

Newsletter - June 2014

Letter from the President

Materials science and engineering requires a European lobby speaking with “one independent voice” representing the various stakeholders active in research, development and the transfer to industry and market innovation. This forms the backbone of FEMS networking activities for its 28 European Materials societies and associations. Materials science & engineering is part of the whole product value chain considering e.g. physics and chemistry basics for materials development, and engineering and production processes closely related to the materials development. The required R&D time for a materials development into a marketable product has not changed much over the last 30 years and is still estimated to be between 5 to 20 years, depending on the sector. During this time high investment from public authorities and industry is necessary to move forward from an idea to a marketable product (innovation). This includes the expertise of designers, experts for material standards and methods, and legal and environmental aspects must be considered as well.

Is FEMS able to cover all these topics and represent all the different stakeholders? In many areas FEMS already provides a highly valuable input since its creation in 1986. EUROMAT Conferences are one example providing excellent academic networking. In other areas – especially regarding the transfer of materials science towards industrial application - FEMS has recently been taking new initiatives. FEMS is a member of the MatSEEC committee, assembling materials experts from the various fields. This committee published a report on Metallurgy in Europe. For the first time such a report was supported by potential beneficiaries of such research, namely more than 100 companies representing amongst others the metallurgy, aerospace, automotive and health sectors. The report has not only underlined the importance of metallurgy in science and technology – a domain which was for a long time considered as “not very sexy” - but shows how crucial

the knowledge is for maintaining and fertilizing the production industry and economy in Europe with materials know how. FEMS is keen to help with many of its experts from the various member societies. FEMS is also engaged in the European Project MatVal together with industrial platforms, showing materials science and engineering as a combined action of all important stakeholders in the value chain.



FEMS will continue to expand its network and to draw attention to research and market innovation to increase the attractiveness for more materials scientists from basic to applied research & development. We will keep you informed and we would like to encourage you to exchange with other materials experts of other member societies or beyond FEMS. Your critical comments are always welcome and will be quickly answered.

Best regards,

Yours Margarethe Hofmann-Amttenbrink ■

FEMS – Partner in a European Project

FEMS became partner of the European FP7 project MatVal in 2010: “A value chain approach to materials research & innovation which views technological, industrial and/or commercial strategy dealing with and/or relying on materials R&D”. European industrial platforms like e.g. Suschem: European Technology Platform for Sustainable Chemistry; EuMaT: European Technology Platform for Advanced Engineering Materials and technologies, ESTEP: European Steel Technology Platform, ETP SMR: European Technology Platform on Sustainable Mineral Resources, European Technology Platform Manufacture, or ETP for the Future of Textiles and Clothing are networking with societies like FEMS or E-MRS, discussing e.g. “Diversities and commonalities toward a materials research strategy” at a workshop in Brussels, Belgium in March 2014 or “Developing strategies to boost Materials R&D in Europe” at a workshop in Lille, France in May 2014. Sessions in this workshop gave more insight on “Usefulness of Technology Readiness Levels”, or “Barriers for innovation”, which is the other side of the “materials research medal”, and it is important to find new and sustainable ways to translate materials research into a marketable materials/product innovation.

This partnership allows the whole value chain in the different industrial sectors to be considered and to encourage thinking more about how to interest industry for a mid- to long-term engagement in materials science and engineering. In most cases novel ideas come from physics or chemistry as was the case of nano-technology or now with graphene. These subjects à la

mode are funded by public money, hoping to get return in investment with new products, by fostering the industry and by creating new employment. However these ideas and laboratory materials need to be implemented in the industrial process and need to become a reliable product otherwise they will just remain undeveloped academic ideas. We as FEMS have to consider and assess the crucial role of materials researchers and engineers at the interface between basic research and innovative product as nearly nothing can be done without such lateral thinkers. EU projects like MatVal with clear aims and deliverables are actions with defined timeframes, mostly between 2 and 4 years and it is necessary to highlight important results and to continue such networking with similar defined milestones and deliverables in a materials network of academic and industrial stakeholders, not to miss the sustainability of ideas and plans. At the European Conference on Industrial Technologies in Athens, Greece in April, M. Hofmann, E. Zschech (FEMS Past President) and R. Martins (E-MRS Past President) gave a presentation on “Raw materials scarcity and product sustainability - Challenges to Materials Science and Engineering” and recommended “The Common House integrating actors, resources and strategies from the fundamental aspects of materials science up to the industrial system which produce and/or transform the materials in valuable products, acting as driver that creates knowledge and promotes the final innovation processes.” ■

<http://www.matval.eu>



FEMS Exchange with European Industry Platforms

FEMS has started the exchange with industrial platforms, being now a member of A4M the Alliance for Materials in which Industrial European Platforms are exchanging. The FEMS Immediate Past President, Ehrenfried Zschech, is a member of the Steering Committee of EuMat and FEMS has applied to become a member of EMIRI, the Energy Materials Industrial Research Initiative, set up in 2012. The combination of all such actions together with the network by EUROMAT conferences will help to continuously improve the contact with industry and the understanding of company strategies to reduce barriers, which were still highlighted in the last survey prepared by MatVal partners and distributed among 167 academic and industrial entities. The main barriers for innovation were named as (1) Lack

of continuity of research funding (3.8/5), (2) Different agendas between industry and academia (3.1/5) and (3) Poor cooperation between company and academia (2.7/5). These activities are a necessary and important part of FEMS activities (i) to increase the visibility of materials science and engineering in the industrial world and to give this R&D a higher significance and (ii) to encourage the European Commission, which cannot deal with hundreds of different stakeholders and their opinions, to exchange with groups like FEMS, E-MRS and A4M as the European voice for materials in academia and industry. ■



