



**110° Congresso della Società Botanica Italiana onlus**

**II INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC)**

**“NOT ONLY FOOD: SUSTAINABLE DEVELOPMENT, AGRO-  
BIODIVERSITY CONSERVATION & HUMAN WELL BEING”**

in connection with

**EXPO MILANO 2015 “FEEDING THE PLANET, ENERGY FOR LIFE”**

Pavia, 14 - 17 September 2015

**In collaboration with the University of Pavia and the Municipality of Pavia  
With the sponsorship of “Fondazione Banca del Monte di Lombardia”**

**Under the Patronage of the  
Regione Lombardia, GD Agricoltura**

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# 110° Congresso della Società Botanica Italiana

## II INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC)

Pavia, 14 - 17 September 2015

### Programme

#### Monday 14 September 2015

- 14:00-19:00 Registration (Pavia Botanic Garden, Via S. Epifanio, 14)  
14:00-19:00 Scheduled meetings of the Working Groups of the Italian Botanical Society  
16:30-19:00 Poster Session (University-main building, Aula del Disegno, Piazza Leonardo da Vinci)  
18:00-19:00 Lecture on "Flowers of Lombardy" by the Regional Section of SBI (Pavia Botanic Garden, Via S. Epifanio, 14)

#### Tuesday 15 September 2014

- 8:30 Registration (Aula del '400 of the University, Piazza Leonardo da Vinci)  
9:30-10:30 Opening Ceremony in the Aula Magna of the University (Piazza Leonardo da Vinci)

**General Session – chairperson C. Siniscalco**  
Aula del '400 of the University, Piazza Leonardo da Vinci

- 10:40 Introduction to the themes of the Symposia

**Keynote lectures – chairperson M. Migliavacca**

- 10:50-12:50
- **M.A. Altieri**, University of Berkeley, California, USA  
Agroecology and the design of biodiverse and climate change resilient small farming systems
  - **J. Maschinski**, Kushlan Tropical Science Institute, Fairchild Tropical Botanic Garden, Florida, USA  
Evaluating conservation options for rare and common plant species threatened by climate change
  - **J. Doebley**, Genetics Department, University of Wisconsin, USA  
The genetic architecture of maize domestication: low hanging fruit and dark matter
- 13:00-14:30 Lunch (Cortile delle Magnolie, University area)

**Symposium 1 – chairperson G. Lingua**  
**Ecosystem services in agricultural landscapes: the role of plants and fungi**  
Aula del '400 of the University, Piazza Leonardo da Vinci

- 14:30-17:35
- **M. Migliavacca**, Max Planck Institute, Jena, Germany  
Climatic and phenological controls on CO<sub>2</sub> and water exchange between biosphere and the atmosphere
  - **D. Wipf**, INRA/CNRS/Université de Bourgogne, France  
Study of the biotrophic transportome in the arbuscular mycorrhiza

### **Communications – chairpersons M. Marignani, A.M. Persiani**

- G. Rossi, M.L. Paracchini, C. Bulgheroni, G. Borreani, E. Tabacco, A. Banterle, D. Bertoni, G. Parolo, R. Origgi, **C. De Paola**  
Evaluation of farm ecologic performance in a context of multifunctionality assessment
- **F. Carteni**, S. Falanga Bolognesi, F. Giannino, M. Minacapilli, S. Mazzoleni, G. D'Urso  
Characterization of eco-hydrological processes in different traditional agricultural landscapes of Italy: a process-based modelling approach
- **S. Bagella**, R. Filigheddu  
Biodiversity patterns and related ecosystem services in Mediterranean agro-silvo-pastoral systems
- **S. Tosi**, S. Accossato, M. Rodolfi, M. Faè, E. Lagostina, R. Cella, A.M. Picco  
Agro-residues supplemented with fungi: evidence of its multifunctional properties in agriculture and energy industry
- **F. Guarino**, A. Ciccatelli, C. Nittolo, S. Parrella, S. Castiglione  
Is sunflower a good tool for reclamation of soils contaminated with chromium?
- **D.A. Carbone**, I. Gargano, G. Olivieri, D. Spasiano, N. D'Ambrosio, G. Pinto  
A study of the photosynthetic performances of *Scenedesmus vacuolatus* under different culture conditions
- **A. Ceci**, L. Pierro, C. Riccardi, F. Pinzari, O. Maggi, M. Petrangeli Papini, G.M. Gadd, A.M. Persiani  
 $\beta$ -Hexachlorocyclohexane and fungi: tolerance, biotransformation and phenotypic profiles of the saprotrophic soil fungus *Penicillium griseofulvum*
- **F. Spina**, C. Cordero, T. Schilirò, B. Sgorbini, R. Degan, L. Mantilleri, G. Gilli, C. Bicchi, P. Calza, E. Laurenti, G.C. Varese  
Water contamination by micropollutants and resolute strategy based on fungal enzymes

18:00-19:30 Poster session

20:00 Welcoming party at Fraschini Theatre (Pavia, City centre)

21:00 Concert offered by ADRAT CNU, University of Pavia. At Fraschini Theatre, Orchestra Sinfonica dell'Emilia Romagna "Arturo Toscanini"

## **Wednesday 16 September 2015**

### **Symposium 2 – chairperson S. Biondi**

#### **Plant adaptation and mitigation in the face of climate change**

Aula del '400 of the University, Piazza Leonardo da Vinci

09:00-13:00

- **Beat Keller**, University of Zurich, Switzerland  
From the lab to the field: how to improve disease resistance in a changing environment
- **Hans De Boeck**, University of Antwerp, Belgium  
Are more biodiverse systems more stable in the face of climate extremes?
- **Cathie Martin**, John Innes Centre, UK  
The relationship between nutritional value and shelf-life of tomato fruit

### **Communications – chairpersons G. Falasca, L. Sanità di Toppi**

- **L. Selbmann**, C. Cecchini, D. Isola, S. Onofri, C. Coleine, L. Zucconi  
Life at the edge: Antarctic endolithic fungi for monitoring climate change

