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# ISS Forum

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## The Newsletter of the International Joseph A. Schumpeter Society

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### Dear Member of the International Joseph A. Schumpeter Society,

This issue focuses mainly on two topics: First, the announcement of the 10<sup>th</sup> Schumpeter Conference in Milan next year as well as the Schumpeter Prize Competition 2004; and, second, an extensive report on the EMAEE workshop 2003, hosted at Augsburg in April.

Our President Franco Malerba has eagerly begun with the organisation of the next conference at Bocconi University. After a first screening of the preliminaries together with him, I am convinced even at this early stage that “Schumpeter2004” will prove to be a most interesting and successful conference. I would like to encourage and invite you, as a member of the ISS, to participate actively in the Milan conference, and of course also to compete in the Schumpeter Prize Competition.

From what I experienced, the EMAEE workshop for young economists devoted to Schumpeterian ideas was a great success, not only because on this occasion the “Young Economists’ Prize” of the ISS was awarded for the first time. Andreas Pyka, the local and scientific organiser, who reports in this issue, accomplished a remarkable conference on a high scientific level.

On behalf of the ISS I would like to sincerely thank him and his colleagues involved for their great job. And I wish his successor, Koen Frenken, good luck with the next meeting in Utrecht in 2005. I hope the smooth and fruitful co-operation between the ISS and the EMAEE will be maintained in the future.

Much too soon, our dear colleague Keith Pavitt has left us. We have not only lost a passionate admirer of Schumpeterian thought but also a colleague of international reputation based on his outstanding scientific work. One of his closer friends, Franco Malerba, has written an obituary on Keith Pavitt in this issue. Keith will remain well-remembered by the entire Schumpeter community.

This issue of the “Forum” is being printed in a limited edition on paper. Members with access to an e-mail account will receive our news by attachment as a PDF-file. Budget restraints force the Society to keep expenditures low. We hope you can agree with this solution.

Sincerely

Horst Hanusch

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## Forum Contact

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[augsburg.de/vwl/hanusch/iss/index.html](http://www.wiwi.uni-augsburg.de/vwl/hanusch/iss/index.html)

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## 10 th Schumpeter Conference

### "SCHUMPETER2004"

### *"Innovation, Industrial Dynamics and Structural Transformation: Schumpeterian Legacies"*

**Università Bocconi, Milan, 9-12 June 2004**

### Conference Aims

The Conference will focus on technology and innovation in companies and in the economy; the role of entrepreneurship; the organisation of firms and industries in innovative activities; innovation and the evolution of sectors; the relationship between technological change and the structural transformation of the economy.

These are all interrelated issues which are keys to a full understanding of the main drivers of change and growth in the economies of the third millennium. They are legacies of the writings of Joseph Schumpeter. In his work, in fact, Schumpeter addressed the role of entrepreneurship and new companies in innovation, R&D in large corporations, and the structural transformation of

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the economy as a result of the emergence of some new sectors and technologies and the decline of others.

All these are issues for the **Schumpeter2004** Milan Conference. In tackling them the Conference invites contributions both from within the Schumpeterian and evolutionary traditions as well as from different perspectives, theories and approaches. One of the main goals of **Schumpeter2004** is to foster open debate and fruitful discussion among academics with different and complementary views.

The Conference therefore encourages contributions:

- on knowledge, the innovation process, the organisation of innovative activities in companies and sectors, innovation and the dynamics and evolution of firms and industries, technological change and the structural transformation of the economy, public policy supporting innovation and the diffusion of technology;
- in a range of fields such as economics, management, sociology, history, geography, science and technology;
- following different approaches and theories;
- from researchers active both in developing economies, Eastern Europe and East Asia, as well as in advanced economies.

