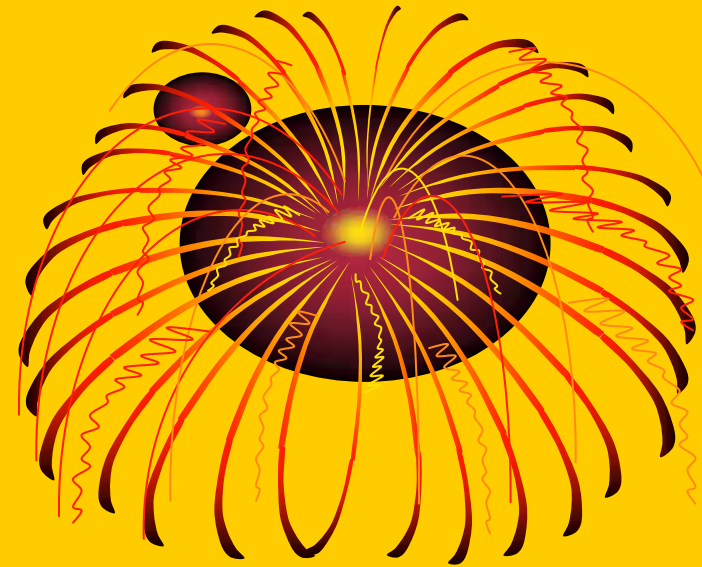


Industry-Academia cooperation in the wood-panel field



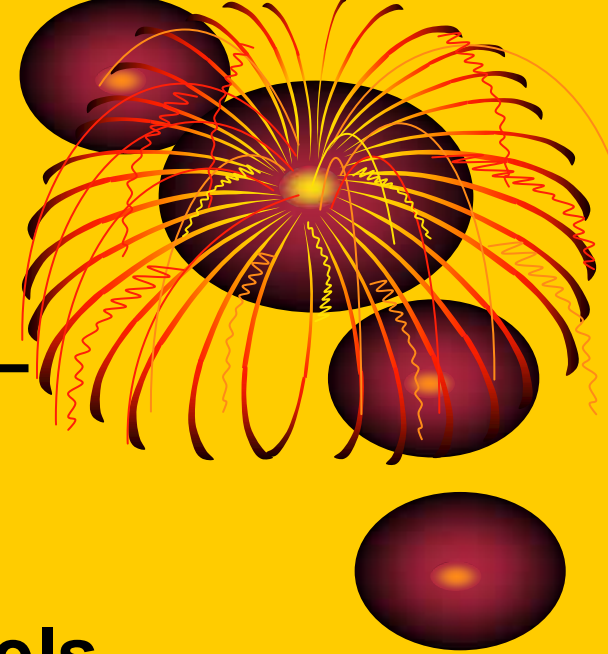
Eleftheria Athanassiadou
CHIMAR HELLAS S.A.

COST Action E49, 6th MC meeting
19/03/2007, Nantes, France

Chimar Hellas S.A.



Research Topics Requested by Industry

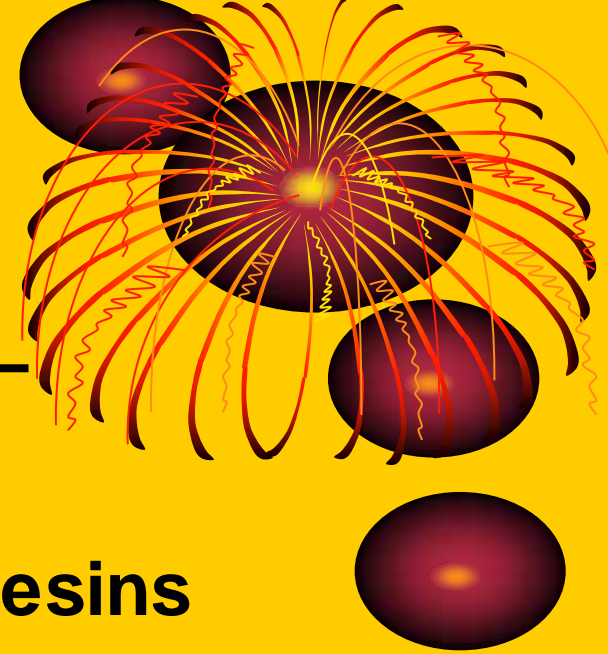


Formaldehyde (F)

- ❖ Very low to zero F emission panels
- ❖ Reduction of F emissions during WBP production
- ❖ Non-F based adhesives for WBP production (PMDI, soy, tannin)