- **S. Fior**, S. Zoller, A. Widmer  
The genomic architecture of altitudinal adaptation in carnation
- **F. Porro**, M. Gandini, D. Rocchini, M. Tomaselli, G. Rossi  
Assessment of temporal diversity patterns in the vegetation of the northern Apennines
- **V. De Micco**, G. Aronne, A. Balzano, E. Zalloni, P. Cherubini, C. Cufar, G. Battipaglia  
Climate-driven intra-annual density fluctuations in Mediterranean tree rings: sign of stress and adaptation to environmental changes
- **M. Ruffini Castiglione**, L. Giorgetti, L.M. Bellani, S. Muccifora, S. Bottega, C. Spanò  
Investigation on the effects of TiO<sub>2</sub> nanoparticles and bulk counterpart in *Vicia faba* L.
- S. D'Angeli, M. Matteucci, L. Fattorini, A. Gismondi, M. Ludovici, A. Canini, **M.M. Altamura**  
*Fad8*, *lip* and *osmotin* are cold-acclimation genes in *Olea europaea* L.
- **V. Carocha**, A.J. Amaral, H. San-Clemente, L. Leal, T. Quilhó, G. Szittyta, T. Dalmay, A.T. Freitas, P. Fevereiro, J. Grima-Pettenati, J.A.P. Paiva  
Unraveling post-transcriptional regulation mechanisms of *Eucalyptus* wood formation in response to seasonal and gravitropic stimulus
- **M. Guerrina**, C.N. Macri, E. Conti, G. Casazza, L. Minuto  
A multidisciplinary approach to study the climate change effect: a case study on *Berardia subacaulis* endemic to SW Alps
- **S. Mazzoleni**, F. Carteni, G. Incerti, M.L. Chiusano, P. Termolino, M. Senatore, F. Giannino, M. Rietkerk, C.E. Vincenot, V. Lanzotti, G. Bonanomi  
Inhibitory effect of extracellular self-DNA: new perspectives in plant-soil negative feedback and species coexistence mechanisms

12:45-13:00 Presentation of the book “*In vitro* embryogenesis in higher plants” (M.A. Germanà, M. Lambardi, Springer Publisher, 2015)

13:00-14:30 Lunch (Cortile delle Magnolie, University area)

### Symposium 3 – chairperson A. Chiarucci Agro-biodiversity and its conservation

Aula del '400 of the University, Piazza Leonardo da Vinci

14:30-17:20

- **L. Maggioni**, Roma, Bioersity International  
Long-term conservation and facilities for an increased utilization of plant genetic resources in Europe: the AEGIS experience
- **J.V. Müller**, Royal Botanic Gardens, Kew, Millennium Seed Bank, UK  
The role of Crop Wild Relatives for future food security: the “Adapting Agriculture to Climate Change” project

### Communications – chairpersons A.M. Mercuri, L. Peruzzi

- **G. Bedini**, A. Carta, F. Roma-Marzio, G. Astuti, L. Peruzzi  
A survey of the Italian endemic vascular flora as a source of Crop Wild Relatives
- **F. Guzzon**, S. Orsenigo, J.V. Müller, T. Abeli, P. Cauzzi, N.M.G. Ardenghi, A. Balestrazzi, G. Rossi  
Pre-breeding ecological characterization of germination in *Aegilops* (Poaceae)
- **J. Nascimbene**, D. Ivan, V. Casagrande, M. Zottini, L. Marini  
Testing the potential of vineyards to conserve plant species of dry calcareous grasslands
- **E. Salerno**, C. Perini, E. Bianchetto, S. Mocali, I. De Meo, P. Mori, S. Bruschini, P. Montini, S. Samaden, P. Cantiani  
Selpibiolife: innovative silvicultural treatments to enhance soil biodiversity in artificial black pine stands

- **N.M.G. Ardenghi**, G. Galasso, E. Banfi  
The revenge of American grapes: history and invasiveness of alien *Vitis* (Vitaceae) of crop interest in Italy and Europe
- **M. Sarigu**, G. Bosì, M. Uccesu, M.C. Loi, G. Venora, O. Grillo, G. Bacchetta  
Image analysis application on waterlogged archaeological *Prunus* remains from a medieval context in Sardinia
- M. Orrù, **O. Grillo**, M. Uccesu, G. Venora, A. Usai, P.F. Serreli, G. Bacchetta  
Primitive cultivar of *Vitis vinifera* L. during the bronze age in Sardinia
- **C. Giuliani**, G. Flamini, R. Ascrizzi, L. Santagostini, L. Maleci Bini, G. Fico  
The Ghirardi Botanical Garden: a “natural laboratory” for studying the morphological and phytochemical diversity of selected medicinal plants in an integrated ecological framework

17:20-17:35 Presentation of the book “La storia della piante fossili in Italia - Paleobotany in Italy” (Kustatscher E., Roghi G., Bertini A., Miola A. eds, 2014)

17:35 Assembly of the Italian Botanical Society (members only) at Pavia Botanic Garden Via Epifanio 14

21:00 Congress social dinner at Castello Visconteo, City centre (during dinner tasting typical wines and stories of Pavia by the Association “I Viaggi di Tels”)

## Thursday 17 September 2015

### Symposium 4 – chairperson C. Bicchi

#### Plants and fungi for human wellbeing

Aula del '400 of the University, Piazza Leonardo da Vinci

9:00-11:35

- **Y.H. Choi**, University of Leiden (NL)  
NMR-based metabolomics as a tool for chemical characterization of medicinal plants
- **L. Conte**, University of Udine  
New areas of olive cultivation and anomalous composition of oils: analytical topics and purity guarantee

#### Communications – chairpersons V. De Feo, F. Poli

- **E. Ambrosio**, P. Marescotti, M.G. Mariotti, G. Cecchi, M. Brancucci, M. Zotti  
Food traceability: a novel approach for wild edible mushrooms
- **E. Martino**, F. Bracco, M.U. Granata, B. Mannucci, F. Corana, D. Rossi, R. Catoni, L. Gratani  
Fatty acids composition of kernel oil from six different hazel (*Corylus avellana* L.) populations in Italy
- **L. Boggia**, B. Sgorbini, C. Cagliero, G. Pignata, M.L. Colombo, S. Nicola, C. Bicchi, P. Rubiolo  
Total volatile profile of *Artemisia umbelliformis* Lam. as a predictive marker of thujone amount in genepi liqueur
- **M. Daglia**, A. Di Lorenzo, E. Coppo, P. Chavez Carvajal, F. Bracco, G. Zanoni, A. Marchese  
Metabolite profiling and antibacterial activity of *Myrcianthes hallii* (Myrtaceae) used in traditional medicine in Ecuador
- **M. Tacchini**, A. Spagnoletti, A. Grandini, I. Maresca, T. Efferth, A. Guerrini, G. Sacchetti  
*Convolvulus pluricaulis*, an ayurvedic herbal tool for human and plant wellbeing