### **Organising Committee**

Franco **Malerba**, ISS President (CESPRI, Università Bocconi, Milan)

Margherita **Balconi** (University of Pavia)

Stefano **Breschi** (CESPRI, Univ. Bocconi, Milan)

Stefano **Brusoni** (CESPRI & CRORA, Università Bocconi, Milan)

Giovanni **Dosi** (S. Anna School of Advanced Studies, Pisa)

Anna **Grandori** (CRORA, Univ. Bocconi, Milan)

Francesco **Lissoni** (CESPRI, Università Bocconi and University of Brescia)

Fabio **Montobbio** (CESPRI and University of Insubria, Varese)

Luigi **Orsenigo** (CESPRI, Università Bocconi and University of Brescia)

### **Key Deadlines - Submissions**

#### **4 January 2004:**

Deadline for submitting extended abstracts

#### **15 February 2004:**

Response from Organising Committee

#### **15 May 2004:**

Submission of completed papers

The selection process will be open, competitive and based on the principles of peer review and scientific quality. Each abstract (max 1,000 words) should succinctly summarise the main argument of the paper, the methodology applied, the structure of the paper, and key references. Work by junior researchers and PhD students is most welcome. Extended abstracts for the conference can be submitted using the electronic form that will be provided on the conference website.

**<http://www.schumpeter2004.uni-bocconi.it/>**

or as attachments to messages sent to the following address:

**[schump2004submission@uni-bocconi.it](mailto:schump2004submission@uni-bocconi.it)**

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## Key Deadlines - Registration

**15 March 2004:** Deadline for early registration.

## Conference Fees

Early registration (by 15 March 2004)

Members	€185
Non-members	€265
PhD students	€115
Accompanying person:	€100

Late registration (after 15 March 2004)

Members	€235
Non-members	€315
PhD students:	€140
Accompanying person:	€125

On arrival registration: €350

The conference registration fee covers attendance at all the conference sessions, conference material, all social events plus coffee and meals during the hours of the conference.

The registration fee does not include travel costs or accommodation. Information about travel and accommodation will be posted on this website at a later stage. Participants will be able to register and book their accommodation through this website.

For any information, please contact the Organizing Committee at the following address:

**[schump2004info@uni-bocconi.it](mailto:schump2004info@uni-bocconi.it)**

## 9th Schumpeter Prize Competition 2004

The International Joseph Alois Schumpeter Society, ISS, is pleased to announce the 9th Schumpeter Prize Competition. The prize is awarded every two years in recognition of a recent scholarly contribution related to Schumpeter's work. It carries a cash award of 10,000 EURO endowed by the German economics and business weekly "WirtschaftsWoche".

### **Innovation, Industrial Dynamics and Structural Transformation: Schumpeterian Legacies**

has been designated by the managing board of the society as the topic for the ninth competition.

Entries must be postmarked no later than **March 1, 2004**. Works submitted must be either unpublished or published subsequent to June 1, 2002. Submissions may be of article or book length. There is no page or format specification. Submissions will be judged by a committee that was appointed at the last biennial meeting of the

ISS. The winner will be announced and the award made at the congress of the society at the University of Bocconi, Milan/Italy, June 9 – 12, 2004.

Submissions should be sent as an original and four additional copies to the committee chairman:

### **Prof. Steven Klepper**

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All information will be found at:

**<http://www.wiwi.uni-augsburg.de/vwl/hanusch/iss/prize.html>**

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# Report on the 3rd European Meeting on Applied Evolutionary Economics

An Initiative of Young Scientists supported by the ISS

Organized around the general topic of **“The Knowledge-based Economy – New Challenges in Methodology, Theory and Policy”**, the Third European Meeting on Applied Evolutionary Economics took place at the University of Augsburg from April 10-12 2003. Although originally conceptualized as an informal initiative *only* for younger scientists, especially interested in evolutionary and Schumpeterian economics, the EMAEE-idea has become a widely recognized *label* within the scientific community; and this was successfully demonstrated once again at the Augsburg conference. Almost 120 participants from all over Europe, North-, and South America, and South Africa discussed the latest developments in applied evolutionary economics. In addition to the nine keynote lectures covering a wide range of topics addressed to the conference theme, 72 papers were presented in the parallel sessions.

