Under the auspices of the International Union of Pure and Applied Chemistry (IUPAC), it is promoted by the Alma Mater Studiorum-University of Bologna, the Italian Technology Platforms of the Life Sciences area, the Committee for Biosafety, Biotechnology and Life Sciences of the Italian Presidency of Council of Ministers, Assobiotec and the Italian Chemical Society in cooperation with European Federation of Biotech (EFB), the European Technology Platforms of the Life Sciences Areas (ie, SusChem, Food for Life, Plants for the Future, Global Animal Health, FABRE, Forestry, Biofuels). Are expected ca. 1,500 participants from academia, industry and government. Sessions specifically addressed to promote international RTD cooperation and the establishment of industry-academia consortia suited for “7 Framework Program” applications will be organized. (Chair: Fabio Fava, UnivBologna; Co Chair: F. Nicotra, UniMilan-Biccoca & IUPAC)
Conference Organizers

Italian Food for Life

Industrial Biotechnology

Biofuels Italia

Italian Global Animal Health

Italian Platforms of Life Sciences area

(Forestry Italia)

(Forest-Based Sector)

(Impact Farm Animal Breeding)

(Impact Plants for the Future)

Together with:

The National Committee for Biosafety, Biotechnology and Life Sciences of the Italian Presidency of Council of Ministers

Assobiotec, The Italian Chemical Society;

IUPAC

European Federation of Biotechnology

European Technology Platforms of Life Sciences Area
Current Theme Areas & Session Topics (a)

Section 1. Systems Biology for Biotechnological Innovation
(coordination: Promoting committee)

Section 2. Medical and Pharmaceutical Biotechnology
(coordination: Promoting committee)

Section 3. Animal Biotechnology
(coordination: Italian (& EU) Technology Platforms Global Animal Health & FABRE)

Section 4: Industrial Biotechnology
(coordination: Industrial Biotech & Environ. section of IT (and ETP) SusChem)

Section 5: Biotechnology for Bioenergy
(coordination: Italian (& EU) Technology Platform Biofuels)

Section 6: Food Biotechnology
(coordination: Italian (& EU) Technology Platform Food for Life)

Section 7: Plant Biotechnology
(coordination: Italian (& EU) Technology Platform Plants for the Future)

Section 8: Forest Biotechnology
(coordination: Italian (& EU) Technology Platform Forestry)

Section 9: Environmental Biotechnology
(coordination: Industrial Biotech & Environ. section of IT (and ETP) SusChem)

Section 10: Chemistry in Biotechnology to strengthen the Biobased Economy
(coordination: Italian Chemical Society and IUPAC)

Round Table 1 “Biosafety & Bioeconomy” & Round Table 2 “International research policies”
(coordination: The National Committee for Biosafety, Biotechnology and Life Sciences of the Italian Presidency of Council of Ministers)
Current Theme Areas & Session Topics (b)

Section 1. Systems biology for biotechnological innovation
1- Bioinformatics for systems biology
2- Systems biology of microbial cells
3- Plant systems biology
4- Mammalian systems biology
5- Systems biology of bioprocesses
6- Innovative chemistry in systems biology

Section 2. Medical and Pharmaceutical Biotechnology
1- New products for preventive medicine
2- From omics to integrative biology
3- Systems biology for drug discovery
4- Molecular modelling, recognition and lead optimisation
5- Regenerative medicine
6- Towards personalised medicine (biomarkers and tailored drugs)
7- Biomaterials (for tissue regeneration, etc.)
8- Drug design and targeting
9- Cellular models of disease
Current Theme Areas & Session Topics (c)

Section 3. Animal Biotechnology
1-New products for preventive medicine
2-Diagnostic tools
3-Drug discovery
4-Animal selection and cloning
5-Industrial biotechnology in animal productions
6-Regulatory aspects on the field of animal biotechnology

Section 4: Industrial Biotechnology
1-Industrial enzymes and microorganisms
2-Metabolic engineering, tools and applications
3-Recombinant protein production
4-Biomaterials and bio-based chemicals
5-Bioprocess engineering
6-Biorefinery strategies
7-Marine biotechnology
Current Theme Areas & Session Topics (d)

Section 5: Biotechnology for Bioenergy
1- Breeding for optimisation of non food energy crops
2- Biotechnology bridging to the next generation biofuels production
3- Biotechnology for the lignocellulose pretreatment
4- Microalgal Biotechnology
5- Integrated strategies relying on improved microbial processes, tailored plant improvements and new agronomic techniques for enhancing biofuels production

Section 6: Food Biotechnology
1- Nanomaterials in food and food packaging
2- Nanotechnologies and nanosensors in food processing, food safety, biosecurity and product traceability
3- Biotechnology of Food Microorganisms
4- Metabolic engineering of plants
5- Functional food and nutrigenomics
6- Functional genomics, microbial proteomics and metabolic regulation
7- Genome mining for the development of new enzymes
8- Microbiomes of human and animal complex ecosystems
9- Development of biotechnological processes for the exploitation of food industry by products
Section 7: Plants Biotechnology
1-Cellular processes and regulatory networks
2-Genomics tools and platforms
3-Sequencing plant genomes
4-Biodiversity and natural variation
5-Functional genomics
6-Cisgenic and transgenic crops
7-Marker-assisted selection to improve crop performance

Section 8: Forest Biotechnology
1-Biotechnology for biomass production
2-Biotechnology for quality timber
3-Biotechnology for biotic and abiotic stress resistance
4-Biotechnology for lignocellulose valorisation
5-Phytoremediation
Section 9: Environmental Biotechnology
1- Microbial diversity and population dynamics in pristine and contaminated habitats
2- Biotransformation of organics and heavy metals
3- Bioremediation of contaminated soils, groundwater and sediments
4- Biotreatment of wastewaters and effluents
5- Ecotoxicity, genotoxicity and biomagnification
6- Bioconversion of organic wastes and by-products, effluents of agro-food industry into valued added products
7- Biotechnology applied to conservation and restoration of cultural heritage materials
Current Theme Areas & Session Topics (g)

Section 10: Contribution of Chemistry to develop a biotechnology based economy

1- Chemical Genetic
2- Chemistry in Biosimilars characterization
3- New chemical and biochemical synthetic pathways
4- Analytical Biotechnology
5- Nanobiotechnology
6- Biomaterials
7- Toxicity evaluation and safety control by biotechnological approach
Current Theme Areas & Session Topics (g)

Round Table 1. International research policies
1-Intellectual property rights and access to essential medicines
2-Global polarization on genetically modified food labelling
3-Risks, benefits and opportunities of biotechnology for the countries of the Americas
4-Industrial and environmental biotechnology in developing countries, biotechnology in the global economy
5-Starved for science, how biotechnology is being kept out of Africa
6-The political determinants of the economy of GM foods

Round Table 2. Biosafety and bioeconomy
1-Biotechnology for abiotic stress tolerance and nutritional enhancement
2-The environmental impact of trasgenic plants
3-The FAO treaty and access to plant genetic resources
4- The impact of EU regulation on biotechnology in developing countries
5-Biotechnology capacity building in Developing Countries
6-Safety and public acceptance of agrobiotech in Africa