- **L. Avesani**, M. Commisso, M. Bianconi, S. Ceoldo, G. Zoccatelli, F. Guzzo  
Potentially neuroactive amines in kiwifruit
- **F. Antognoni**, G. Petroccione, L. Gambuti, S. Centamore, D.L. Taneyo Saa, A. Gianotti, L. Mercolini, R. Mandrioli  
Phenolic acid composition and antioxidant activity in einkorn and white flours, sourdough breads and *in-vitro* digested products
- **R. Venanzoni**, B. Tirillini, E. Bricchi, P. Angelini  
Free fatty acids in *Tuber aestivum* - *Tuber uncinatum* species complex and its chemotaxonomic significance

11:35-11:50 Presentation of the book “Biologia vegetale, biologia farmaceutica, fitochimica” (A. Bruni ed., Pearson Italia Editore, 2014)

12:00-13:00 Closing Ceremony

13:00-14:30 Lunch (Cortile delle Magnolie, University area)

Special exhibition of “Open Laboratories” from Pavia University researchers, Cortile delle Magnolie

### Post Congress, open conference

Aula del '400 (Piazza Leonardo da Vinci)

15:00-18:30 Special Session on “Plant genetic resources and Access Benefit Sharing (ABS) in the framework of the EU Regulation No. 511/2014 and Nagoya International Protocol”/ Risorse fitogenetiche e condivisione dell'accesso ai benefici nell'uso delle piante (ABS), nel contest del Regolamento dell'Unione Europea N° 511/2014 e del Protocollo internazionale di Nagoya”. In collaboration with MATTM, MIPAAF, and the Association “Jurists for the Environment Club”

## Friday 18 September 2015

### Tour to EXPO MILANO 2015 – Milan, Exhibition site

Bus will star at 8.45 from Pavia Railway Station

Special visit to Biodiversity Park area with Prof. Stefano Bocchi and Prof. Ilda Vagge (Milan University) and to some selected pavilions.

Free activity.

## Sunday 20 September 2015, Municipality of Pavia and “Orto Botanico Friends Association”

“Piazza Italia Market”, “Cluster del gusto”: exhibition and market of the best Italian landraces and local products (farmers, research institutions, NGOs, etc.) along Pavia “Decumano” from Piazza della Vittoria (City centre) to Botanic Garden at Piazza S. Epifanio

From **14 to 20 September 2015** three exhibitions will be active in the area of the International Conference:

- 1) “Secret life of plants”, organized by the Botanic Garden Network of Lombardy Via Epifanio 14.
- 2) “Le carte dei cibi”, historical documents regarding food from the University Library of Pavia, organized by Dr. Luisa Erba, Prof. Agnese Visconti and others.
- 3) “Carte dei Fiori”, Biblioteca delle Scienze, Botanic Garden, Via Epifanio 14.

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## POSTERS

### 1. Ecosystems services in agricultural landscapes: the role of plants and fungi

1. BRAMBILLA V., GORETTI D., SOMSSICH M., MARTIGNAGO D., GALBIATI F., R. SHRESTHA, GOMEZ-ARIZA J., LAZZARO F., SIMON R., FORNARA F. “Plasticity of the florigen activation complex during photoperiodic flowering in rice”

#### 1.1 Greening

2. BARTOLI F., ROMITI F., CANEVA G. “Vertical greening and conservation of the monument surface: the role of *Hedera helix* L.”
3. MEZZASALMA V., BRUNI I., AIROLDI C., LOVICU G., FRAU A., RIGOLDI M.P., ARROYO R., CORTIS P., DE MATTIA F., LABRA M. “From grapevines to wines: the “secret” of Sardinian viticulture”

#### 1.3 Multifunctionality

4. BRUSONI M., NEGRI R., GAFFURI F., CAVAGNA B., ROGLEDI M. “Assessment of EU agri-environmental regulations benefits on plant biodiversity in Lombardy”
5. COLEINE C., SELBMANN L., VENTURA S., ONOFRI S., ZUCCONI L. “Fungal biodiversity in arctic biological soil crusts”
6. LANFRANCO L., MIOZZI L., CASARIN V., BRILLI F., ACCOTTO G.P., VAIRA A.M. “Characterization of the tripartite interaction between tomato, arbuscular mycorrhizal fungi and cucumber mosaic virus”
7. LANDINEZ TORRES A.Y., GRANATA M.U., BRUSCHI F., TOSI S. “Assessment of soil quality of differently managed environments by CO<sub>2</sub> and fungal count”
8. MAGGI O., LUNGHINI D., PECORARO L., SABATINI F.M., BLASI C., PERSIANI A.M. “Protecting beech forests and enhancing ecosystem services: the role of fungal biodiversity in Apennine priority habitats”
9. PERSIANI A.M., MAGGI O., PINZARI F. “Are fungal communities decomposing cellulose randomly assembled through dispersal and priority effects?”