Let me start this report with a short *historical outline* of the EMAEE. The idea of a conference on applied evolutionary economics was born in 1998 at Grenoble when Paolo Saviotti (INRA-SERD) and Jean-Marie Martin (CNRS-IEPE) thought it was time for a meeting addressing, in particular, applied issues within the broad field of evolutionary economics. During the last few years, the European PhD-programmes, such as ETIC, and summer schools, such as ESSID, have triggered the development of new and more creative research programmes, ranging from the exploitation of new data sources (for example, through the internet), and the application of methods from complexity theory to simulation

analysis addressing empirical questions. Due to these developments, evolutionary economics today is able to analyse dynamic processes of change and transformation in their multifaceted empirical dimensions in new and interesting ways. Following these ideas, the 1<sup>st</sup> European Meeting on Applied Evolutionary Economics finally took place in 1999 in Grenoble. A collection of conference papers, including a brilliant introductory chapter by Paolo Saviotti, will be released by Edward Elgar this summer.

At the time of the initial meeting, Koen Frenken was just about to finish his PhD project in Grenoble and I had just begun my Post-Doc period there. During the Grenoble conference, Paul Windrum from Manchester joined our group, and we all came to the conclusion that the idea of EMAEE should be kept alive. Fortunately, in autumn 1999 we met Werner Hölzl from the Vienna University of Economics and Business Administration, who offered to host and to organize a follow-up conference at Vienna in 2001. Although the conference - taking place from Sept. 13 to 15 - was overshadowed by the horrifying terror attacks of September 11, the intensive and creative mood already experienced in Grenoble was revived at the Vienna meeting. Werner Hölzl and his colleagues successfully managed this second meeting in a somewhat difficult and turbulent environment, and a further volume, edited by John Foster and himself, and again published by Edward Elgar - to come out soon - will document the high scientific quality of the event. During this Vienna conference, the decision was made to hold the next meeting at

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Augsburg in 2003, with me in charge of the organization.

Although in the very early phase of the organization of the meeting things were running quite smoothly, and along with Bernd Ebersberger, Koen Frenken, Werner Hölzl, Vanessa Oltra, and Paul Windrum, I had the strongest support in our scientific committee one could imagine, the early preparations took place during the severe downturn of the world economy, which badly affected all our endeavours in finding sponsors for the conference. About six weeks before the deadline for our call for papers in late summer 2002, our conference accounts showed a deficit of 400 Euros and less than ten submissions. However, within those six weeks before the deadline, there was one positive surprise after another. First, Horst Hanusch, Secretary General of the International Joseph A. Schumpeter Society, took over the initiative to advertise a prize competition for young economists at the EMAEE. Second, and obviously also triggered by this, we found an avalanche of submissions in our mailboxes every day, leading finally to the sum of 160 abstracts among which we could select. Third, a proposal submitted for financial support to the German Research Foundation (Deutsche Forschungsgemeinschaft DFG) was evaluated positively, giving us financially a more promising starting position.

Enthusiastic about these positive developments, our local organizing committee, which included Thomas Grebel and Markus Balzat, developed a new sponsoring concept, including local caterers (pastries, dairy products, beer and fruit juices, fresh fruit etc.). To coordinate all this, they spent a great deal of time on the phone. In the end, their arrangements and the catering reached a standard to be emulated. I am not exag-

gerating in maintaining that the coffee served during the breaks was the best I ever had at any conference.

Of course, the scientific organization was triggered by the latest developments. It took quite some time and the exchange of many e-mails to evaluate the huge number of extended abstracts. At this stage, we decided to increase the number of papers to be presented at the conference from 40 to 80. Nevertheless, this still meant it was necessary to reject 50 per cent, which on the one hand obviously increased the quality of the submissions, but, on the other hand, doing so required difficult decisions. Concerning the thematic focus of the papers, it turned out that there was a strong concentration of topics on biotechnology-based industries, entrepreneurship, and regional development. At this point in my report, I would like to take the opportunity to express my deepest thanks to the keynote speakers all of whom supported us tremendously, not only scientifically by their flexibility in sticking close to the conference topics, but also in their accordance to the moderate offers we could make. This part of the organization indeed was extremely easy for us.

Such a report cannot, of course, do justice to every session and to the range of interesting methodologies and results presented. However, I would like to mention that each paper was discussed by a senior scientist, and the discussants did a great job. Their remarks triggered intensive discussions on rather general as well as specialised issues, with the discussions typically continuing through the coffee and lunch breaks. From my own impressions, and from what I have heard from the members of the scientific committee as well as from many e-mails I received after the conference, the general evaluation of the scientific

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quality of the presentations and the discussions was very high. At this point, I would like to return the compliments received to all presenters, discussants and session chairs. Without your creative and prolific input, the EMAEE 2003 in Augsburg would not have been the conference it turned out to be.

