 - 3:55	Coffee Break		
3:55 - 4:08	Gómez Tournier, Mariana	SSO	Accelerated circadian cycles of photoperiod favor photosynthetic efficiency and growth in grapevine



4:08 - 4:21	Wohlfahrt, Yvette	SO	Water status response of <i>Vitis vinifera</i> L. cv Cabernet Sauvignon during the first years within the long-term VineyardFACE (Free Air Carbon dioxide Enrichment) study
4:21 - 4:28	Vargas, Sebastián	FO	A sundial vineyard: Impact of row density and orientation on cv: Cabernet Sauvignon physiology and grape composition, insights to face a climate change scenario
4:28 - 4:41	Wilson, Nikolas (presented by Castellarin, Simone)	SO	Relationships between vine isohydricity and changes of fruit growth and metabolism during water deficit
4:41 - 4:48	Berger, M	SO	Epigenetic responses and memories to (a)biotic stresses in grapevine
4:48 - 5:01	Del Zozzo, Filippo	FO	Effect of Cytokinin and Auxin Application on Double Cropping Performance in <i>Vitis vinifera</i> : preliminary findings
5:01 - 5:08	Verdenal, Thibaut	FO	Grapevine nitrogen dynamics as a function of crop thinning
5:08 - 5:21	Bota, Josefina	FO	Influence of cultivar and its drought tolerance on soil microbiome
5:21 - 5:28	Meng, Xiao	FO	Role of VvNCED1 in $\beta$ - Damascenone and abscisic acid biosynthesis: New insights into aroma development in grapes



**7:10 - 7:30 P.M. BOARDING TO THE SHIP AND GALA DINNER IN RÜDESHEIM AM RHEIN, BRIDGE NO. 12**

## THURSDAY 31.07.25

### PROFESSIONAL DAY I - ADAPTATION TO AND MITIGATION OF GLOBAL WARMING

CHAIR: ASTRID FORNECK, BOKU VIENNA

Time	Name		Title
08:45 - 09:10	Keller, Markus WSU	Keynote	Climate change is here to stay: Adapting vineyards to a warming world
09:10 - 09:23	Zufferey, Vivian	S0	Physiological behavior of the Chasselas grape variety under water deficit: 30 years of experiments in Switzerland”
09:23 - 09:36	Cahn, Michael	S0	CropManage online decision support tool for irrigation scheduling of vineyards
09:36 - 09:49	Levin, Alexander	S0	Delayed irrigation nearly doubles yield loss compared to anthocyanin gain in Southern Oregon Pinot noir (tbc)
09:49 - 09:56	Cianciola, Vincenzo	F0	Optimizing irrigation strategies for sustainable viticulture in california’s drought - stricken san joaquin valley – a three year study
09:56 - 10:09	Obiero, Charles	S0	Long - term effects of severe drought stress on vine physiology, growth, and productivity
10:09 - 10:22	Reynard, Jean - Sébastien	S0	On - Farm monitoring of grapevine water and nitrogen status in relation to different soil management practices in Valais, Switzerland
10:22 - 10:29	Haas, Florian	F0	Innovative water status monitoring of white grape varieties with on - plant sensors
10:29 - 10:59	Coffee break		



10:59 - 11:06	Chambel, Ana	F0	The importance of rural extension and advisory services to achieve a sustainable viticulture in a climate change scenario
11:06 - 11:13	Massaad, Mark	F0	From Science to Farmers: VITIROOT shiny app for grapevine rootstock recommendation
11:13 - 11:26	Pelusi, Francesco	S0	Evaluating nature - based solutions for under trellis soil management: effectiveness and impacts on vine performance compared to conventional strategies
11:26 - 11:33	Sodini, Mirko	F0	Cover crops sown in the inter - rows shape the weed communities in three vineyards across Italy
11:33 - 11:40	Pagay, Vinay	F0	Closing the carbon loop: Evaluating the potential of grapevine - derived biochar as a soil conditioner in warm climate vineyards
11:40 - 11:53	Valentini, Gabriele	S0	An automated cooling system to mitigate thermal and radiative stresses in pignoletto white grapes
11:53 - 12:00	Dorling, Steve	F0	Digitization for automation – a frost management case study
12:00 - 12:07	Turano, Lucia	F0	Environmental and yearly influences on four sicilian grape clones under climate change challenges
12:07 - 12:20	Meggio, Franco	S0	Impacts of climate change on cv: glera buds' fruitfulness – 18 years of monitoring in the conegliano - valdobbiadene area, Italy
12:20 - 12:27	Egli - Künzler, Lina	F0	Effect of vineyard nitrogen management on souvigner gris wine sensory quality and aromatic compounds