#### 1.4 Green economy

10. D'ALEO F., D'ALEO V. “Preliminary study in open raceway for production of *Spirulina* biomass in southern Italy. First experience in Calabria”

#### 1.6 Pollination

11. PIRODDA E., SICLARI P. “Pollination of two tomato cultivars in unheated greenhouses: from pollen transfer to fruit development and bumblebees foraging activity”

#### 1.8 Bioremediation

12. CECCHI G., MARESCOTTI P., DI PIAZZA S., LUCCHETTI G., MARIOTTI M.G., ZOTTI M. “Preliminary geomycological investigations in the Libiola Mine (Liguria, NW Italy)”
13. ISOLA D., ONOFRI S., ZUCCONI L., SELBMANN L. “Isolation of black fungi from contaminated sites: new strains with bioremediation potential”
14. ROCCOTIELLO E., RIGGI A., CECCHI G., BRANQUINHO C., MARIOTTI M.G., ZOTTI M. “Seed germination under nickel stress in a facultative hyperaccumulator”



15. TOMMASI F., D'AQUINO L., DE SIATI F., BRUNO G.L. "Preliminary characterization of fungal endophytes from *Nephrolepis cordifolia* (L.) C.Presl and their role in fern tolerance to inorganic pollutants"

## 1.9 Cultural rural landscape

16. BERTACCHI A., LOMBARDI T., GIANNINI V., SILVESTRI N., BONARI E. "A case of ecological renaturation in a drained Mediterranean peatland: the case study of the Massaciuccoli Lake basin (Tuscany, It)"
17. CAMPOBENEDETTO C., SABATINI M.E., PAPARELLA S., ARAUJO S., BONADEI M., BRUNI G., CARBONERA D., BALESTRAZZI A. "Bioinformatic and molecular tools to improve bioremediation of polluted air at industrial sites"
18. CIACCIO M., RUSSO R., GIAMMINOLA M.E., DEVIANA M., PALLA F. "Genetics of *Anadenanthera colubrina* var. *cebil* (Fabaceae), a tree from Salta (northwestern Argentina)"
19. LANDINEZ TORRES A.Y., BRACCO F. "Dendroenergetic plants of the Colombian Amazonia: their use and management"

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20. D'ARCO M., FERRONI L. "Water use in three *Sedum* species under drought conditions in green roof substrates and their role in green roof performances"
21. FUSARO L., SALVATORI E., MEREU S., MARANDO F., SCASSELLATI E., ABBATE G., MANES F. "Urban and peri-urban forests in the Metropolitan Area of Rome: ecophysiological response of *Quercus ilex* L. in two Green Infrastructures, in an Ecosystem Service perspective"
22. SPERANZA M., MAGLIONICO M., FERRONI L., CIPOLLA S.S., D'ARCO M., LAMBERTI A. "Green infrastructures for the urban areas: some results from a one-year monitoring on the experimental green roofs of the University of Bologna"

## 2. Plants adaptation and mitigation in the face of climate change

23. BARNI E., BAROLIN D., GIUNTOLI F., PETEY M., TEPPA G., BACARO G., SINISCALCO C. "Dynamics of summit floras over the last century in the N-Western Alps"

### 2.2 Resistance

24. MONDONI A., ABELI T., ORSENIGO S., BERNAREGGI G., BALESTRAZZI A., ROSSI G. "Plastic responses to environmental changes in the longevity of seeds"

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26. SINISCALCO C., PINTALDI E., CREMONESE E., FILIPPA G., CELI L., FREPPAZ M., GALVAGNO M., BARNI E., D'AMICO M., MORRA DI CELLA U. "Microtopography enhances the coexistence of different plant functional types and consequently extends the growing season in subalpine grasslands"

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29. LITTO M., SCOPECE G., FINESCHI S., SCHIESTL F.P., COZZOLINO S. "Effects of herbivory on pollen flow, reproductive success and trophic interactions in *Brassica rapa*"

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32. CERRI M., FERRANTI F., COPPI A., FERRI V., FOGGI B., LASTRUCCI L., VENANZONI R., GIGANTE D., REALE L. “Study of reed-beds decline in different freshwater ecosystems of central Italy: first insights”
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34. DI FILIPPO A., BRUNETTI M., MAUGERI M., SCHIRONE B., PIOVESAN G. “Tree longevity in temperate forests: using tree-rings to assess the factors affecting the maximum lifespan of broadleaf deciduous trees in different environments”
35. FATTORINI L., PIACENTINI D., BURAN I., ZANELLA L., DELLA ROVERE F., RONZAN M., SANITÀ DI TOPPI L., ALTAMURA M.M., FALASCA G. “Cadmium and arsenic affect adventitious root formation and the definition of the quiescent centre in *Arabidopsis thaliana* (L.) Heynh plantlets”
36. GAMMELLA M., SELVI F., FIOR S., COZZOLINO S. “Local adaptation and gene flow in the serpentine *Dianthus sylvestris*”
37. GIOVANARDI M., PANTALEONI L., VICELLI B., FERRONI L., PANCALDI S. “Dynamics of photosystem II supercomplex in pea plant leaf tissues upon exposure to different incident lights”
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40. RUIZ K-B., SILVA H., MALDONADO J., TORRIGIANI P., BIONDI S. “Morpho-physiological and molecular traits that contribute to exceptional salinity tolerance in *Chenopodium quinoa* Willd.”
41. VELOCCIA A., FATTORINI L., DELLA ROVERE F., FALASCA G., ALTAMURA M.M. “Adventitious rooting: what happens between ethylene and auxins?”

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## 2.8 Biology of invasion

45. GENTILI R., CIAPPETTA S., GILARDELLI F., GHLANI A., COLOMBO F., RODIO V., GUARINO M.F., BONINI M., CITTERIO S. “The invasion of *Ambrosia artemisiifolia* L. in Italy: genetic variability, population structure and colonisation routes”
46. PODDA L., SANTO A., PUDDU S., BIAGINI L., BACCHETTA G. “Germination ecophysiology of three invasive Solanaceae species in Sardinia (Italy)”

47. VALENTINI E., LASTRUCCI L., LAZZARO L., MASSI L., DELL'OLMO L., FOGGI B., NUCCIO C. "Preliminary ecological data from a wetland area characterized by massive invasion of *Myriophyllum aquaticum* (Vell.) Verdc."