As our keynotes covered the various topics of the conference I would like to go into more details here.

The conference was extremely fortunate to have **Phil Cooke** (University of Wales), **Gunnar Eliasson** (Royal Institute of Technology Stockholm), **Chris Birchenhall** (University of Manchester), **Uwe Cantner** (University of Jena), **John Foster** (University of Queensland, Brisbane), **Ernst Helmstädter** (University of Münster), **Franco Malerba** (Bocconi University, Milan), **Stan Metcalfe** (University of Manchester) **Paolo Saviotti** (INRA-SERD, Grenoble and IDEFI-LATAPSES, Sophia Antipolis), and **Fritz Rahmeyer** (University of Augsburg) as keynote speakers. Unfortunately, due to the SARS warning, it was not possible for John Foster to travel to Europe, so Stan Metcalfe took over his part in their joint keynote.

Phil Cooke opened the first plenary session with his presentation of "Globalisation and Regional Innovation Systems". As an expert in this area, he presented his views on the importance of regional innovation systems in economies which are increasingly interrelated by international trade. The sources of competitiveness can be discovered on the regional level, especially by the propensity to organize knowledge transfer efficiently and by the strengthening of the relevant institutions accompanying collective innovation processes.

The keynote address on regional innovation systems was followed by Gunnar Eliasson's talk on his important theory of the experimentally organized economy. In order to understand economic growth, which can only be measured on the macro-level of an economy, one has to study carefully ongoing developments on the micro-level. This means explicitly including the fact that the agents in an economy have to make mistakes in order to discover creatively the promising developments in a technological and an economic sense.

In the second plenary session, Chris Birchenhall and Uwe Cantner gave their presentations. Birchenhall introduced his evolutionary framework for discussing the economic nature of the state - a topic almost neglected in recent evolutionary economics. In his framework, the state is not assumed to be a liberal democracy. A defining feature of any state instead is its control of the coercive force in its domain so that, accordingly, a proper understanding of the economic nature of the state requires an analysis of coercion and involuntary interactions between heterogeneous and not fully informed agents. The address by Cantner on "Heterogeneity in Productivity: Some Remarks on Beyond-the-Mean Dynamics" was concerned with firm heterogeneity in sectors and the dynamics resulting from and shaping this heterogeneity. Using total factor productivity as a variable by which heterogeneity in technological performance can be expressed, it was shown how productivity dynamics are characterized by a considerably persistent structure in firm ranks, indicating a mechanism of success-breeds-success. On the other hand, one finds more turbulent dynamics with respect to catching-up and even leap-frogging, leading to unstable rankings. The analysis is performed by applying

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Salter curves, transition matrices combined with mobility indices, and quantile regression.

The third plenary session began with Paolo Saviotti's considerations on qualitative change. Economic development is conceived as a process of transformation, including prominently qualitative change, which means the emergence of new entities qualitatively distinguishable from pre-existing ones. Saviotti considers this change in the composition of the system as a decisive determinant of subsequent economic development and discussed the analytical and policy implications of this view. Ernst Helmstädter reflected on "The Role of Knowledge in the Schumpeterian Economy". He introduced a stylized Schumpeterian economy by combining Hayek's division of knowledge with the methodology of New Institutional Economics, which so far has been directed to the division of labour process only. Finally, he discussed further approaches to the introduction of knowledge into an evolutionary context, developing his own *knowledge sharing approach* which can be considered as the missing link between scientific and economic useful knowledge.