Research Topics Requested by Industry

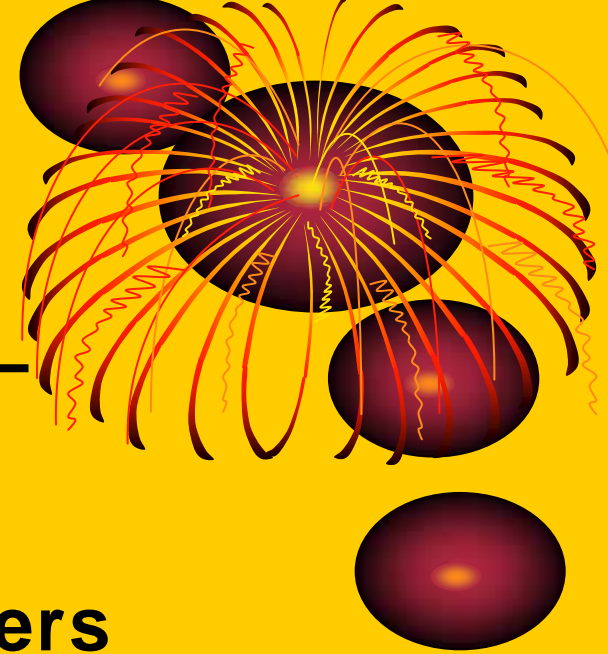


WBP Resins

- ❖ High reactivity, low F emission resins
- ❖ Cost reduction of melamine resins without compromising performance
- ❖ Increased shelf-life resin systems
- ❖ Binders for exterior grade MDF production
- ❖ Straight UF resin for E1 decorative plywood production



Research Topics Requested by Industry

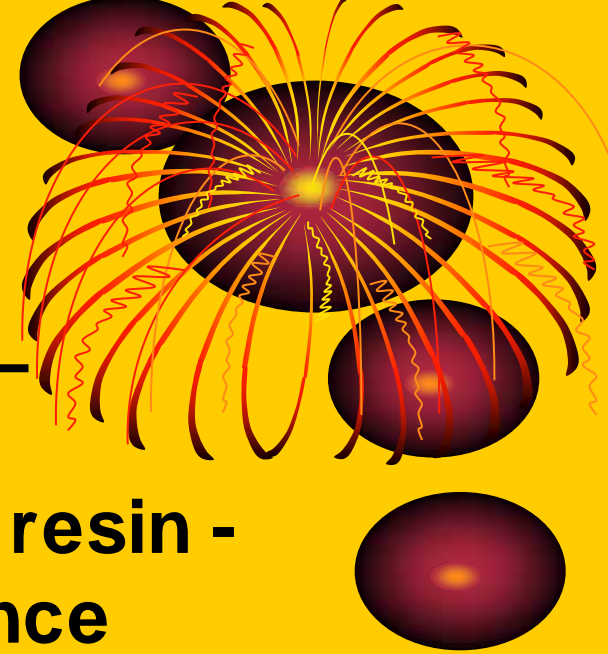


Resin Additives

- ❖ Latent and post-cure F scavengers
- ❖ Latent hardeners for WBP production
- ❖ Release agents
- ❖ Wetting agents
- ❖ Fire retardants
- ❖ Additives for resistance to termites



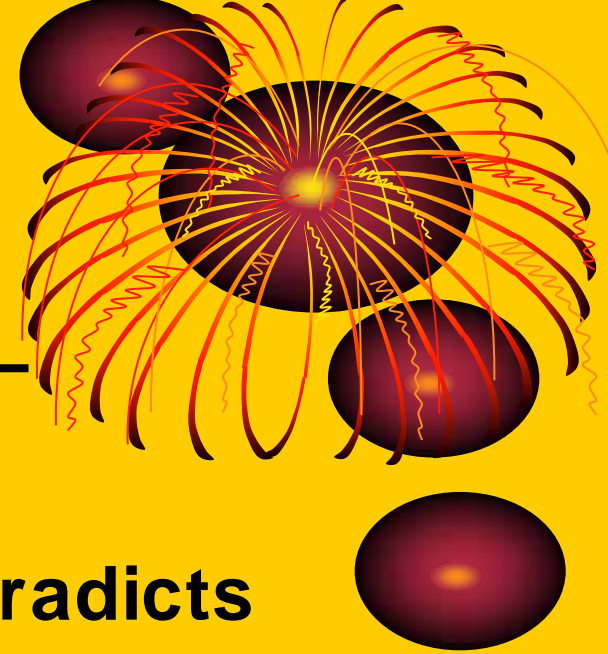
Research Topics Requested by Experts



- ❖ Identify the structure of an MUF resin - correlation with resin performance
- ❖ Study of the resin-wood interface – the adhesion mechanism
- ❖ Trace the mechanism of panel swelling