## 2.9 Protected natural areas management

48. BERTACCHI A., LOMBARDI T., TOMEI I., LABATE M., FONTANELLI A., PICCHI L. "Vegetation landscape management in the Natural Reserve of Chiarone, Massaciuccoli Lake basin (Tuscany, It)"
49. FERRI V., GIGANTE D. "Effects of environment and different management on morphological traits of a central-Italian population of *Klasea hypopifolia* (Vill.) Å.Löve & D.Löve, a near threatened Annex II plant species"
50. GERACI M., ERDFELD D., BAZAN G., SCHICCHI R. "Unmanned aerial vehicle application for mapping individual plants: the case of the Nebrodi beech forest."
51. MURRU V., MARRIGNANI M., ACOSTA A.T.R., COGONI A. "Bryophytes in coastal sand dunes and their relationship with main environmental variables."
52. PRISCO I., CARBONI M., JUCKER T., ACOSTA A.T.R. "Winners and losers on Italian coastal dunes in the face of recent global changes: the role of the protected areas network"

## 3. Agro-biodiversity and its conservation

53. VARESE G.C., PRIGIONE V., PERUGINI J., REALE L. "The role of MIRRI research infrastructure in the conservation and distribution of microbial diversity"

### 3.1 CWR (Crop Wild Relatives)

54. ANDREELLA M., BIANCO P., CIANCALEONI S., GIACANELLI V., GIARRATANO M.C., LUGERI N., NEGRI V., MORRONI E., PIOTTO B., TARTAGLINI N. "A first approach to the knowledge and conservation of wild crop relatives in Italy"
55. ARDENGHI N.M.G., FOGGI B., MAGGIONI L., ORSENIGO S., CAUZZI P., ROSSI G. "Crop wild relatives of *Festuca* s.l. (Poaceae) in Italy: a national checklist"

### 3.2 Landraces

56. CANTALUPPI E., LANDONI M., CASSANI E., GIUPPONI L., GIORGI A., PILU R. "Study of an ancient maize from Valcamonica (northern Italy) rich in carotenoids and phlobaphenes"
57. GRILLO O., LO BIANCO M., CREMONINI R., VENORA G. "Seed phenotypic identification of Italian bean landraces (*Phaseolus vulgaris* L.) by biometric and texture descriptors"
58. LEONI B., DI GIOVINE F., RENNA M., SANTAMARIA P. "The 'Lucera artichoke': a neglected landrace from Capitanata (southern Italy)"
59. ORSENIGO S., ABELI T., VOLPATO M., GENTILI R., GALLA G., CITTERIO S., SGORBATI S., ROSSI G., BARCACCIA G. "Genetic identity of common buckwheat (*Fagopyrum esculentum* Moench) landraces cultivated in Valtellina (Central Alps, Italy)"
60. RENNA M., SIGNORE A., GONNELLA M., SERIO F., SANTAMARIA P. "The Polignano carrot: a multidisciplinary approach for preserving an interesting landrace at risk of genetic erosion"
61. TAZZARI E.R., ABELI T., MONDONI A., CAUZZI P., BODINO S., ARDENGHI N.M.G., VAGGE I., GUZZON F., ORSENIGO S., ROSSI G. "Conservation and characterization of landraces in northern Italy"

### 3.3 Sustainable crop management

62. ANGELINI P., PROPERZI A., TIRILLINI B., VENANZONI R. "The potential of truffle allelopathy on management of plant-pathogenic fungi in crop fields"
63. BARCELLA M., QUATRALE V., TOSI S., PICCO A.M., SARTORI F. "Bioactive agro-matrix. Effects of its use on vegetative growth, photosynthetic activity and crop production"

64. DONATI L., VALLETTA A., PALOCCI C., CHRONOPOULOU L., BRAMOSANTI M., BALDAN B., PASQUA G. “Uptake and internalization of poly(lactic-co-glycolic) acid nanoparticles in *Vitis vinifera* and phytopathogenic fungi (*Botrytis cinerea*, *Aspergillus* sp. pl.)”
65. FEVEREIRO P., ASSUNÇÃO M., SEVERINO R., SANTOS C., BRAZÃO J., SANTOS M., EIRAS-DIAS J. “The (in)compatible story of *Vitis* grafting: the transcription factors route”
66. GRATANI L., GRANATA M.U., SARTORI F., BRACCO F., PUGLIELLI G., CATONI R. “Canopy carbon assimilation rate and related nut yield in *Corylus avellana* orchards under different irrigation systems”
67. PAPARELLA S., GERNA D., LIMONTA M., VACCINO P., ARAUJO S., CAUZZI P., ABELI T., ROSSI G., BENTIVOGLIO A., DONDI D., BUTTAFAVA A., KOCKELKOREN M., VIOLA P., CARBONERA D., BALESTRAZZI A. “Molecular tools to improve seed priming: the ‘primtech’ approach”
68. RESTUCCIA A., PESCE R., PANDINO G., SCAVO A., MAUROMICALE G. “Allelopathic effects of *Cynara cardunculus* var. *sylvestris* leaf extracts on weed seed germination”
69. SABATINI M.E., PAGANO A., ARAUJO S., VANDENBUSSCHE M., BALESTRAZZI A., CARBONERA D. “Novel molecular hallmarks of seed imbibition”
70. VAGGE I., ORSENIGO S., BALLERINI C., ABELI T., ROSSI G. “Plant Red Lists in Italy: addressing the threats to endemic plants from agriculture”
71. YASEEN FAREED K., PAPARELLA S., TOMA R.S., BALESTRAZZI A., CARBONERA D. “Protoplast large-scale isolation from potato: agronomic and biotechnological applications”

### 3.6 In/ex situ plant conservation and potential use

72. FUSANI P., AIELLO N., SCARTEZZINI F. “Morphological and agronomic traits of a naturalized population of parsley [*Petroselinum crispum* (Mill.) Nyman] compared with three commercial cultivars.”
73. GIOVINO A., SCIORTINO B., SAIA S. “Morphological variability among natural populations of *Chamaerops humilis* L. grown *ex-situ*”
74. IOTTI M., BENUCCI G.M.N., LEONARDI P., AMBROSIO E., PIAZZA G., SEDDAIU S., LEONARDI M., BROTZU R., FRANCESCHINI A., DONNINI D., ZAMBONELLI A., ZOTTI M., TORTA L., SECCHI C., PACIONI G., LANCELOTTI E. “Ectomycorrhizal fungal diversity in a forest plantation of exotic conifers in Sardinia (Italy)”
75. WIJAYASINGHE M., MONDONI A., ROSSI G., BALESTRAZZI A. “Does seed priming increase the seed longevity of wild alpine plants?”