In another plenary session, Fritz Rahmeyer discussed the evolutionary theory of the firm. As a major building block of an enlarged evolutionary theory of the firm, he first introduced the resource-based view in a dynamic perspective. According to Rahmeyer, knowledge, both as an input to and an output of production, is the most important resource and gives significance to the knowledge-based theory of the firm he is focusing on. Additionally, the broadening of the behavioural evolutionary approach opens up a more active role for firms. In particular, this is done by allowing firms to gain persistent competitive advantages. This leads to an intended heterogeneity among firms concerning their market

performance and their internal organizational structure. Franco Malerba's talk on "Sectoral Systems and their Dynamics Through History Friendly Models" focused on an integrated and dynamic view of sectors. A sectoral system is characterized by a specific knowledge base, technologies, inputs and demand and the interactions between the different agents. Interaction explicitly includes not only competition, but also cooperation and command, which all are shaped by sector specific institutions. Analyzing the co-evolutionary processes going on in industries, history-friendly-models going hand in hand and continuously confronted with empirical work are among the most promising approaches for the development of new insights in industrial economics.

The last plenary session was devoted to economic growth. Stan Metcalfe introduced John Foster's and his own powerful approach of adaptive growth. The central idea is the co-evolution of economic growth and qualitative development and the decisive role knowledge plays in this transformation process. Closely connected to Gunnar Eliasson's experimentally organized economy, the macro-economic productivity growth rate is fed by heterogeneous developments on the sectoral level and the respective interactions with the demand side there. Adaptive economic growth is the outcome of a complex interplay of mutually-reinforcing processes on the various levels of an economy.

The ten hour conference concluded Friday with a reception in the famous golden hall of Augsburg's beautiful Renaissance City Hall, to which we were invited by Augsburg's mayor, Paul Wengert. His welcome address was repeated by the host of the conference and the General Secretary of the ISS, Horst Hanusch, who also explained the rules and procedures of the Young

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Economists' Prize Competition. The golden hall was really an ideal environment in which to announce the winners of the competition and to present the prizes. This first Young Economists' Prize donated by the ISS was split among three winners. This decision should be seen as a tribute both to the wide range of topics at the conference and the overall high quality of the papers. The first winners of the Young Economists' prize are Arnold Wentzel, with his paper "*Conjectures, constructs and conflicts: A framework for understanding successful innovation*", Pierguseppe Morone, with his joint paper with Richard Taylor "*Small world dynamics and the process of knowledge diffusion: The case of the metropolitan area of the Great Santiago of Chile*", and Marco Giarrantana, with his contribution "*Flamed gems dusted down? (Bounded) rationality beyond incumbent entry decisions into new market niches*". The official ceremony ended with Franco Malerba, the current President of the International Joseph A. Schumpeter Society, inviting the EMAEE participants and the mayor of Augsburg to next years Schumpeter conference, to take place in Milan.

The Augsburg EMAEE conference was characterized by an overall intensity. In particular, the conference dinner organized and managed by Thomas Grebel and Markus Balzat on Saturday evening emphasized the creative mood which had evolved during the three days of the conference. The dinner therefore has to be considered as the definitive social highlight of the conference. It should be noted that Thomas himself played the saxophone in the Jazz band he put together for this event, and Ivan Hernandez from Columbia appeared as, at least to my knowledge, the first singing economist, as he gave a perfect performance of Stan Getz's "Girl from Ipanema". Although the official part of the conference ended around midnight with the last tram leaving

the University Campus, I know from personal experience that it took until early Sunday morning for many participants to say good-bye in one or the other bar in downtown Augsburg.

The conference would not have been possible without the support of various public institutions and private firms. First of all, I would like to express my deepest thanks to the DFG (German Research Foundation) and the State of Bavaria for financial support. In addition, Zeuna Stärker (automotive industry), PCI (chemical products), Deutsche Bank and Stadtparkasse Augsburg supported the conference. We must also gratefully acknowledge a donation by the *Friends of the University of Augsburg*. Finally, the Augsburger bakery Wolff, the dairy producer Zott, the juice company Burkhart, the fruit company Fruchthof Nagel, the brewery Hasenbräu, the Stadtwerke Augsburg and Saeco coffee deserve our deepest thanks. Without their generous support, we hardly could have offered the outstanding refreshment.

Details of the conference and the papers will be posted on our web page

**<http://www.emaee.net>**

I am also pleased to announce that, as with the previous conferences, a conference volume will be published with Edward Elgar. Besides the conference proceedings, a selection of agent-based simulation models will appear in the JASSS-Journal. Finally, continuity is guaranteed: At the closing session Koen Frenken announced his intention to organize the 4<sup>th</sup> European Meeting on Applied Evolutionary Economics in Utrecht in 2005, and I am looking forward to seeing many of you again there.

