Smart & Green Interfaces:

From Single Bubbles/Drops to Industrial/Environmental/Biomedical Applications

MP1106

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Year: *2012*

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Scientific context and objectives (1/2)

- **Background / Problem statement:**
  - Bubble & drop interfaces are fundamental to: industrial applications, environmental applications, biomedical applications
  - Identify and implement best strategies and means to tailor Smart & Green interfaces and Accurately control their performance by concerted action of the most active European research institutes and companies in the field

- **Smart** interfaces can accomplish a technological task with high efficiency, adaptability and selectivity
- **Green** interfaces are eco-friendly (biodegradable, reusable, more durable, less energy consuming to produce)

- **Brief reminder of MoU objectives:**
  - To organize a Europe-wide interdisciplinary cooperation platform directed towards scientific added value and improvement of industrial/environmental/medical applications concerning interfaces, bubbles and drops.
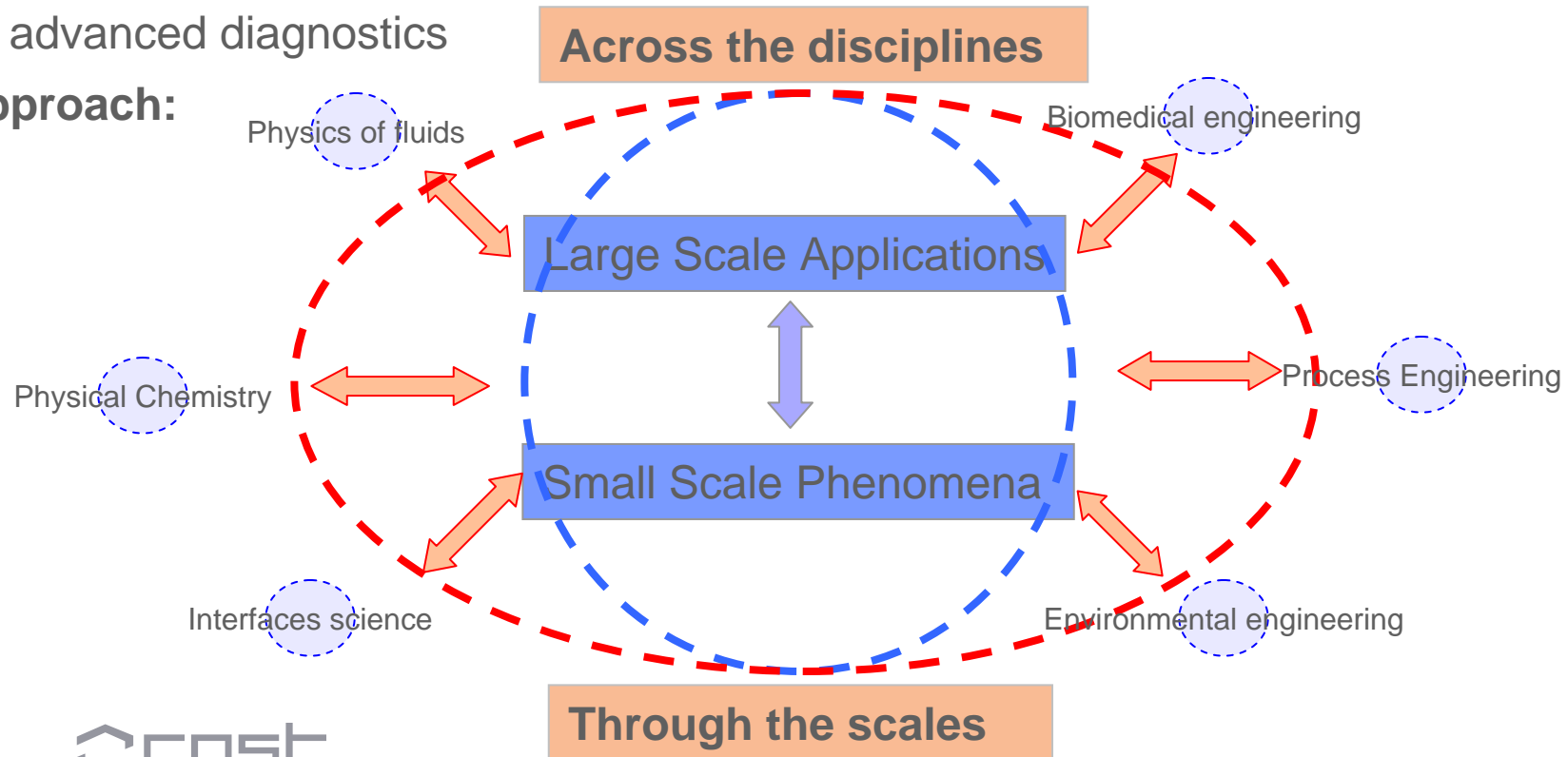
- **Research directions:**

Aspects:

✓ novel materials

✓ sophisticated production processes

✓ advanced diagnostics

Approach:

Working groups

1. **Working group: Fundamentals**
   — Extend the current fundamental understanding of interface-related phenomena
   — Integrate/unify approaches across disciplines (from physics of fluids to physical chemistry and beyond)
   — Improve the quantitative description of complex processes

2. **Working group: Materials**
   — Development and tailoring new materials → Smart & Green interfaces

3. **Working group: Diagnostics**
   — Development of diagnostic techniques

   (identification of systems representative parameters, measuring principles, accuracy/sensitivity, conditions and range of applicability, data analysis and interpretation)

4. **Working group: Technology**
   — Development of marketed industrial technologies and end-user applications

5. **Early stage researchers group**
   — Will contain young participants horizontally from all WGs
   — In collaboration with WGs, will organize workshops and training schools/seminars, promote interaction with the other WGs and disseminate post-doc/work placements.

Future Plans and Challenges

- Fine tuning of the work plans for the first year of the Action's activities and – if necessary – the re-adjustment of the Action's activities as they have been foreseen in the MoU

- Starting of the scientific activities within WG`s regarding:

  - a common understanding on the fundamentals, materials, diagnostics and technology related to smart and green interfaces applied to Industrial/Environmental/Biomedical Applications.

  - identification of current knowledge gaps regarding scientific/technological goals and detection of ways to overcome existing gaps.

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Future Plans and Challenges

For the first three months the following activities are planned:

- Collection of information about the national programs on interfaces (WG leaders)

- Preparation of WG programs (list of projects)

- Approval of the WG programs by MC

Attention to partners

- Several partners have not selected Working Groups

- Team presentations at our Action website. CVs at our website ?

- Post-doc positions, job offers, training, awards, at our website.

- Significant news/events/results at our website. COST office checks for updates!

- GO for joint publications.

- Acknowledgement in publications: " The work was conducted under the umbrella of COST MP1106 Action"

- Promote females participation.

- STSMs to ESRs for EU research proposals preparations. Senior partners for coordinators

- Moderators for Round Table discussions.

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