### 3.7 Archeobotany

76. BAZAN G., CANFORA L., LO PAPA G., DAZZI C., SCHICCHI R., PINZARI F. “Archeobotanical study of traditional agroecosystems based on SEM-EDX analysis of buried phytoliths”
77. LOMBARDO G., BARBAGALLO M.G., ALEO NERO C., SINEO L., PALLA F. “Ancient DNA extraction from medieval grape seeds”
78. SANTO A., GRILLO O., ORRÙ M., UCCHESU M., BACCHETTA G. “Effect of plant age on seed aspect of native Sardinian grape cultivars”

### 3.9 Botanic Garden roles

79. ALSAKKAF H., CLAUSER M., FERLI S., GRIGIONI A. “The child gardeners: sowing seeds, harvesting knowledge”
80. LABARDI L., CECCHI L., NEPI C., QUILGHINI G., SELVI F. “The Herbarium of Michele Padula: an inventory of the materials for a “Flora of Casentino” now conserved in the Herbarium Centrale Italicum (Firenze)”
81. MARIOTTI M.G., ZAPPA E. “The *Citrus* collection at Giardini Botanici Hanbury: historical investigation and sustainable conservation”
82. ZAPPA E., CAMPODONICO P.G., MARIOTTI M.G. “Plant list of Villa Roquebrune Garden (Roquebrune-Cap Martin, France)”

## 4. Plants and fungi for human well being

### 4.1 Food safety

83. BEDINI S., BERTACCHI A., COSCI F., FLAMINI G., LOMBARDI T., ASCRIZZI R., CONTI B. “*Juniperus oxycedrus* subsp. *macrocarpa* (Sibth. & Sm.) Neirl. (Cupressaceae): a promising resource for integrated post-harvest crop insect pests management”
84. DI SALVATORE M., CARRATÙ G., CARAFA A.M. “Cadmium in tomato berries”
85. MERLA C., ANDREOLI G., GUGLIELMINETTI M.L., ROVIDA E., POZZI C., FABBI M. “Ochratoxigenic moulds in the air of a salami ripening room in Pavia Oltrepò

### 4.2 Food security

86. PARREIRA J.R., BOURAADA J., SILVESTRE S., BERNARDES DA SILVA A.B., MARQUES DA SILVA J., ALMEIDA A.M., FEVEREIRO P., ALTELAAR A.F.M., ARAUJO S.S. “Using proteomics to understand seed development in *Phaseolus vulgaris* L.: developing resources to modulate seed quality traits”

### 4.3 Medicinal plants and fungi

87. ACQUAVIVA R., TOMASELLO B., MALFA G., GENOVESE C., RAGUSA S., TUNDIS R., MENICHINI F., ARONICA T., DI GIACOMO C. “Effects of *Betula aetnensis* Rafin. (Betulaceae) extract on a human colon cancer cell line”
88. BISIO A., PARRICCHI A., DE TOMMASI N. “A new sesterterpene from *Salvia tingitana* Etl. (Lamiaceae).”
89. BISSO S., CORNARA L., VARNIER O.E., BANFI S., CARUSO E., McDERMOTT J., MARTINI I., CHIODAROLI L., BRUNI I., CAVALLARI S., VIGANÒ P. “Pharmacognostic and antiviral properties of *Combretum micranthum*”
90. BRACA A., KARKER M., DE TOMMASI N., KSOURI R. “Phytochemical study of *Tamarix africana* Poir. (Tamaricaceae)”
91. FLAMINI G., PARRI F., LEONARDI M., AMBRYSEWSKA K.E., MELAI B., CIONI P.L., PISTELLI L. “Essential oil composition of *Rosmarinus officinalis* L. from Elba Island (Tuscany, Italy)”
92. GIORGI A., BASSOLI A., BORGONOVO G., PANSERI S., MANZO A., DE PETROCELLIS L., SCHIANO MORIELLO A. “In vitro activity of *Waldbeimia glabra* (Decne) Regel extracts on the somatosensory and pain receptor TRPA1”
93. GIROMETTA C., SAVINO E., GUGLIELMINETTI M., LAGOSTINA E., RODOLFI M., ROSSI P., BERNICCHIA A., PERINI C., SALERNI E., PICCO A.M. “The collection of medicinal macrofungi of Pavia University”
94. GIULIANI C., TANI C., DI FALCO P., MALECI BINI L. “Micromorphology and anatomy of bitter melon (*Momordica charantia* L., Cucurbitaceae) fruits and seeds”
95. LEONARDI P., IOTTI M., PULIGA F., PIATTONI F., SALTARELLI R., ZAMBONELLI A. “Ultra-low preservation of the medicinal mushroom *Ganoderma lucidum*”
96. MACCIONI A., MARENGO A., FALCONIERI D., PIRAS A., FARRIS E., MARRAS G., MAXIA A., SANNA C. “Preliminary study on the essential oils of the genus *Teucrium* from Sardinia (Italy)”
97. MANDOLFO A., ANTOGNONI F., POLI F. “Ethnobotanical survey within SCI IT4050001 area (Parco dei Gessi Bolognesi, Calanchi dell’Abbadessa), near Bologna, Italy”
98. MANDRONE M., COQUEIRO A., ANTOGNONI F., POLI F., CHOI Y.-H. “Metabolomics approach for screening collagenase inhibitors from medicinal plants”
99. MARRELLI M., MENICHINI F., NICOLETTI M., TONIOLO C., CONFORTI F. “*Nasturtium officinale* R.Br. subsp. *officinale*: new source of natural inhibitors of pancreatic lipase”
100. MARRELLI M., STATTI G.A., MENICHINI F., CONFORTI F. “Phenolic content and *in vitro* anti-inflammatory activity of *Echinophora tenuifolia* L.”