*Andreas Pyka*

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## In Memory of Keith Pavitt

Keith Pavitt died on December 20, 2002, unexpectedly for all of us. His death is a major loss for me on a personal level, but also for the world wide community interested in innovation, technology and science policy, and for the International Schumpeter Society. Keith Pavitt was a great pioneer, scholar, teacher, mentor and friend.

As a pioneer, in the 1960s and 1970s Pavitt was among the founders of the fields of science policy and technology studies. The development of an interdisciplinary community of researchers working on these issues is in great part due to his contributions during those years. Since then he continued to be a leader in that community. He also played a key role in SPRU since the 1970s. Thanks to his continuous efforts as an editor, *Research Policy* grew to become the key reference for technology and innovation studies.

On a personal matter, I remember that in the very early 1980s, while I was a graduate student in economics at Yale University, Pavitt became one of the key fundamental references for my work. And when I first met him at one of the interdisciplinary seminars that Dick Nelson used to organize at Yale University, I was soon struck by his challenge to the orthodox and conventional views regarding innovation and technology, something that since then I greatly appreciated in Keith's personality.

As a scholar, Keith Pavitt significantly contributed to research in the fields of innovation and technology studies and science policy. His contributions on science policy, firms' technological capabilities, patenting, innovation in sectors, technology indicators, international technological

competition, and the management of innovation have been key references for the whole field interested in these issues.

He was also quite active in the International Schumpeter Society, to which he participated with contributions that would shed "Pavitt's light" on the issue of technology and innovation. They were empirical in content, but had tremendous theoretical implications – something I think Keith liked very much. And he was "Schumpeterian" in spirit by being convinced that individuals play a role in life if they behave creatively and with entrepreneurial courage in their field of activity.

I am particularly fond of his 1984 taxonomy of sectoral patterns of innovative activities which has been used extensively around the world by an incredible number of studies, and has inspired my work as well as that of other scholars interested in innovation in sectors and in industrial dynamics. One of his last efforts was to tackle the issue of the conceptualization of the innovation process, written for the *Handbook of Innovation* edited by Fagerberg, Mowery and Nelson. This was the last time that I saw him, one month before his death, as the discussant of his paper. And I have to say that also in tackling this difficult topic he was unconventional and creative.

He was also a great teacher and a very generous mentor. Students loved his lectures. His SPRU graduate students are now scattered around the world and form a "Pavitt" global community. They all maintained a strong bond with him. He was always generous with his time and his energy in providing guidance, help and support to them. And he was always proud of what they had done in their studies, continuously mentioning them in

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conferences, workshops and private conversations. However he kept the same attitude for any other young person/scholar who was at the beginning of his/her career and was willing to challenge the conventional wisdom on innovation and technology and to move to the uncharted terrain in their studies. Keith would always provide them with suggestions, long discussions and help. In particular, he helped them by being critical and by challenging them so that they would learn to debate and defend their views.

I remember when I had just returned to Italy from the US and I started to meet him at SPRU and at conferences, or to correspond with him, he was supportive, provided inputs for my drafts, challenged what I had written in a provocative but constructive way, and was always available for a meeting. An extremely generous and valuable colleague.

But Keith was also a great friend and a very enjoyable person: fun, witty and argumentative, very pleasant to be with after conferences and at

dinners. He loved to debate. And his love for soccer was famous among colleagues, friends and most of all students. His passion for soccer would go very well together with his argumentative character. He would love to see games with people with whom he could argue and have fun with. Being a very biased and totally partial soccer fan, I have always been one of Keith's primary targets for watching together soccer games, either Italy or England, when we were together for conferences or workshops. He would sit near me and just look at me with a big smile on his face when Italy missed a goal. And he would like to criticize the "catenaccio" of the Italians when they would play strong defense. But he would expect reciprocity in my behaviour when we were watching a game of England. This was one of the most youthful aspects of his personality.

We will all deeply miss Keith Pavitt.

