



The world  
of Horticulture

# > IHC2022: “Demandez le programme!” (Ask for the program!)



François Laurens, Emmanuel Geoffriau, Rémi Kahane,  
Emmanuelle Rousseau, Valérie Mathieu-Fichot and Mickaël Delaire

## A congress at the source of the Anjou ecosystem dedicated to plants

Plant life is an inherent and vital part of Angers' identity. In a region accounting for more than 25,000 related jobs, the city of Angers is undoubtedly the horticultural capital of France (Figure 1). No other city in France has the same historic, cultural and economic identity! Angers is remarkable due to its abundance of plants and great diversity: from the traditional to the innovative, from the urban to the natural.

First, the optimal temperate oceanic climate for plant growth and the presence of good quality water and soil have provided the ideal range for a broad diversity of plant life. Emblematic characters mark the history of Anjou and have favoured it as a horticultural centre.

In the 13<sup>th</sup> century, the gardeners of the castles were already breeding plants. In the 15<sup>th</sup> century, King René introduced improved plants such as the 'Rose de Provins' or the apricot tree in Anjou. In the 19<sup>th</sup> century, peddler-florists of Oisans (in the French Alps) resettled as horticulturists in Anjou. Gaston Allard created the arboretum. André Leroy opened the biggest nursery in Europe. In the early 1960s, Edgard Pisani, a great reforming Minister of Agriculture, launched the development of the Authion valley (to the east of Angers) into a French "Little Holland."

Angers is the first green city in France, with 14% of its surface as green space, so that every inhabitant has a green space within 500 m of their home. There is a great diversity in the urban landscapes of the region. Cultivated plant landscapes are dedicated to the production of crops and the living environment. Natural plant landscapes include exceptional natural areas such as: Basses Vallées Angevines, Basses Brosses, Ardoisières, as well as gardens and landscapes along the Loire River.

When you arrive for the IHC2022, make sure to visit some of the parks and castles that are present throughout the city. Take advantage

of the technical tours to meet the historical and internationally known horticultural companies of the region.

## Internationalisation of institutions and organisations to become an academic leader in Europe

A dedicated ecosystem has been organized beginning in the 1970s. This system includes the development of higher education and research, collaborations between research centres and companies, business events, networks, and business tourism.

Angers is home to a number of internationally-reputed institutions and organisations, such as Vegepolys Valley, the international plant cluster that federates 500 members, research centres such as the National Research Institute for Agriculture, Food and Environment (INRAE), the Centre for International Cooperation in Agricultural Research

for Development (CIRAD), various plant institutes and education centres such as L'Institut Agro, the University of Angers, the College of Agriculture of Angers (ESA), the Graduate School of International Agro-Development (ISTOM), and up to 350 companies, including the Community Plant Variety Office (CPVO), which manages the European Union system of plant variety rights covering the 27 Member States. Key international events such as Sival (one of the main trade shows in France to present a comprehensive and impressive offering of equipment and services for all horticulture productions), the "Salon du Végétal" (professional plant trade exhibition) or the Loire Valley Wine Trade Fair, make Angers a pivotal meetup for anybody working in the plant sector. With 25 courses and 2,500 students, Angers offers one of the widest choice of plant science training in France, and leads the way in Europe for academic opportunities in this field.

## Must-see address booklet

- Heritage visits: to explore the cultural influence of Anjou at the Château d'Angers, the Palais du Tau, the Musée des Beaux-Arts, the Collégiale Saint-Martin, the Cathedral Saint-Martin, the Galerie David d'Angers, and to discover its green walks, there is only one reliable address: the tourist office and its official guides, 7 place Kennedy, 49000 Angers. [www.tourisme.destination-angers.com](http://www.tourisme.destination-angers.com)
- The House of Adam, also known as the House of Adam and Eve or of the Tree of Life (Figure 2), is a half-timbered house located in the heart of the city of Angers, at the crossroads of Rue Montault and Place Sainte-Croix, just behind the cathedral. It is one of the architectural testimonies of the medieval heritage still existing today, since it was built around 1491. Today it houses the "Maison des artisans d'Angers," where more than 80 craftsmen and designers offer their creations, with thousands of gift ideas to choose from. [www.maison-artisans.com](http://www.maison-artisans.com)
- "Escapades Ligériennes:" immediate boarding on traditional flat-bottomed boats that ply the largest river in France! Guided tours from 1 to 3 hours, with breakfast, aperitif or unusual night service. <https://escapadesligeriennes.fr/>
- La Réserve: on the rooftop of the theater Le Quai, the slates review trendy recipes, facing Angers castle. [www.lareserveangers.fr](http://www.lareserveangers.fr)
- "Aux Jeunes Pousses:" with Clément Paillard in the kitchen, a chef who trained with the greats, the new gourmet sensation in Angers is raising the bar for regional gastronomy. [www.auxjeunespousses.fr](http://www.auxjeunespousses.fr)

■ Table 1. Synthetic scientific programme of IHC2022.