12:30 – 2:00 Lunch Break



## PROFESSIONAL DAY II - CHALLENGES OF SPARKLING PRODUCTION IN RESPONSE TO CLIMATE CHANGE

CHAIR: FRANCO MEGGIO, UNIPD

Time	Name		Title
2:00 - 2:25	Zamora, Fernando, URV Tarragona	Keynote	The problem of the increasing pH in sparkling wines caused by climate change; use of cationic exchange to correct it
2:25 - 2:38	Steward, Amanda	S0	Soil, foliar, and juice nitrogen application: influence on fruit and wine for chardoneel grown in Virginia
2:38 - 2:51	Blank, Magali	S0	Managing alcohol in sparkling wine production: adjusting harvest timing and utilizing grape juice in "Liqueur de Tirage »
2:51 - 2:58	Mirone, Francesco	F0	Short - term canopy strategies to enhance grapevine adaptation to climate change
2:58 - 3:05	Puigserver, Jaume	F0	Impact of innovative canopy management techniques on grape and wine quality under mediterranean summer conditions
3:05 – 3:30 Coffee Break			





## PROFESSIONAL DAY III - VITIVOLTAIC ROUNDTABLE

Time	Name		Title
3:30 - 3:40	Stoll, M. & Collins, C.		Introduction
3:40 - 3:53	Doffagne, Mélanie	SO	Pioneering dynamic AgriVoltaics in viticulture: enhancing grapevine productivity, wine quality and climate protection through agronomical steering in a large-scale field study
3:53 - 4:00	Bonini, Paolo	FO	Agrovoltaic on vineyards: preliminary results on seasonal and diurnal whole-canopy gas exchange
4:00 - 4:07	Christ, Marcel	FO	Exploring the potential of agrivoltaics in german vineyards: a GIS-based assessment
4:07 - 4:20	Fumey, Damien	SO	Shading grapevines with dynamic agrivoltaics address the challenge of early ripening and wine quality related with climate change
4:20 - 4:27	Garstka, Lucía	FO	Agrivoltaic: chances preparing riesling towards a better climate resilience
4:27 - 4:34	Gomez Tournier, Mariana	FO	Effect of the shade generated by simulated solar panels in two row orientation on the physiology and productivity of <i>Vitis vinifera</i> L. cv: Malbec
4:34 - 4:50	Discussion		
4:50 - 5:05	Awards		
5:05 - 5:15	Enrico Battiston: New Scientific Priorities of the OIV in viticulture		
5:15 - 5:30	iAVW (international Academy of Vine and Wine): Alain Carbonneau and Giovanni Cargnello: EcoMetaEthics EME 4.1C		
5:30 - 5:45	General assembly: Applicants to the 25th GiESCO meeting in 2029		



## FAREWELL SUNDOWNER AT GERMANIA MONUMENT

Meeting point at the Rüdesheim am Rhein cable car (from the Rüdesheim bus parking lot, walk approx. 15 minutes to Oberstraße 37)

Together we will take the cable car to the Niederwalddenkmal with a small stop for refreshments.