Science-Industry Interface

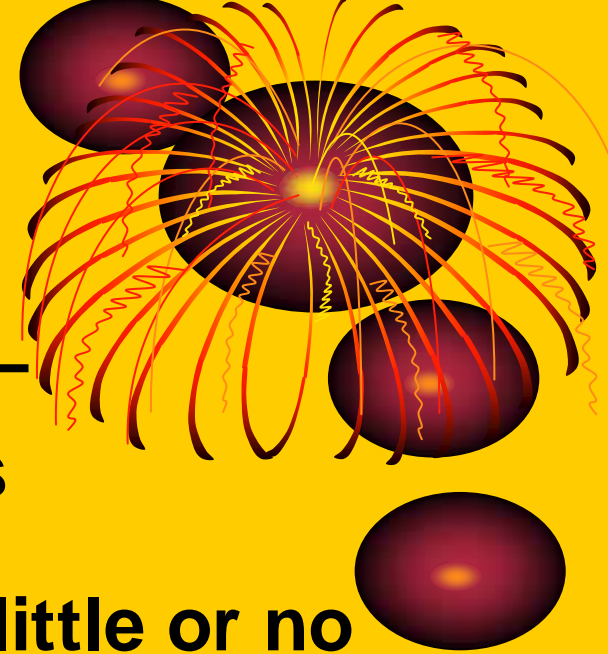


Industry Perspective

- ❖ Focus on short-term results contradicts with basic research
- ❖ Focus on financial rather than on technological results
- ❖ Economic yardsticks for success and performance
- ❖ Avoid disclosure/protect proprietary information vs open academic environment



Science-Industry Interface



Industry Perception of Academics

- ❖ **Theory-based problem solving: little or no attention to costs and applicability**
- ❖ **Different priorities and hence no time pressure to deliver results**
- ❖ **Smaller scale: smaller sample quantities & size of experiments**



Science-Industry: Reasons for Cooperation



- ❖ **Strong competition: need to apply new knowledge, increase productivity, lower costs**
- ❖ **Strategic gap: lack of private investment in medium- to long-term strategic R&D**
- ❖ **Innovation gap: failure to transfer knowledge and capitalize on the results flowing from government and university research establishments**



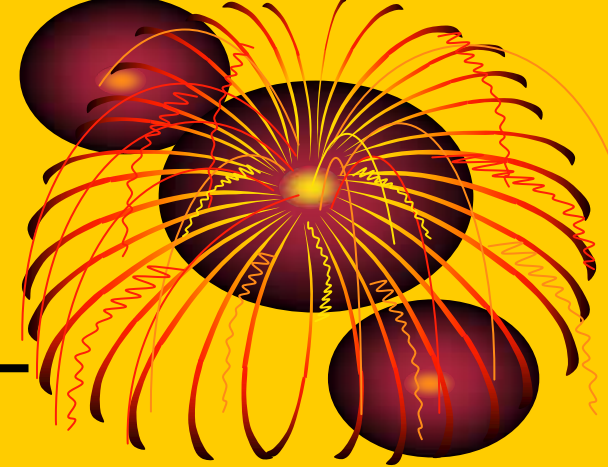
Science-Industry: Tips for Effective Cooperation



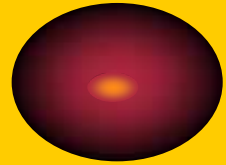
- ❖ Industry partners must be involved from the outset
- ❖ Partnership objectives must be clearly stated
- ❖ Planning targets should be established
- ❖ Intellectual Property Rights should be carefully managed
- ❖ Partnerships must be flexible enough to allow participation based on competencies and commitment, not on size



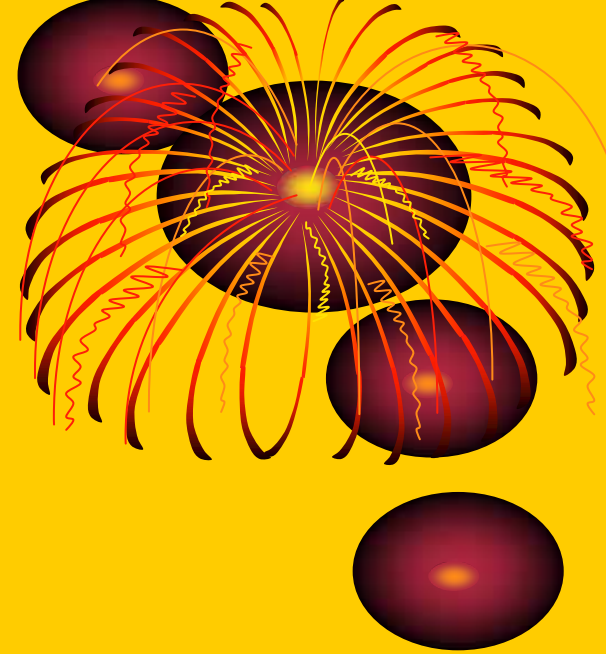
Science-Industry: Economic Development



- ❖ **Public funds contribute to the increase of industry-university projects**
- ❖ **The triple helix: transformation in the functions of university, industry and government – knowledge-based economic & social development**
- ❖ **A true partnership between Industry and Academia in innovation**



Thank you!



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