Schedule		Monday 15 August		Tuesday 16 August		Wednesday 17 August		Thursday 18 August		Friday 19 August	
		10:30-12:30	15:30-17:30	10:30-12:30	15:30-17:30	8:30-10:00	10:30-12:30	10:30-12:30	15:30-17:30	10:30-12:30	15:30-17:30
<b>SYMPOSIA</b>											
S1	Breeding and Effective Use of Biotechnology and Molecular Tools in Horticultural Crops										
S2	Conservation and Sustainable Use of Horticultural Genetic Resources										
S3	Quality Seeds and Transplants for Horticultural Crops and Restorative Species										
S4	In Vitro Technology and Micro-propagated Plants										
S5	Innovations in Ornamentals: from Breeding to Market										
S6	Innovative Technologies and Production Strategies for Sustainable Controlled Environment Horticulture										
S7	II International Symposium on Greener Cities: Improving Ecosystem Services in a Climate-Changing World (GreenCities2022)										
S8	Advances in Vertical Farming										
S9	Urban Horticulture for Sustainable Food Security (UrbanFood2022)										
S10	Value Adding and Innovation Management in the Horticultural Sector										
S11	Adaptation of Horticultural Plants to Abiotic Stresses										
S12	Water: a Worldwide Challenge for Horticulture!										
S13	Plant Nutrition, Fertilization, Soil Management										
S14	Sustainable Control of Pests and Diseases										
S15	Agroecology and System Approach for Sustainable and Resilient Horticultural Production										
S16	Innovative Perennial Crops Management										
S17	Integrative Approaches to Product Quality in Fruits and Vegetables										
S18	III International Symposium on Mechanization, Precision Horticulture, and Robotics: Precision and Digital Horticulture in Field Environments										
S19	Advances in Berry Crops										
S20	The Vitivinicultural Sector: Which Tools to Face Current Challenges?										
S21	XII International Symposium on Banana: Celebrating Banana Organic Production										
S22	Natural Colorants from Plants										
S23	Postharvest Technologies to Reduce Food Losses										
S24	IX International Symposium on Human Health Effects of Fruits and Vegetables - FAVHEALTH2022										
S25	Medicinal and Aromatic Plants: Domestication, Breeding, Cultivation and New Perspectives										





■ Figure 1. Angers, French capital of horticulture. Garden of the castle. ©Destination Angers

During IHC2022, the technical tours on Wednesday afternoon will allow participants to get acquainted with this large intertwined agro-ecosystem, as examples:

- The “Campus du végétal” in Angers (presentation of research and innovative work ranging from genes to sustainable cropping systems and environment);
- Technical Institutes of fruit and vegetables (CTIFL), flowers and plants (ASTREDHOR), medicinal plants (ITEIPMAI);
- Seed companies such as Vilmorin-Mikado, tree variety breeding and development companies such as International Fruit Obtention (IFO-Fruit), horticultural nurseries such as Hortival or Dalival, organic crop companies, etc.;
- Horticultural training centres on the theme of agroecology.

The intention of this scientific congress is to be open to experimental research and to the business sector to promote knowledge transfer and exchanges based on the principle of competitiveness clusters such as Vegopolys Valley. As Mrs. Séverine Darsonville, President of Vegopolys Valley, points out, “This event is a unique opportunity for companies to exchange and debate on innovation with the global scientific community.”

Specialized plants are more than ever at the heart of food and well-being issues. The ways of producing, selling and consuming are changing. This congress will enable everyone to orient their strategies.

To make the congress more accessible to professionals, i) some sessions will be highlighted with translation into French on demand, ii) a preparation tool to challenge the scientists that allows the sharing of individual or

collective problems will share recommendations for sessions and personalized appointments, and iii) an app will be available to attendees, with agenda preparation and appointment bookings.