GIESCO 2025



## POSTER

### SESSION I - SOIL AND WATER MANAGEMENT

S1_01	Grapevine abiotic stress induce tolerance to bunch rot	Coniberti, Andrés
S1_02	Seasonal dynamics of water and sugar compartmentalization in grape clusters under deficit irrigation	Damásio, M.
S1_03	Identification and evaluation of the winemaking sub-zones of the pdo amyndeo winegrowing region	Gkrimpizis, Theodoros
S1_04	Water retention properties of viticultural calcisols from DOP Valdepeñas (Spain)	Gómez-Magán, Andrés
S1_05	Responses of grape yield and quality, soil physicochemical and microbial properties to different planting years	Li, Qingjie
S1_06	Permanent vs temporary cover crops in a Sangiovese vineyard: preliminary results on vine physiology and productive traits	Moffa, Alice
S1_07	Soil humidity and early leaf water potential affected by water recharge before budbreak in cv. Tempranillo deficitary irrigated during the summer in the D.O. Ribera del Duero	Yuste, Jesús
S1_08	Irrigation frequency: variation and agronomic and qualitative effects on cv. Tempranillo in the D.O. Ribera del Duero	Yuste, Jesús
S1_09	Under-vine soil cover in the Wachau region	Redl, Christian



## SESSION II - VARIETIES AND ROOTSTOCKS IN RESPONSE TO FUTURE CHALLENGES

S2_01	<i>Vitis vinifera</i> 'ráthay' on the rootstocks 'kober 5bb', 'fercal' and '3309 c': results of a long-term field trial	Mehofer, Martin
S2_02	Adaptation and resilience of scions and rootstocks to water constraint? It's complicated and requires an integrated approach	Vivier, Melané A.
S2_03	Evaluation of new fem grapevine varieties resistant to the main fungal diseases	Antonini, Pietro
S2_04	The "green gold" @fem: assessing grapevine germplasm diversity to crossbreed the varieties of the future	Bettinelli, Paola
S2_05	Clones of ten <i>Vitis vinifera</i> varieties: degree of inter- and intra-varietal variation and putative mechanisms underlying clonal variability	Bianchedi, P.
S2_06	The effect of short and long-term water deficit on physiological performance and leaf microbiome of different rootstock and scion combinations	Biró-Kovács, Ramóna
S2_07	Coefficient of repeatability and analyses of stability and adaptability to introduce resistant cultivars in a new winegrowing region	Bruna, Maran
S2_08	Chromatic characteristics of Nermantis and Termantis wines from traditional and withered grapes.	Capello, Nicola
S2_09	Genome editing applications on grapevine cv. Aglianico for the knockout of susceptibility genes related to fungal diseases	Carratore, Carmine
S2_10	Characterization of the mechanisms underlying the tolerance of genotypes of Uva Cão to climate change: a transcriptomic and genomic study	Carvalho, Luísa
S2_11	Leaf turgor loss point varies significantly across grapevine cultivars, revealing a wide range of drought vulnerability	Chacón, J.L.



S2_12	Survey of phenological stages of disease-resistant varieties in Friuli Venezia Giulia region	De Rosa, Valeria
S2_13	Generation and characterization of a training population in <i>Vitis vinifera</i> for Enhanced Genomic Selection	De Rosa, Valeria
S2_14	Growing characteristics of new PIWI varieties from the breeding program in the Czech Republic	Flajšingerová, Ivana
S2_15	Optimizing drought resistance in mediterranean vineyards: The role of rootstock and variety combinations for a sustainable viticulture.	Flor, L.
S2_16	Multiple description and validation of autochtone grape varieties in the carpathian basin	Gaa, Krisztian
S2_17	GrapeBreed4IPM: Developing sustainable solutions for viticulture through multi-actor innovation targeting breeding for integrated pest management	Hausmann, Ludger
S2_18	Studying PIWIs in three dimensions: agronomic, economic and ecological evaluation of 14 fungus-tolerant cultivars in Luxembourg	Heilemann, Kristina
S2_19	Rootstock effects on Grüner Veltliner ecophysiology in the Kremstal wine region of Austria	Linhart, Lea
S2_20	Cascading effects of spring weather conditions into grape berry ripening.	Martínez-Lüscher, Johann
S2_21	A lower rate of grape berry transpiration delays ripening and reduces flavonoid content	Martínez-Lüscher, Johann
S2_22	ViniGWAS - Improving the selection of climate-resilient grapevine varieties	Medic, Marko
S2_23	Genomics and phenomics of root system architecture in grapevine	Munoz, Jose