101. MENGHINI L., LEPORINI L., RECINELLA L., ORLANDO G., FERRANTE C., SHOHREH R., CHIAVAROLI A., VACCA M., BRUNETTI L. “Chamomile extracts as potential treatment for inflammatory bowel diseases”
102. MICELI N., FILOCAMO A., RAGUSA S., PATERNITI MASTRAZZO G., DE ROSE R.F., MAGGISANO V., MELCHINI A., TAVIANO M.F. “Biological properties of the polar extracts from leaves and flowers of *Isatis tinctoria* L. (Brassicaceae) growing in Sicily”
103. RAGUSA S., RUSSO R., ADORNETTO A., CHIAPPINI C., VARANO G.P., BERLIOCCHI L., BAGETTA G., CORASANITI M.T. “*Citrus bergamia* Risso & Poiteau (Rutaceae) essential oil exploited in studies for human health applications”
104. SANNA C., BALLERO M., TRAMONTANO E., MAXIA A., MACCIONI A., MARENGO A., TAGLIALATELA-SCAFATI O., CORONA A., ESPOSITO F. “*Onopordum illyricum* L.: new anti-Hiv-1 agents from an edible Mediterranean plant”
106. SANTAGOSTINI L., FLAMINI G., ASCRIZZI R., BOTTONI M., GIULIANI C., FICO G. “Discovering hop in Italy”
107. TUNDIS R., PERUZZI L., BONESI M., RAGUSA S., MENICHINI F., LOIZZO M.R. “*Cryptotaenia thomasi* (Ten.) DC. (Apiaceae) n-hexane extract as a source of potential anticholinesterase inhibitors”
108. VITALINI S., MADEO M., IRTI M., AVATO P., COCUZZA C.E., ARGENTIERI M.P. “Phenolic profile and biological activity of *Achillea moschata* Wulfen from Italian and Swiss Alps”

#### 4.4 Functional food

109. BRUNI I., MAGONI C., PALMIOLI A., REGONESI M.E., LABRA M. “Vegetable waste for medical and cosmetics device: the coffee plant example”
110. DE ANGELIS G., VALLETTA A., PASQUALETTI V., MULINACCI N., DE GARA L., INNOCENTI M., PASQUA G. “Plant antioxidants in the protection against radiation damage “
111. LOIZZO M.R., BONESI M., MALFA G., ACQUAVIVA R., RAGUSA S., MENICHINI F., TUNDIS R. “Radical scavenging and hypoglycaemic potential effects of edible flowers extract from *Borago officinalis* L. (Boraginaceae)”
112. SCARNATO L., ALOISI I., MONTANARI C., LANCIOTTI R., DEL DUCA S. “Gluten-free flour doughs: texture improvement by protein cross-links occurring via microbial transglutaminase from *Streptovorticillium mobaraense*”

#### 4.5 Local and traditional food and their properties

113. GUERRINI A., CIRACÌ L., MARESCA I., MAIETTI A., TEDESCHI P., POLI F., LORENZI B., CONFORTI F., SACCHETTI G., BELLAU ABDI M.L., GRANDINI A. “*In vitro* study on new drugs and food supplements from plants used in Sahrawi (Western Sahara) culinary and medicinal tradition”
114. REALE L., FICHERA C., FERRI V., CERRI M., FERRANTI F. “Morpho-histological characterization and nutritional properties of the prickly pear (*Opuntia ficus-indica* (L.) Mill.)”
115. SCHICCHI R., DI NOTO G., GERACI A. “Native taxa of Sicilian flora utilized as vegetables”

### 5. Free Topics

116. ASTEGIANO D., GIROMETTA C., GONTHIER P., GIORDANO L., SILLO F., SAVINO E., PICCO A.M. “*Perenniporia fraxinea* population: a case of study in an urban park at Pavia (Italy)”
117. ASTUTI G., ADAMÉC L., PERUZZI L. “Are shoot features of actual diagnostic value in European bladderworts (*Utricularia* L., Lentibulariaceae)?”
118. BACARO G., ROCCHINI D., DIEKMANN M., GASPARINI P., GIORIA M., MACCHERINI S., MARCANTONIO M., AMICI V., LANDI S., TORRI D., CASTELLO M., ALTOBELLI A., CHIARUCCI A. “Shape matters in sampling plant diversity: evidence from the field”

119. BARBERIS G., SIRTORI M., GAMBA P.E., MARIOTTI M.G. "Burned areas detection and fire weather. A case study"
120. BONARI G., ANGIOLINI C. "Vascular plants in a Mediterranean pine coastal forests: which driver prevails?"
121. BONINI I., VELLINI S. "National catalog form BNB: examples of application in the Herbarium Universitatis Senensis (Siena)"
122. CALEVO J., GIOVANNINI A., DE BENEDETTI L., BRAGLIA L., CORNARA L., PECCENINI S. "Morphological characterization, molecular analysis and chromosome counting for the identification of *Serapias* hybrids (Orchidaceae)"
123. CARÉ R., FEVEREIRO P. "Explaining plant biotechnology to people: "Keep calm & let's do it"
124. CECCARELLI M., SARRI V., FERRI V., LUCENTINI L., MANELI F., REALE L., GIGANTE D. "Macromorphological traits and molecular analysis in central-Italian populations of *Quercus* Gr. *pubescens*"
125. CORTIS P., NIMIS P.L., COGONI A., AMBUS A., PUTZOLU M.S., MARTELOS S. "Digital key for the identification of Italian orchids"
126. D'ANTRACCOLI M., ROMA-MARZIO F., CANALE A., PERUZZI L. "First data on the pollination ecology of *Campanula medium* L. (Campanulaceae), a species of ornamental and conservation interest"
127. DEL MONDO A., PINTO G., CINIGLIA C., PORCELLINI A. "Determining the composition of biofilms living on stone monuments"
128. DI GRISTINA E., DOMINA G., RAIMONDO F.M., SCAFIDI F. "Taxonomic remarks on *Isatis tinctoria* (Brassicaceae) from Pollino National Park (Basilicata, Italy)"
129. DI PIAZZA S., ZOTTI M., PAVARINO M., PERRANDO M., VIGNOLA S., ZAPPATORE S. "A powerful tool for a safe collection of mushrooms"
130. DOMINA G., CAMPISI P., SCAFIDI F., JURY S.L. "The discovery of plant biodiversity by children through the animated movies: Alice in Wonderland"
131. DOMINA G., GALLEA R., RAIMONDO F.M. "Implementation of an online information system for the "Flora critica d'Italia"
132. FOSSATI F., BERTOLI L. "The fountain of St John the Evangelist's abbey in Parma: diagnostic analysis for restoration purposes"
133. GIOVANNINI A., CALEVO J., NARDOTTO C. "*In vitro* germination of tropical epiphyte orchids *Cattleya bowringiana* Veitch and *Epidendrum nocturnum* Jacq."
134. GIROMETTA C., ZEFFIRO A., DONDI D., ROCCHINI G., MALAGODI M., NIELSEN E., SAVINO E. "Growth of the wood decay fungus *Perenniporia meridionalis* on *Medicago sativa*"
135. IIRITI G., CADDEO A., ORRÙ G. "Environmental education activities and guided tours at the Botanical Garden of Cagliari"
136. LATINI M., IBERITE M., ROSARI I., ABBATE G. "Analysis of woody flora diversity in two sectors of central Italy characterized by different environmental features"
137. LOMBARDI T., PALESTINI V., BERTACCHI A. "Floristic and vegetational characterization of degraded areas in the province of Pisa the case of a dismissed quarry and the neighboring territory (Municipality of Vecchiano)"
138. MANDAGLIO M., PISTARINO A., MUCCIARELLI M. "Seed dormancy and germination in *Campanula martinii* F. Fen., A. Pistarino, Peruzzi & Cellin. and *C. bertolae* Colla (Campanulaceae)"
139. MANFREDI P., SALVI R., CASSINARI C., ANDREIS C., MAROCCO A., TREVISAN M. "Preliminary comparison of the development of spontaneous vegetation between degraded soils and reconstituted ones (Piacenza, Italy)"
140. MANIGA A., ROBERT L., PERROTTA L., ALBANI D. "Visualization of E2F-dependent transcriptional activation in *Arabidopsis thaliana* plants"
141. MANNINO A.M., VAGLICA V., ODDO E. "Interspecific variation in total phenolic content in temperate brown algae"