Three price offers have been created and adapted to professional attendees’ situations, including learning expeditions, one of which is on the theme of “agriculture and plants in the city.” For more information: [www.ihc2022.org/you-are-a-professional/](http://www.ihc2022.org/you-are-a-professional/)

### What is special in the IHC2022?

The scientific programme of the congress is composed of 25 symposia (Table 1). Each integrates oral communications and e-posters

in alternation, giving a higher exposure for the poster authors. The e-posters will also be accessible online so that delegates can get in touch with their authors. In addition to the rich scientific interactions during symposia and workshops, IHC2022 is a great opportunity to bring scientists and non-research professionals, as well as teachers and trainers from different disciplines of vocational or higher education, from various organizations and from different countries and cultures together. For instance, a “Pedagogical Innovations” workshop is organized to highlight and share pedagogical innovations in training and academic courses with a specific call for contributions ([www.ihc2022.org/w10-what-pedagogical-innovations-in-horticulture-and-landscape-training/](http://www.ihc2022.org/w10-what-pedagogical-innovations-in-horticulture-and-landscape-training/)). Including the civil society in the agrifood sustainability equation is another challenge of the 14 workshops of the congress. For example, the following question will be moderated by the French Agency for research and information on fruit and vegetables (Aprifel) on disseminating the scientific knowledge to the society: what balance should be struck when deciding between accuracy and simplification of research results? ([www.ihc2022.org/scientific-program/workshops/w13-dissemination-of-scientific-knowledge-to-the-society-balance-between-accuracy-and-simplification/](http://www.ihc2022.org/scientific-program/workshops/w13-dissemination-of-scientific-knowledge-to-the-society-balance-between-accuracy-and-simplification/)).

While the scientific programme of IHC2022 is dense and diverse, encouraging interactions between disciplines, delegate origins and generations, the social programme is equally rich and exciting. Besides the quintessential wine tastings and botanical discoveries (city botanic garden, castle botanic garden, Terra



■ Figure 2. The House of Adam or of the Tree of Life, in the heart of Angers (<http://aigle44.a.i.pic.centerblog.net/5b4b6120.JPG>).



## Terra Botanica

Located on the edge of Angers, it is the first theme park in Europe dedicated to plant life. With 11 hectares of gardens, water features and greenhouses, 275,000 plants, some 40 new attractions and entertainment features added in 2021 (4D films, interactive games, crossing a bamboo forest, ascending into the tree tops). Terra Botanica offers a whole new approach to the world of plants, taking the visitors on an amazing journey of fun and learning. Surrounded by flowers and rare and exotic species of trees, you will experience the amazing times of the explorers that brought back new plants and shrubs from all around the world. Terra Botanica is a trailblazing park, designed in a spirit of respect for the environment, of preservation and of transmission to future generations of our exceptional natural heritage. [www.terraborotanica.fr](http://www.terraborotanica.fr)



■ Figure 3. Terra Botanica, plant thematic parks and gardens of Angers. ©Terra Botanica

Botanica tremendous park (Figure 3)), the opening ceremony and cocktail party will open a week of outdoor evenings with entertainment and a gala dinner with a music concert in an exceptional setting.

The city of Angers decided to set up its town centre at IHC clock time since it is hosting the congress in two sites 200-m distant, the Congress Centre and the University of Angers. Most of the accommodation and catering places are at walking distance, through streets and squares specially greened and flowered by the landscaping services of Angers, technical schools, and professionals associated with local urbanists (Figure 4).



■ Figure 4. Container gardening project in the city of Angers.

## National opening and international outreach

Although the congress is taking place in Angers, the indisputable French capital of horticulture, all French regions including French territories overseas, are rich in horticultural production. The south of France has a strong touristic reputation, made of history, culture, climate and landscape, and horticulture is involved in almost all of them. This is why two post-congress tours have been set up and proposed to the participants, one centered in Avignon, and the other in Montpellier. Included in Mediterranean horticulture, grapes and wines will be a major emphasis in the field and in cellar visits. The role that innovation is now playing in France to keep high quality in the fruit, vegetable, and aromatic plant industries will be emphasized. This focus on regional horticulture is without question linked to the international outreach of French horticultural teams, whether based in Angers, Montpellier, French West Indies or La Réunion. Horticulture is worldwide, diverse and sensitive to any changes of the environment; the reason why the scientific and professional horticultural community has to be connected and aware of all experiences and progress made here or there, in various disciplines, and in different places. The opening ceremony as well as the plenary sessions will present international visionaries as keynote speakers, not necessarily experts in horticulture, but with a strong vision and interesting message to share together on one of the global challenges and key topics of the congress: agroecological transition, climate change, sustainable value chains and health and nutrition.