S2_24	Resistance profiling of piwi accessions: insights from geisenheim university's breeding program	Raaschmann, Leon
S2_25	Improving grapevine cloning material of Welshriesling by comprehensive analysis	Regner, Ferdinand
S2_26	Microclimate manipulation: Leveraging the microclimatic differences created by diverse trellis systems to investigate the metabolic plasticity of <i>Vitis vinifera</i> cv. Chenin Blanc in a model vineyard.	Samuels, L. J.
S2_27	Are biochemical markers the key to predicting wine aroma balance?	Santos, Jacqueline
S2_28	Citizen science for promoting a disease-resistant grape variety through a wine competition	Schumacher, Peter
S2_29	Exploring the drought vulnerability of the major Spanish grape cultivars	Serrano, A. S.
S2_30	Simulating the effect of heat waves on disease-resistant varieties	Tarkowski, Łukasz P.
S2_31	Back to the roots: How an underutilised biotechnological tool can support research to improve grapevine resilience against biotic stressors in an unpredictable future.	Tietz, Sasha M.
S2_32	The effectiveness of proximal remote sensors in plant water status evaluation of grapevine	Young, Philip
S2_33	Physical-mechanical berry skin traits as additional indicators of resistance to botrytis bunch rot and grape sunburn	Ziehl, Annika
S2_34	Vitis root phenotyping: Enhancing rootstock breeding through wild genetic diversity	Strack, Timo



## SESSION III - DIGITIZATION, MECHANIZATION AND ROBOTICS

S3_01	Using RGB images and LiDAR data to characterize fruit-to-leaf ratios in grapevine collections	Ben Hamden, Jacem
S3_02	Why aren't farmers using precision viticulture frequently? A case study	Cachão, Miguel
S3_03	Real-Time monitoring of vineyard fungal spores for improved disease management using automated air-flow cytometry	Cattani, Amanda Malvessi
S3_04	1. VitiCanopy to measure vine pruning mass and assess above ground vineyard carbon storage	De Bei, Roberta
S3_05	Development of a novel UAV based approach for assessing the severity of spring frost and hail damages in vineyards	Di Gennaro, Salvatore Filippo
S3_06	Advancing wine authentication: Non-invasive near-infrared spectroscopy and machine learning for vintage and Quality Traits Assessment	Gonzalez Viejo, Claudia
S3_07	PyExpress - A pipeline for fast and reliable UAV image processing in vineyards	Graß, Rikard
S3_08	Non-invasive grapevine inflorescence detection using yolov11 under field conditions	Íñiguez, Rubén
S3_09	Laboratory-based sunburn assessment and high-throughput sunburn quantification using artificial intelligence	Nagarjun, MalagoL
S3_10	Comparison of destructive and non-destructive measurements of table grape berries to assess quality parameters using spectroscopy	Poblete-Echeverria, Carlos



S3_11	Cluster trait prediction using hyperspectral signatures in a population of 221 Riesling clones	Robles-Zazueta, Carlos A.
S3_12	Managing local field variability in the framework of Precision Viticulture	Tagarakis, Aristotelis C.
S3_13	Simulating single band multispectral imaging from hyperspectral imaging: a study into the application of single band visible to near-infrared multispectral imaging for determining table grape quality	Venter, Talitha
S3_14	Morphological image analysis for determining bunch grape characteristics: a case study on bunch weight in cabernet sauvignon	Poblete-Echeverria, Carlos
S3_15	Applying artificial intelligence for improving grape yield estimation: A case study of wine and table grapes in South Africa.	Poblete-Echeverria, Carlos
S3_16	New Meteo-App as a versatile web application to visualizing and monitoring weather data.	Wenter, Andreas





