



Editor-in-Chief: Gerhard Chroust

c/o Systemtechnik und Automation, Johannes Kepler University Linz, 4040 Linz/Austria,  
e-mail: CHROUST@SEA.UNI-LINZ.AC.AT, Tel:+43-732-2468-865, Fax:+43-732-2468-878

Dear Readers!

Again I have to apologize for a delay in this Newsletter. I have been intensively involved in both the EUROCAST Conference and the European ESPITI project (see inside).

I am glad to report that part of the last Newsletter (No. 36) was successfully printed in the USA and distributed from there. It saves money and should enable a prompter delivery of the Newsletter to our overseas members.

Part of the delay of the Newsletter is also due to the very slow submission of topics suitable for 'New Trends'. This issue's 'New Trends' are concerned with a very interesting problem in autonomous robotics. When I started the 'New Trends' column I hoped to present a view of research directions that is as broad as possible. Unfortunately I have not received many suitable submissions. Please remember that I am always looking for interesting contributions for 'New Trends'. Is your subject not worthy to be presented?

I would again remind you that the Newsletter (and some other interesting pieces of information are available on IFSR's WWW-pages. The access is via the URL (Uniform Resource Locator)

<http://www.sea.uni-linz.ac.at/ifsr/>

Finally I would like to wish you a pleasant holiday season and hope to hear from you in September.

Gerhard Chroust

Systemtechnik und Automation

Johannes Kepler University Linz, 4040 Linz, Austria

**IFSR wants Your contribution!**

We are interested to an even greater extent in making the Newsletter a forum for information interchange. We would therefore ask you to send us short reports on relevant conferences/meetings, announcements of conferences or reviews of interesting books. You can reach us by mail, fax or e-mail. E-mail submissions are preferred! We promise a fairly short turn-around time!

IMPRESSUM: Mediuminhaber, Herausgeber, Satz und Layout: Int. Federation for Systems Research.  
Für den Inhalt verantwortlich: Prof. G. Chroust, Johannes Kepler Universität Linz. 4040 Linz, Druck: Druckerei Bad Leonfelden Ges.mb.H. & Co. KG, Bad Leonfelden.



EUROCAST on the Rocks

From left to right:

Prof. Sato, Japan, Prof. Pichler, Austria, Prof. Takahara, Japan, Prof. Candela-Sola, Spain.

**EUROCAST'95 -  
5th Int. Workshop on Computer Aided  
Systems Technology (CAST)  
May 22-25, 1995, Innsbruck, Austria**

The Fifth International Conference on Computer Aided Systems Technology took place at the Conference Center of Innsbruck in Tyrol / Austria from May 22 - 25, 1995, under co-sponsorship of IFSR.

More than 100 scientists from about 20 countries including US and Japan coming from Universities and Industries discussing new results in the area of Systems Theory, Systems Engineering, Design Science and Computer Science and its application to important fields such as Engineering (Information Systems, Signal Processing, Control, Robotics and others) Ecology, Management and Sociology. The main goal of the conference is the provision of computerized tools for modelling on systems level.

Professional highlights were the invited lectures by Prof. G. Gottlob, Vienna, on "Reactive Logic: Approaches to Knowledge Base Revision and Update", Prof. S. Rinaldi, Italy, on "Chaos and Complexity" and Prof. W. Wymore, USA, on "Systems Engineering, Systems Theory and Complex Systems". The social programme



offered a trip by cable-way to the mountain-area of the Hafelekar where more than 50 people assembled happily for an informal gathering on the high sealevel attitude of about 2.334 m.

Eurocast '97 is planned again for Las Palmas, Canary Islands, Spain, in February 1997.

## NEW TRENDS

### INTEGRATED NAVIGATION SYSTEM FOR LOW-COST MOBILE ROBOTS

**Rudolf Bauer**

*Siemens AG, Corporate Research and Development,  
81730 München, Germany  
email: Rudolf.Bauer@zfe.siemens.de*

#### Introduction

For a mobile robot operating autonomously in an unknown, unprepared environment it is essential to know its *configuration* (position and orientation) while executing a user defined mission. A rough estimation of the robot's configuration is possible with odometric data (speed and path length), but due to unpredictable slippage of the wheels and other physical imprecisions, the estimated configuration deteriorates due to a large cumulative error. To reduce the uncertainty and error, localization techniques are additionally based on sensor data (e.g. sonar) and a gradual development of a map of the environment. The resultant configuration error mainly depends on the amount and quality of the incoming sensor data. The quality of these data is critically dependant on the path chosen by the robot.

A novel dynamic and integrated path planning approach is used to concurrently support the data acquisition for estimating the location and identifying new natural landmarks in an a-priori unknown environment. This creates the following boot-strapping problem. To update and continuously correct its configuration, the robot needs an adequate landmark map. On the other hand the robot needs to know its configuration very accurately so as to identify old and new land-marks. This process may become unstable if the robot travels in a way by which its sensors cannot adequately recognize previously identified landmarks. Therefore, a compromise must be found between keeping the configuration uncertainty low, identifying new landmarks and fulfilling a user defined mission.