142. MARCUCCI R., LICANDRO G. “The Bottari-Chiereghin (XVIII-XIX century) herbarium of the Natural History Museum of Venice, Santa Croce, 1730, 30135 Venice (Italy)”
143. MONTANARI G., VARALDO L., MARCHETTI C., GUIDO M.A., MAGNANI L.G. “Flowery vaults: studies on the flora of genoese frescoes of the 17th century”
144. MURRU V., SANTO A., PIAZZA C., HUGOT L., BACCHETTA G. “Seed germination requirements and effects of sodium chloride and potassium nitrate in three Tyrrhenian coastal species of the *Silene mollissima* aggregate (Caryophyllaceae)”
145. NEGRI S., ZENONI S., PEZZOTTI M., TORNIELLI G.B., GUZZO F. “A metabolomic approach to evaluate the effects of environment on the Garganega grape metabolome during ripening”
146. NOLA P., CASTAGNERI D., CARRER M., ASSINI S., BRACCO F. “A comparison between pedunculate oak and black locust vessels in tree rings: it is all a matter of size”
147. PERUZZI L., BAGELLA S., FILIGHEDDU R., PIERINI B., SINI M., ROMA-MARZIO F., CAPARELLI K.F., BONARI G., GESTRI G., DOLCI D., CARIA M.C., MARROSU M., D’ANTRACCOLI M., BEDINI G. “Wikiplantbase: a collaborative platform for floristic data. First steps towards Italian Regional Floras online”
148. PEZZOLESI L., VANUCCI S., GUERRINI F., GUIDI F., PISTOCCHI R. “Influence of abiotic and biotic factors on the production of toxins in the dinoflagellate *Ostreopsis* CF. *ovata*”
149. PICHIERRI S., PEZZOLESI L., ACCORONI S., GUERRINI F., PISTOCCHI R., TOTTI C. “Growth inhibition of *Ostreopsis* CF. *ovata* culture by toxic algal-derived polyunsaturated aldehydes”
150. POLI MARCHESE E., TURRISI R.E. “New floristic data of Mount Etna”
151. POPONESSI S., ALEFFI M., MANELI F., VENANZONI R., GIGANTE D. “Seasonal variability of bryophytic vs. vascular species in the vegetation of submediterranean temporary pools in central Italy.”
152. RINALDI R., SANTANGELO A., STRUMIA S., CRISTAUDO A., FINESCHI S., CAFASSO D. “Genetic diversity and connectivity in relict populations of *Platanus orientalis* at the edge of its distribution”
153. ROMA-MARZIO F., BEDINI G., PERUZZI L. “Updating the woody flora of Tuscany: the first comprehensive survey, two centuries after Savi’s work”
154. RONCHINI M., BRUNO L., ZILIO M., CHIAPPETTA A., FIOR S., BINELLI G., BITONTI M.B., GEROLA P. “Sub- or neo-functionalization following gene duplication: inference from gene evolution analysis”
155. RUGGIERO F., ORLANDINI S., NATALI F., CECCHI L., BALDACCIO S., MAIO S., SARNO G., CERRAI S., SILVI P., BERGER U., PRENTOVIC M., ANNESI MAESANO I., MOUSTAFA A., THIBAUDON M., MONNIER S., OLIVER G., BEDINI G. “AIS LIFE – Aerobiological Information System and allergic respiratory disease management - LIFE13ENV/IT/001107”
156. SPADARO V., MAZZOLA P., RAIMONDO F.M. “Diversity of *Smyrniun perfoliatum* (Apiaceae) in Sicily”
157. TOMEI P.E., TRIMARCHI S., CAMANGI F., BEDINI G., VANGELISTI R., VIEGI L. “A map of ethnobotanical knowledge in Tuscany”
158. TRAVAGLINI A., FANELLI G., FRATARCANGELI C., LEFOSSE C., BRIGHETTI M.A. “Citizen science at Rome: an example in phenological activity”
159. TUDELA M., WIJAYASINGHE M., ROSSI G., MONDONI A. “Patterns of seed germination within alpine grasslands of different provenance and habitats.”
160. VASHEKA O., CRESCENTE M.F., PUGLIELLI G., VARONE L., CATONI R., GRATANI L. “Morphological and anatomical differences in two fern species growing under common light environments”
161. ZOTTI M., DI PIAZZA S., CECCHI G., BELLINI E., MARIOTTI M.G., VENTURA F. “Human mycodyversity in various stages from death”