## SESSION IV - DATA MANAGEMENT & MODELING

S4_01	Impact of genotypic variability on grapevine architecture and light interception: A functional-structural modelling approach	Pallas, Benoît
S4_02	VineAI: Artificial intelligence for fungal disease management	Chuluunbat, Ganzorig
S4_03	Grapevine drought tolerant ideotypes to adapt viticulture to climate change	Dayer, Silvina
S4_04	Projected changes of grapevine phenology in Belgian and South African vineyards under climate change scenarios	Decorte, Laura
S4_05	Untangle berry shrivel environmental risk factors and quantify symptoms with AI – GeomaBS meets BAISIQ	Griesser, Michaela
S4_06	Yield prediction assessment before bloom and at veraison in a cv. Airén high yielding vineyard in Toledo (La Mancha, Spain)	Lacalle-Olarte, Sara
S4_07	SmartGrape: Early detection of cicada-borne vine diseases using field spectroscopy and detection of volatile plant scents	Mackie-Haas, Kathleen
S4_08	Impact of sample size on yield estimation in commercial vineyards	Poblete-Echeverria, Carlos
S4_09	Grapesoil: an integrated model to simulate water and nitrogen fluxes in diversified vineyards	Violet, M.
S4_10	High-Resolution climate modeling for the Cognac Region under climate change	Zito, Sebastien



## SESSION V - ORGANIC AND SUSTAINABLE VITICULTURE

S5_01	High levels of copper and persistent synthetic pesticides in vineyard soils	Mackie-Haas, Kathleen
S5_02	Multicriteria assessment of 11 agroecological viticulture systems during 6 years	Thiollet-Scholtus, Marie
S5_03	Biophysical and agronomical drivers of the distribution of <i>P. vitcola</i> oospores in vineyard soils	Breen, P.
S5_04	Redwine project: increasing microalgae biomass feedstock by valorizing wine gaseous and liquid residues	Cachão, Miguel
S5_05	Impact of pruning method on vegetative growth and yield	Dewasme, C.
S5_06	Microbial consortia as a tool for sustainable vineyard management: a study on their acceptance among Veneto region's grape-	Maggio, Elena
S5_07	Under-row low competitive herbaceous cover: a sustainable alternative to herbicide in vineyards	Faggion, A.
S5_08	Approaches for estimating the age of old vineyards in Campo de Borja	Galar-Martínez, Mónica
S5_09	Reusable system for wine bottles: An analysis of acceptance among German wine consumers	Minges, Nina
S5_10	Evaluation of field inoculation of <i>Kocuria rhizophila</i> and <i>streptomyces violaceoruber</i> as biostimulants under water availability conditions in grapevines	Miralles, Arnau
S5_11	Post-Plant nematicides: Too little, too late for northern root-knot nematode management	Moyer, Michelle M.
S5_12	Sheep Manure: An effective regenerative practice for enhancing Plavac Mali ( <i>Vitis vinifera</i> L.) wine quality in dry-farming vineyards on Hvar Island	Mucalo, Ana



S5_13	Sustainable agriculture and food innovation: Preserving agrodiversity and advancing vineyard resilience in Madeira	Nunes, Nuno
S5_14	Can different green manure fertilizations affect the vine balance and grape quality? First evidence of multi-year study	Roberto Zanzotti
S5_15	Soil mineral nitrogen dynamics in cover-cropped irrigated vineyards with contrasting soil textures	Sharifi, Mehdi
S5_16	Perceptions of livestock integration in south african vineyards	Theunissen, Katinka
S5_17	Tracking innovations for glyphosate-free in sloppy or terraced vineyard	Thiollet-Scholtus, Marie
S5_18	Plant biostimulants in combination treatments as environmentally-friendly rest-breaking agents for dormancy release in table grapes <i>Vitis vinifera</i> crimson seedless	Venter, Nicole
S5_19	Ground vs trellis in rootstock cane production fields	Villa-Llop, Ana
S5_20	ReGenWine: A transdisciplinary project to assess concepts in regenerative viticulture	Vivier, Melané A.
S5_21	Field evaluation of biofungicides to control powdery mildew and Botrytis Bunch Rot of wine grapes in California	Zhuang, Shijian



