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## It was said...



**Prof. Andrzej Białas**  
**President of the Polish Academy**  
**of Arts and Science**

"(...)The role of the Polish Academy of Arts and Science is the most important (...) in the initiating and coordination of researches. Being a forum for the discussion of representatives of various scientific societies, the Academy can have then an essential influence on scientists interests and the formulating research programmes.(...) It should be rather a place for a discussion, a certain type of forum of ideas. Besides, not necessarily of new ones. Finally, in the very nature of things each academy has conservative tendencies and feels better in a role of a guard of tradition than an innovator. Taking into consideration the fact that today it is much easier for innovations than for thinking, a place where a tradition and old-fashioned values are still valuable is very important.(...) If I dream of any change, it is a gradual separation of the Academy from state subsidies. (...) I would like also that the Academy's voice was better heard by scientific society.(...) A momentous task of the Academy is to decide about cases regarded as the ones important for the state and the nation.(...) I have been protesting against treating science as a mean for speeding the economic growth. I am convinced that such putting an issue although commonly accepted is wrong and what even worse – harmful for science and economic growth. I have even written a short manifesto of a fundamentalist which summarizes my point of view on that subject matter. They amount to the fact that the aim of science is not a stimulation of economic growth but looking for truth. And – paradoxically – just seeking the truth has a stronger indirect influence on economic growth than a direct short-cut way. I have presented those arguments in a few addresses (...). I observe with a great pleasure that points of views evaluate slowly and researches not connected with direct applications became more important. Of course, I do not deserve the credit but the reality makes itself felt (...)"

From the interview MARIAN NOWY in the July-August 2006 volume of "Forum Akademickie"



# Editorial

The Ministers responsible for Higher Education in the countries participating in the Bologna Process have met in London on 17-18 May 2007. In the final document many important aspects concerning the last achievements were emphasised and the most important tasks for the nearest future were pointed out. Developments over the last two years have brought the countries participating in the Bologna Process a significant step closer to the realisation of the European Higher Education Area (EHEA). Building on rich and diverse European cultural heritage, these countries are developing an EHEA based on institutional autonomy, academic freedom, equal opportunities and democratic principles that will facilitate mobility, increase employability and strengthen Europe's attractiveness and competitiveness. There will be a continuing need to adapt higher education systems, to ensure that the EHEA remains competitive and can respond effectively to the challenges of globalisation. In the short term the implementing the Bologna reforms is a significant task.

The influence of higher education institutions (HEIs) is important on developing societies, based on their traditions as centres of learning, research, creativity and knowledge transfer as well as their key role in defining and transmitting the values on which European societies are built. The aim is to ensure that European HEIs have the necessary resources to continue to fulfil their full range of purposes. Those purposes include: preparing students for life as active citizens in a democratic society; preparing students for their future careers and enabling their personal development; creating and maintaining a broad, advanced knowledge base; and stimulating research and innovation. Therefore the strong institutions, which are diverse, adequately funded, autonomous and accountable are important. The principles of nondiscrimination and equitable access should be respected and promoted throughout the EHEA. Upholding of these principles is very important for ensuring that neither students nor staff suffer discrimination of any kind. There has been good overall progress towards the EHEA in the last two years. There is an increasing awareness that a significant outcome of the process will be a movement towards student-centred higher education and away from teacher driven provision. Mobility of staff, students and graduates is one of the core elements of the Bologna Process, creating opportunities for personal growth, developing international cooperation between individuals and institutions, enhancing the quality of higher education and research, and giving substance to the European dimension. Some progress has been made since 1999, but many challenges remain. Among the obstacles to mobility, issues relating to immigration, recognition, insufficient financial incentives and inflexible pension arrangements feature prominently.

Good progress is being made at national and institutional levels towards the goal of the countries participating in the Bologna Process creating an EHEA based on a three-cycle degree system. The number of students enrolled on courses in the first two-cycles has increased significantly and there has been a reduction in structural barriers between cycles. Similarly, there has been an increase in the number of structured doctoral programmes. The Ministers underline the importance of a curricula reform leading to qualifications better suited both to the needs of the labour market and to further study. Efforts should concentrate in future on removing barriers to access and progression between cycles and on proper implementation of ECTS based on learning outcomes and student workload. They underline the importance of improving graduate employability, whilst noting that data gathering on this issue needs to be developed further. Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components of the EHEA, both internally and in a global context. Easily readable and comparable degrees and accessible information on educational systems and qualifications frameworks are prerequisites for citizens' mobility and ensuring the continuing attractiveness and competitiveness of the EHEA.

The 38 members-countries of the Bologna Process have now ratified the Council of Europe/UNESCO Convention on the recognition of qualifications concerning Higher Education in the European region (Lisbon Recognition Convention). There has been progress in the implementation of the Lisbon Recognition Convention (LRC), ECTS and diploma supplements, but the range of national and institutional approaches to recognition needs to be more coherent. To improve recognition practices, the Ministers ask the Bologna Follow-up Group (BFUG) to arrange for the ENIC/NARIC networks to analyse the national action plans and spread good practice. Qualifications frameworks are important instruments in achieving comparability and transparency within the EHEA and facilitating the movement of learners within, as well as between, higher education systems. They should also help HEIs to develop modules and study programmes based on learning outcomes and credits, and improve the recognition of qualifications as well as all forms of prior learning. An initial progress has been made towards the implementation of national qualifications frameworks but much more efforts are required. This is a challenging task, so the Council of Europe should support the sharing of experience in the elaboration of national qualifications frameworks. The qualification frameworks should be designed so as to encourage greater mobility of students and teachers and improve employability. The Ministers are satisfied because national qualifications frameworks compatible with the overarching Framework for Qualifications of the EHEA will also be compatible with the proposal from the European Commission on a European Qualifications Framework for Lifelong Learning. The overarching Framework for Qualifications of the EHEA is a central element of the promotion of European higher education in a global context. Some elements of flexible learning exist in most countries but a more systematic development of flexible learning paths to support lifelong learning is at an early stage. It is necessary for BFUG to increase the sharing of good practice and to work towards common understanding of the role of higher education in lifelong learning. Only a small number of EHEA countries could recognise prior learning for access and credits are said to be well developed. Working in cooperation with ENIC/NARIC, BFUG should develop proposals for improving the recognition of prior learning.