*Franco Malerba, President ISS*

## **Recent Publications by Members of the ISS**

ACS, Zoltan J., David B. AUDRETSCH (eds), Handbook of entrepreneurship research. An interdisciplinary survey and introduction, Kluwer Academic Publishers, 2003.

ASTEBRO, Thomas, The return to independent invention: Evidence of unrealistic optimism, risk seeking or skewness loving?, The Economic Journal, Vol. 113, No. 484, Jan. 2003, pp. 226-239.

CALDERINI, Mario, Paola GARRONE, Maurizio SOBERO (eds), Corporate governance, market structure and innovation, Edward Elgar, 2003.

K.I. CARLAW and Richard G. LIPSEY, Externalities, technological complementarities and sustained economic growth, Research Policy, Vol. 31,

Nos. 8-9, Dec. 2002, pp. 1305-1315.

CETINDAMAR, Dilek, The growth of venture capital: a cross-cultural comparison, Praeger, 2003.

COHEN, Wesley., Akira GOTO, A. NAGATA, Richard R. NELSON, and J. P. WALSH, R&D spillovers, patents and the incentives to innovate in Japan and the United States, Research Policy, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1349-1367.

CONSTANT, E.W. II, Why evolution is a theory about stability: constraint, causation, and ecology in technological change, Research Policy, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1241-1256.

FAGERBERG, Jan, Technology, growth and competitiveness. Selected essays, Elgar, 2002.

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- FAGERBERG, Jan and Bert VERSPAGEN, Technology-gaps, innovation-diffusion and transformation: an evolutionary interpretation, *Research Policy*, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1291-1304.
- FREEMAN, Chris, Keith PAVITT (†) eds, Editorial : Special Issue: Nelson+Winter+20, *Research Policy*, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1221-1226.
- HAGEMANN, Harald, Michael LANDESMANN, Roberto SCAZZIERI (eds), *The economics of structural change* (3 vol set), Edward Elgar, 2003.
- HODGSON, Geoffrey M. (ed.), *A modern reader in institutional and evolutionary economics. Key concepts*, Edward Elgar, 2002.
- KLEINKNECHT, Alfred and Pierre MOHNEN (eds), *Innovation and firm performance. Econometric explorations of survey data*, Palgrave Publishers, 2001.
- LOASBY, Brian, *The evolution of knowledge: beyond the biological model*, *Research Policy*, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1227-1239.
- LUNDVALL, Bengt-Ake, *Innovation, growth and social cohesion. The Danish model*, Edward Elgar, 2002.
- METCALFE, J. Stan and Uwe CANTNER (eds), *Change, Transformation and Development*, Springer, 2003.
- NOOTEBOOM, Bart and Frédérique SIX (eds), *The trust process in organizations. Empirical studies of the determinants and the process of trust development*, Edward Elgar, 2003.
- PYKA, Andreas and Paul WINDRUM, *The self-organisation of strategic alliances*, in: *Economics of Innovation and New Technology*, Vol 12, No 3, June 2003, pp. 245-268
- PYKA, Andreas and Günter KÜPPERS (eds), *Innovation networks - Theory and practice*, Edward Elgar, Cheltenham, U.K., 2002
- RICCABONI, Massimo and Fabio PAMMOLLI, *On firm growth in networks*, *Research Policy*, Vol. 31, Nos. 8-9, Dec. 2002, pp. 1405-1416.
- SCOTT, John T., *Environmental Research and Development. US Industrial Research, the Clean Air Act and Environmental Damage*, Edward Elgar, 2003.
- SANTANGELO, Grazia D., *Innovation in multinational corporations in the information age. The experience of the European ICT industry*, Edward Elgar, 2002.
- SIEBERT, Horst, *The World Economy*, Routledge, 2002.
- SILVERBEG, Gerald, *The discrete charm of the bourgeoisie: quantum and continuous perspectives on innovation and growth*, *Research Policy*, Vol. 31, Nos. 8-9, Dec. 2002, p.1275-1289.
- STREISSLER, Erich W., *Exchange rates and international financial markets. An asset-theoretic perspective with Schumpeterian innovation (The Graz Schumpeter Lectures)*, Routledge, 2002.
- WITT, Ulrich, *The evolving economy. Essays on the evolutionary approach to economics*, Edward Elgar, 2003.
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