## SESSION VI - MAINTAINING AND IMPROVING BIODIVERSITY

S6_01	Grassland and patch scale diversity in supporting avian diversity and potential ecosystem services	Adler, Katharina
S6_02	First application of an original methodology created to overcome conflicts between stakeholders in an important wine-growing territory. methodology, results and perspectives in the application of sustainability eme4.1C.	Cargnello, Giovanni
S6_03	Spiders in vineyards show varying effects of inter-row management and the surrounding landscape	Kolb, Sebastian
S6_04	Protection and valorization of viticultural agrobiodiversity, the case of the Puglia Region in the experience of the Re.Ge.Vi.P. project	La Notte, Pierfederico



## SESSION VII - PHYSIOLOGICAL RESPONSES TO ABIOTIC AND BIOTIC STRESS

S7_01	A multidisciplinary approach to assess the impact of future drought scenarios on vineyard ecosystems	Fantasia, S.
S7_02	A Stratified sampling approach to investigate the impact of climate and maturity on the aroma and phenolic composition of grenache grapes and wines within the poctefa area	Geffroy, Olivier
S7_03	ABA and ethephon alleviated to a different extent the impact of elevated temperatures on grape berry composition	Cabodevilla, Andrea
S7_04	Bud fruitfulness in <i>Vitis vinifera</i> L. cv. Chardonnay in cool climate regions in South Africa	Blancquaert, Erna
S7_05	Can grapevine intra-varietal genetic variability be a tool for climate change adaptation? A case study at a hot and dry environment	Damásio, M.
S7_06	Climate change impacts on grapevine leafroll disease and its transmission by mealybugs	Schulze-Sylvester, Maria
S7_07	Developing effective physiological strategies to rejuvenate virus-infected vineyards by lowering the virus load in infected grapevines	Bondada, Bhaskar
S7_08	Dissecting the dual role of light regarding the plasticity of grape physiology and gene regulation through daylength simulation in a semi-arid region	Tian, Meng-Bo
S7_09	Drought stress shapes the fungal microbiome of grapevine leaves: Insights from DNA metabarcoding	Molnár, Anna
S7_10	Effect of ozone application for low-input postharvest dehydration of wine grapes	Brizzolara, Stefano
S7_11	Effectiveness of "curettage" and rootstock over-grafting in the control of ESCA	Sanna, Filippo Maria
S7_12	Effects of auxin treatment on compositional and molecular ripening dynamics in grape varieties of northern Italy	Shmulevitz, Ron



S7_13	Exploring between- and within-vineyard variability of “Malvasia di Candia aromatica” vineyards from Colli Piacentini	Gatti, Matteo
S7_14	Exploring the contributions of terroir factors on berry quality of cvs. Cabernet Sauvignon and Merlot ( <i>Vitis vinifera</i> L.) at the Eastern Foothills of the Helan Mountains region of China	Yao, Xuenan
S7_15	Foliar urea application alters nitrogen status, phenolic composition, and fermentation potential in grapevines	Davadant, Pierre
S7_16	Grapevine nitrogen dynamics as a function of crop thinning	Verdenal, T.
S7_17	Grapevine responses to Botrytis cinerea infection: noble rot versus grey rot	Hegyi, Ádám István
S7_19	Grapevine Shiraz disease-associated viruses lead to yield losses by altering transcription of genes	Pagay, Vinay
S7_20	Grapevine, berry and soil indicators to manage minimal irrigation strategy in semi-arid conditions: Example of Grenache Noir ( <i>Vitis vinifera</i> L.)	Pellegrino, Anne
S7_21	Guard cell metabolism – a key for regulating drought resilience?	Lehr, Patrick Pascal
S7_22	Guard cells and stomatal movement reveal early molecular interaction between grapevine cells and esca-associated pathogens.	Vander Cruyssen, Anaïs
S7_23	Impact of ecklonia maxima seaweed extract on the vegetative, reproductive and microbiome in <i>Vitis vinifera</i> L. cv cabernet sauvignon	Blancquaert, Erna
S7_24	Influence of plant growth regulators and water deficit on cv. krissy table grape	De Rosa, Alessandro
S7_25	Influence of thermal stress on Malbec, Syrah and Bonarda ( <i>Vitis vinifera</i> L.) anthocyanin content and evolution in growing seasons with heatwaves in semi-arid climate (Argentina).	Guidoni, Silvia



