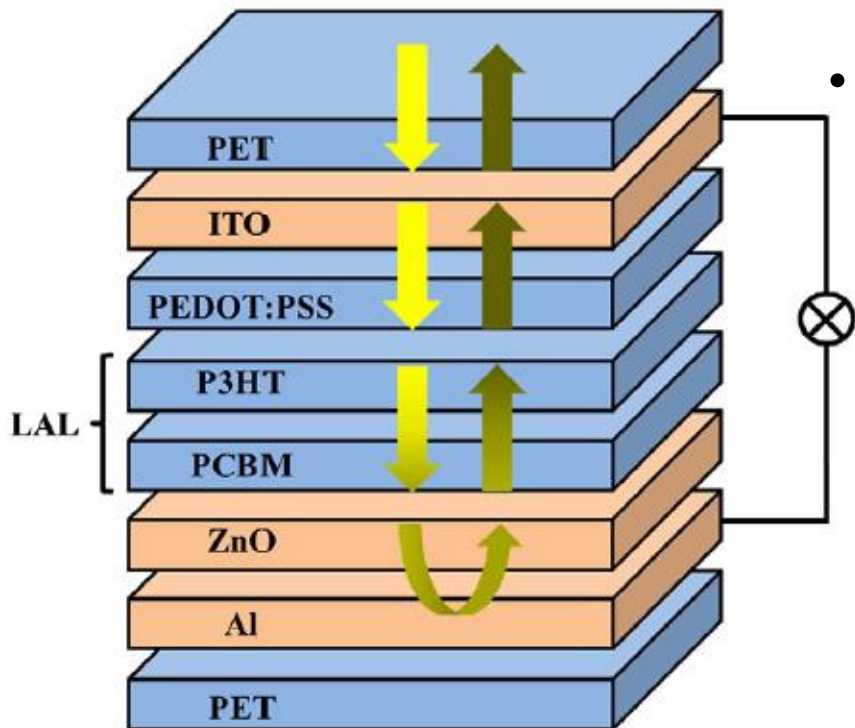


# FHNW – Institute for Ecopreneurship

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- Determination / minimizing environmental impact
  - inorganic:
    - leachable from intact / defect cells?
    - form of leachates (NP vs. diss.)
    - PEC?
  - organic:
    - leachable ?
    - Which compounds?
    - Biodegradable?
    - Environmental fate ?



## IEC infrastructure

**> 500 m<sup>2</sup> labs (<sup>14</sup>C / <sup>3</sup>H, trace analysis, in vitro, in vivo, cell culture, semi-pilot scale)**

**Reactors: filtration, membrane bioreactor, aerobic / anaerobic parallel fermenters, liquid-liquid extraction, weathering chamber,...**

**Mol. Biology: FPLC, DGGE, real time PCR, blotting facilities, nanodrop, microplate readers, ...**



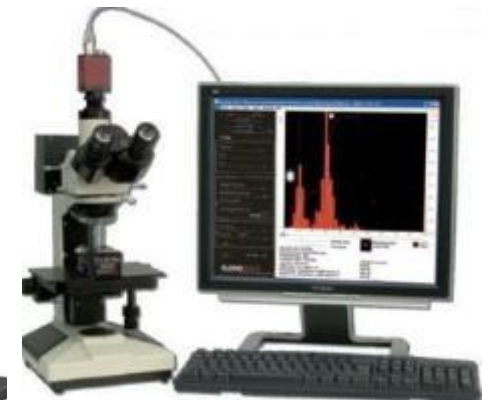
LC-OCD

## Organic (trace) analytics

LC-MS<sup>n</sup>-LSC, (headspace / pyromat)-  
GC-MS<sup>n</sup>, nano-HPLC, LC-OCD,  
wastewater (TOC, COD, BOD, etc.),  
ESEM-EDX, nanoSight / qNano...



ESEM-EDX



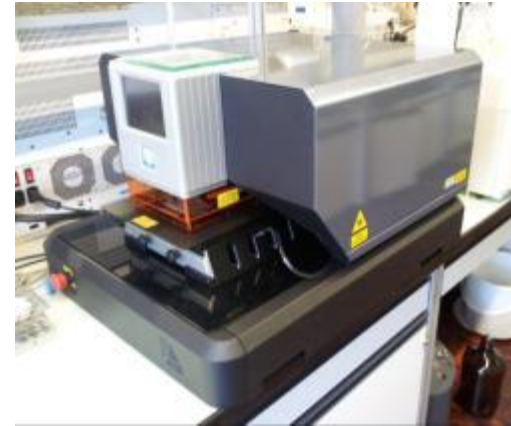
nanoSight



Agilent 1200-series



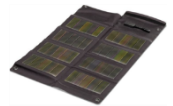
Dionex ICS 2100



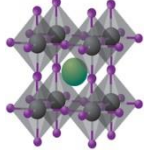
ESI NWR 213



GaAs  
(wikipedia)



CIGS  
(sunload.de)



Grätzel  
Nature  
Materials  
(2014)

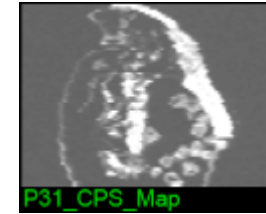
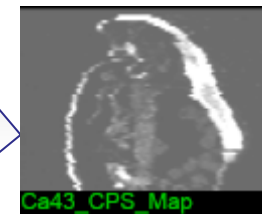
isocratic/organic  
eluent



online preconc. LC-  
ICP-MS  
(ng / L)



mapping



# organic + Inorganic (trace) analytics