President Ameenah Gurib-Fakim (Mauritius), Prof. Rachel Bezner Kerr (USA), Dr. Yvonne Pinto (UK), and Prof. Jennie Macdiarmid (UK) are among the prominent female characters from Africa, America, and Europe. French keynote speakers are also called to the stage such as Mrs. Christiane Lambert (Committee of Professional Agricultural Organisations - General Confederation of Agricultural Cooperatives, COPA-COGECA), Prof. Jean Jouzel (Intergovernmental Panel on Climate Change, GIEC/IPCC) and Mr. Jérôme Leroy (My Digital Farm).

Shortly after them, recently promoted PhD, in a competition, will give a new inspiration on the same topics during a 3-minute presentation of the results and impacts of their thesis work. Following a national selection according to scientific excellency, an international jury constituted of 12 renowned field professionals from all continents will decide on those to compete in Angers. In addition to the international panel, the plenary audience will have the chance to vote for each candidate, and three prizes will be awarded during the closing ceremony, hand delivered by Agropolis Foundation, the French Society of Horticulture (SNHF) and the French Alliance of education and research for agriculture, food, environment and global health (Agreenium).

More on the international outreach of IHC2022, the participation of FAO is scheduled in several activities, as co-convenor, moderator of a workshop, present on a stand in the exhibition hall and guest speaker during the opening ceremony.

**Welcome to the Congress!**

## › About the authors



› François Laurens

François Laurens, Agronomist (PhD), INRAE, Research Institute on Horticulture and Seeds (IRHS, Angers, France), chairs the IHC2022 Executive Committee. As a geneticist, he has bred disease resistant apple varieties. He has led many international research projects (FP7 Fruit Breedomics, Climate-Kic Friendly fruit, H2020 Invite) and he co-leads the French Fruits Scientific Interest Group ([www.gis-fruits.org](http://www.gis-fruits.org)). E-mail: [francois.laurens@inrae.fr](mailto:francois.laurens@inrae.fr)



› Emmanuel Geoffriau

Emmanuel Geoffriau is Professor in genetic diversity and agronomy of vegetable crops at L'Institut Agro and researcher at the Research Institute of Horticulture and Seeds, Angers, France. His research deals with genetic diversity, management of genetic resources and genetic determinism combined with environment adaptation of quality traits. He is a French representative to the ISHS Council and Chair of ISHS Working Group Carrot and other *Apiaceae*. He is Vice-President of IHC2022, Chair of the Scientific Committee. E-mail: [Emmanuel.Geoffriau@agrocampus-ouest.fr](mailto:Emmanuel.Geoffriau@agrocampus-ouest.fr)



› Rémi Kahane

Rémi Kahane has been in charge of horticultural research for development at CIRAD in Montpellier, France, since 2002. He was an onion breeder for a farmers' cooperative in France for 15 years, and the Executive Secretary of the Global Horticulture Initiative from 2006 to 2013. He is Vice-President of IHC2022, Chair of the International Committee, and co-organizer of the international 3MHT competition of the congress. E-mail: [remi.kahane@cirad.fr](mailto:remi.kahane@cirad.fr)



› Emmanuelle Rousseau

Emmanuelle Rousseau is the communication advisor of VEGEPOLYS VALLEY, the international plant cluster based in Angers in France. The cluster gathers 500 companies, research and training centers, and is one of the IHC2022 convening institutions. Emmanuelle is coordinating the Industry and the Communication Committees of IHC2022. E-mail: [emmanuelle.rousseau@vegepolys-valley.eu](mailto:emmanuelle.rousseau@vegepolys-valley.eu)



› Valérie Mathieu-Fichot

Valérie Mathieu-Fichot is Head of the Business Development & Partnerships Convention Bureau at Destination Angers, the Principal Congress Organizer (PCO) of IHC2022. She has worked with Angers Loire Tourism, now Destination Angers, for more than 28 years and contributed to let Angers become a first-class business place for national and international events. E-mail: [valerie.fichot@destination-angers.com](mailto:valerie.fichot@destination-angers.com)



› Mickaël Delaire

Mickaël Delaire is Associate Professor in Ecophysiology of fruit crops at L'Institut Agro and researcher at the Research Institute of Horticulture and Seeds, Angers, France. His research deals with apple tree ecophysiology applied to fruit quality traits and more recently to the impact of nitrogen fertilization on apple tree immunity induced by plant resistance inducers (PRI). He is Chair of the Education Committee of IHC2022. E-mail: [Mickael.Delaire@agrocampus-ouest.fr](mailto:Mickael.Delaire@agrocampus-ouest.fr)