FEMS Exchange with member societies

The closer contact to our member societies is a prerequisite to continue this way of networking as we have to take into account their opinions and requirements. In preparation of this newsletter our Executive member, Jana Hornikova, engaged in the FEMS Newsletter has already requested interesting news and information, which we have collected in this issue. We have started to exchange more with FEMS member societies: In January the EC Meeting took place at AIM Headquarters (ITALIAN METALLURGICAL ASSOCIATION (AIM), Associazione Italiana di Metallurgia) in Milano, Italy and presentations were given by AIM secretary Federica Bassani and of AIMAT (Associazione Italiana d'Ingegneria dei Materiali) by their secretary general Dr. Maria Pia Pedferri. In February Margarethe Hofmann visited DGM's CEO Dr. Frank Fischer and his crew

in the DGM headquarters in Frankfurt, in March Brett Suddell, FEMS Vice President, Hugh Dunlop, FEMS Secretary and M. Hofmann exchanged in London with IOM's CEO Bernie Rickinson, Hugh Dunlop exchanged with SF2M President Jean-Marc Chaix and Ehrenfried Zschech participated in DGM's board meeting in April. With the President of PTM (Polskie Towarzystwo Materiałoznawcze - Polish Materials Society) Professor Piotr Kula, the exchange is ongoing for the organisation of the next EUROMAT 2015. Margarethe Hofmann is invited to the Congreso Nacional de Materiales of the Spanish Materials Society SOCIEMAT, which takes place in June in Barcelona, Spain. Further contacts will continue to happen over the next year. ■



FEMS SWOT Analysis



The FEMS Executive Committee at the Milan Meeting in January 2014, held in the offices of AIM. Also on the picture are F. Bassani (AIM), D. Caputo (AIMAT) and guest W. Swieszkowski from the Warsaw Institute of Technology

At the EC Meeting in Milano on January 27, 2014 FEMS Vice President Dr. Brett Suddell started a SWOT Analysis whereby each participant was to note down on a post-it one comment in their opinion relevant to FEMS for each of the following criteria: strength; weakness; opportunity; threat. The analysis which was extended to all member societies will be crucial for future improvements of our Federation and as such will be debated at the next EC meeting and the President's Day. The results will be published in the next issue of FEMS Newsletter. ■

Advanced Training Courses

FEMS aims at encouraging its member societies to work together by organising advanced training courses. At the moment only DGM is presenting such courses in English which should attract people from academia and industry in topics, which are of interest for both. A new

training course on "Nano-scale Materials" is planned to take place in Dresden, Germany on October 22-24, 2014 and is announced in more detail in the Member Society news 06/2014. ■

FEMS newsletter

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Please send comments and contributions to secretary@fems.org

FEMS Member Societies

Austria: Austrian Society for Metallurgy and Materials (ASMET)

Belgium: Benelux Métallurgie (BM)

Czech Republic: Czech Society for New Materials and Technologies (CSNMT)

Czech Republic: Metal Science Society of the Czech Republic (MSS)

Estonia: Estonian Material Science Society (EMSS)

France: Société Française de Métallurgie et de Matériaux (SF2M)

Germany: Deutsche Gesellschaft für Materialkunde (DGM)

Germany: Deutscher Verband für Materialforschung und -prüfung (DVM)

Greece: The Hellenic Metallurgical Society (HMS)

Greece: Hellenic Society for the Science and Technology of Condensed Matter (HSSTCM)

Hungary: Országos Magyar Bányászati és Kohászati Egyesület (OMBKE)

Italy: Associazione Italiana di Metallurgia (AIM)

Italy: Associazione Italiana d'Ingegneria dei Materiali (AIMAT)

Italy: Associazione Italiana Compositi & Affini (Assocompositi)

Latvia: Latvian Materials Research Society (LMRS)

Lithuania: Lithuanian Materials Research Society (LtMRS)

Netherlands: Bond voor Materialenkennis (BvM)

Norway: Norsk Metallurgisk Selskap (NMS)

Poland: Polskie Towarzystwo Materialoznawcze (PTM)

Portugal: Sociedade Portuguesa de Materiais (SPM)

Serbia: Materials research Society of Serbia (Serbia-MRS)

Slovak Republic: Society for New Materials and Technologies in Slovakia (SNMTS)

Slovenia: Slovensko Društvo za Materiale (SDM)

Spain: Sociedad Española de Materiales (SOCIEMAT)

Sweden: Svenska Föreningen för Materialteknik (SFMT)

Switzerland: Schweizerischer Verband für Materialwissenschaft und Technologie (SVMT)

Ukraine: The Ukrainian Materials Research Society (U-MRS)

United Kingdom: Institute of Materials, Minerals and Mining (IOM3)

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