



SOLANACEAE 2022

**XVII International Conference
on the Plant Family of Solanaceae**

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SCIENTIFIC PROGRAM

**Conveners of SOL2022
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The genetic architecture of fruit quality and nutritional traits in Solanaceous crops

Giovanni Giuliano and the G2P-SOL consortium

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In the frame of the G2P-SOL project, core collections representative of the worldwide genetic diversity of the four major Solanaceous crops (tomato, pepper, eggplant, potato) were created. These collections were phenotyped and subjected to metabolic profiling. Hundreds of novel metabolites have been identified and quantified, and QTLs have been mapped, both in the core collections and in segregating populations. The genetic architecture of some of these traits will be discussed in detail.

Key words: Tomato, eggplant, pepper, nutritional traits

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Biofortified tomatoes with increased levels of flavonoids, crocins and branched-chain amino acids

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Tomatoes were engineered to accumulate high levels of beneficial compounds. In a first study case we describe the generation of metabolically-engineered intragenic tomatoes dually enriched in flavonoids and BCAAs which may have a beneficial role in cardiovascular disease prevention. to reduce risks associated to BCAs deficiency. We