Contribution ID: **17** Type: **Oral**

ORGANIC SEMICONDUCTORS

Monday 7 September 2020 16:35 (35 minutes)

Organic semiconductors are a broad family of organic molecular materials that exhibit certain properties similar to inorganic semiconductors. Interestingly, molecular materials show only weak forces between the molecules which gives an opportunity of new deposition methods. The low-temperature evaporation in a vacuum is applicable for various small molecules, whereas “wet technologies”using organic material solubility in solvents are famous of large molecules and polymers. The thin-film fabrication technology is not only unique property of these materials; organic semiconductors exhibit semiconducting properties even without any doping. Hence, the organic semiconductors do not represent only alternative semiconducting materials, but it is also an exciting challenge for electronics and device physics. It has been found that the semiconducting properties have different microscopic origin than the inorganic materials even though the macroscopic behaviour is sometimes almost identical. Interestingly, in contrast with very first ideas researcher commented that “organic semiconductors”can be misleading term and suggests to call these materials “organic semi-insulators”but it is too late for such a correction. Actually, it is fascinating to state “Yes, it works, but we are still not sure why”.

Author: WEIS M.

Presenter: WEIS M.

Session Classification: Plenary Talks