The Standards and Guidelines for Quality Assurance in the EHEA have been a powerful driver of change in relation to quality assurance. All countries have started to implement them and some have made substantial progress. External quality assurance in particular is much better developed than before. The extent of student involvement at all levels has increased since 2005, although improvement is still necessary. Since the main responsibility for quality lies with HEIs, they should continue to develop their systems of quality assurance. The progress made with regard to mutual recognition of accreditation and quality assurance decisions, and encourage continued international cooperation amongst quality assurance agencies was noticed. The first European Quality Assurance Forum jointly organised by EUA, ENQA, EURASHE and ESIB (the E4 Group) in 2006 provided an



opportunity to discuss European developments in quality assurance. The E4 Group will set up a Register of European Higher Education Quality Assurance Agencies. The purpose of the register is to allow all stakeholders and the general public open access to objective information about trustworthy quality assurance agencies that are working in line with the ESG. It will therefore enhance confidence in higher education in the EHEA and beyond, and facilitate the mutual recognition of quality assurance and accreditation decisions. The register will be voluntary, self-financing, independent and transparent. Applications for inclusion on the register should be evaluated on the basis of substantial compliance with the ESG, evidenced through an independent review process endorsed by national authorities, where this endorsement is required by those authorities.

Closer alignment of the EHEA with the European Research Area (ERA) remains an important objective. The Ministers recognise the value of developing and maintaining a wide variety of doctoral programmes linked to the overarching qualifications framework for the EHEA, whilst avoiding overregulation. At the same time, they appreciate that enhancing provision in the third cycle and improving the status, career prospects and funding for early stage researchers are essential preconditions for meeting Europe's objectives of strengthening research capacity and improving the quality and competitiveness of European higher education. Therefore the HEIs should reinforce their efforts to embed doctoral programmes in institutional strategies and policies, and to develop appropriate career paths and opportunities for doctoral candidates and early stage researchers. Higher education should play a strong role in fostering social cohesion, reducing inequalities and raising the level of knowledge, skills and competences in society. Policy should therefore aim to maximise the potential of individuals in terms of their personal development and their contribution to a sustainable and democratic knowledge-based society. It is necessary to continue efforts to provide adequate student services, create more flexible learning pathways into and within higher education, and to widen participation at all levels on the basis of equal opportunity. In many parts of the world, the Bologna reforms have created considerable interest and stimulated discussion between European and international partners on a range of issues. These include the recognition of qualifications, the benefits of cooperation based upon partnership, mutual trust and understanding, and the underlying values of the Bologna Process. Moreover, those efforts have been made in some countries in other parts of the world to bring their higher education systems more closely into line with the Bologna framework. The strategy "The European Higher Education Area in a Global Setting" is adopted and will take forward work in the core policy areas: improving information and promoting the attractiveness and competitiveness of the EHEA; strengthening cooperation based on partnership; intensifying policy dialogue; and improving recognition. This work ought to be seen in relation to the OECD/UNESCO Guidelines for Quality Provision in Cross-border Higher Education.

The aims pointed out during that meeting in London are important hints for many HEIs in all the countries of the European Union and in the other countries participating in the Bologna Process, including also the Republic of Montenegro, which was included during that meeting as a member of the Bologna Process. All those countries have a significant influence on the development of science creating in ERA, so also in Poland. We will inform in Archives of Materials Science and Engineering about the progress of the Bologna Process, the development of the European Higher Education Area, and their closer alignment with the European Research Area and also progress in creation of a Register of European Higher Education Quality Assurance Agencies and other processes which were discussed by Ministers during the last meeting in London.

Prof. Leszek A. Dobrzanski Dr hc  
Editor-in-Chief of the AMSE  
President of the ACMSE  
Director of the IEM&B of the SUT

# Thematic scope of papers

## **MATERIALS**

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Metallic Alloys, Tool Materials, Superplastic Materials, Ceramics and Glasses, Composites, Amorphous Materials, Nanomaterials, Biomaterials, Multifunctional Materials, Smart Materials, Engineering Polymers

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## **METHODOLOGY OF RESEARCH, ANALYSIS AND MODELLING**

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Electron Microscopy, X-ray Phase Analysis, Metallography, Quantitative Metallography, Image Analysis, Computer Assistance in the Engineering Tasks and Scientific Research, Numerical Techniques, Statistic Methods, Residual Life Analysis, Process Systems Design, Mould Flow Analysis, Rapid Prototyping, CAM, CAMS, CAQ, Engineering Design, Technological Design, Materials Design, Computational Material Science, Materials and Engineering Databases, Expert Systems, Artificial Intelligence Methods

## **MATERIALS MANUFACTURING AND PROCESSING**

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