S7_25	isUP-AgrO European Project - Unlocking the potential for agricultural research on an EU outmost region: Boosting ISOPlaxis center	Nunes, Nuno
S7_26	Long-Term flooding effects on the physiological and productive performance of Montepulciano and Sangiovese cultivars	Giordano, Lucia
S7_27	Modelling leaf water potential from physiological and meteorological variables - A machine learning approach	Damásio, M.
S7_28	Optimizing vine pruning of Pinot noir and Müller-Thurgau after extreme hail damage	Christen, Lionel
S7_29	Pedicle lenticel diversity of cultivars and their influence on cell death and berry shrivel	Griesser, Michaela
S7_30	Phylloxera root infection drives vineyard water	Forneck, Astrid
S7_31	Physiological response to drought and heat stress in the leaves of table grape varieties	Drenjančević, Mato
S7_32	Responses of grapevine cells to physiological doses of ethanol, among which induced resistance to heat stress	Diot, Alice
S7_33	Strigolactones as possible elicitors in sunburn defense mechanisms in grapes: preliminary results	Savoi, Stefania
S7_34	The chain of effects between sunburn necroses and rot infestation in the context of climate change	Waber, Jonas
S7_35	The Drought, the Temperature and the Time: drivers of osmotic adjustment?	Farolfi, Elena
S7_36	The impacts of simulated heatwaves on the induction and maintenance of bud cold tolerance in cultivated and wild-type Vitis species	Persico, Meredith J.
S7_37	The influence of irrigation and crop load management on berry composition and yield in Chardonnay	Wegher, Mario
S7_38	The role of proline and genotype in recurrent water stress and energy excess dissipation	Tiwari, Harsh



S7_39	Understanding the Onset of Systemic Infection of Red Blotch Virus and Phenotypic Studies of Grapevines Expressing a Red Blotch Virus Infectious Clone	Bondada, Bhaskar
S7_40	Studying heat waves effects on berry composition: first outlooks and challenges.	Innocenti, Jacopo
S7_41	WHEY protein hydrolysates enhance grapevine resilience to abiotic and biotic stresses	Alfonso, Esteban
S7_42	Distribution of fungicide-resistant Botrytis cinerea mutations in the Tokaj and Eger wine regions	Hegyi-Kaló, Júlia





## PROFESSIONAL DAY I - ADAPTATION TO AND MITIGATION OF GLOBAL WARMING

PD_01	Seasonal variations and climate interactions with phenolic extractability of Pinot Noir across the whole winemaking process	Blank, Magali
PD_02	Impact of grapevine rootstock genotypes on nitrogen status of the scion and phenolic composition in Pinot Noir berries and wine	Blank, Magali
PD_03	Enhancing the color traits of 'Nebbiolo' and 'Dolcetto' grapes: The role of abscisic acid during ripening	Martinez, Liliana
PD_04	Evaluation of viticultural measures to delay ripening of <i>Vitis vinifera</i> 'Grüner Veltliner'	Mehofer, Martin
PD_05	Insulative effects of vine shelters may impact growth potential and cold hardiness of young vines	O'Brien, Patrick
PD_06	Drip irrigation and precision cooling reduce impact of extreme heat events during berry ripening	Previtali, Pietro
PD_07	Grapevine rootstock field evaluation under drought and saline condition in California	Zhuang, Shijian



## PROFESSIONAL DAY II - CHALLENGES OF SPARKLING PRODUCTION IN RESPONSE TO CLIMATE CHANGE

PD_11	Global geo changes, including climate: viticulture result on new viticulture-viticulture in a territory both further north of the region and at high altitude	Cargnello, Giovanni
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## PROFESSIONAL DAY III - VITIVOLTAIC ROUNDTABLE

PD_14	Impact of Agrivoltaics on berry ripening: Preliminary results for the white cv. Viosinho	Victorino, Gonçalo
PD_15	Vitivoltaics: Overview of the impacts on grapevine performance, wine quality, design features and stakeholder perceptions	Collins, Cassandra