#### Integrated Navigation System

A general hierarchical architecture for mediating between different robot goals (fulfilling a user

defined mission, localization and map building) uses a three-layer system consisting of

- 
- "Global Path Planning": Based on the user's mission and a global on-line grid map of the environment, a very fast geometrical global path planner produces a "rough" path consisting of a set of intermediate goal points.
- "Integrated Path Planning": The global path is used, together with information about the current landmark map, the robot configuration and its uncertainty and local obstacles, to plan a more detailed local path.
- and "Robust Obstacle Avoidance": This local path is then sent to the robot's pilot level, which autonomously executes the path, while guaranteeing robust obstacle avoidance.

Each of the layers uses a limited level of knowledge of the robot environment, thus acting with well-defined competence and responsibility. Suitable layer interaction provided by an intelligent scheduler leads to the desired behavior of the overall system.

While executing the path, the behavior of important system states (e.g. configuration uncertainty) is monitored. In the case of considerable deviations, which might occur in an a-priori unknown and dynamic environment, the execution is stopped and the integrated navigation scheduler is informed, which might then restart the cycle.

#### Experiments

The following experiments were performed on the Siemens mobile platform Roamer (Robust Autonomous Mobile Experimental Robot). It has 24 Polaroid ultrasonic sensors that are arranged in two horizontal layers around the robot.



In both simulated test runs (see Fig. 1 and 2), the robot had no a-priori knowledge of its workspace other than the gray shaded rectangular outline of the workspace and two line-type landmarks (a, b) at the starting point A.

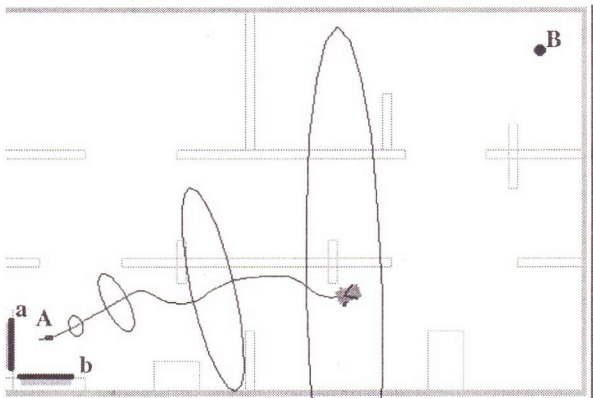


Fig. 1: Traveling directly from **A** towards **B** with reactive obstacle avoidance. The mission was interrupted because of the significant configuration uncertainty.

Because the robot has no knowledge of the obstacles in its workspace (see Fig. 1), the robot starts to travel from **A** directly towards the target point **B**. After a few meters the first obstacle comes "in sight" which is avoided by moving to the right. After leaving the visibility regions of the given landmarks **a** and **b**, the configuration uncertainty grows dramatically. During motion the configuration uncertainty grows rapidly due to an assumed 5% slippage of the wheels. Using the novel approach (Fig. 2) of integrated path planning, the robot mediates between three subtasks:

- - travel towards point **B**,
- - keep configuration uncertainty low,
- - identify new landmarks

In Fig.2 the robot has found a number of natural landmarks, that are concurrently used to improve the configuration estimate (For point type

landmarks the angular visibility range is indicated in Fig. 2). Arriving at target point **B** the robot had an absolute positional error of just about 15 cm after 25 m of traveled distance.

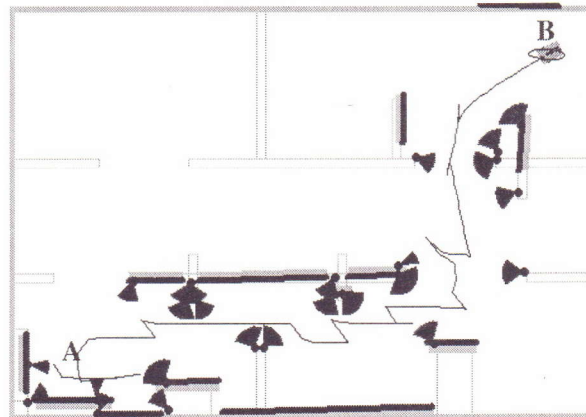


Fig. 2: Traveling from **A** to **B**, using identified intermediate landmarks

This approach dynamically plans local paths, in order to integrate the different robot tasks "user defined mission", "self-localization" and "landmark building" by analyzing the estimated benefits and costs of each.

- Bauer, R. et al. (1994). Steer Angle Fields: An Approach to Robust Maneuvering in Cluttered, Unknown Environments, *Robotics and Autonomous Systems*, vol. 12, pp. 209-212, 1994.
- Bauer, R. (1995). Dynamic Path Planning Integrating Self-Localisation and Landmark Extraction, *Proc. of IAS-4: Int. Conf. on Intelligent Autonomous Systems*, pp. 420-426, Karlsruhe, 1995.
- Bauer, R. and Rencken, W.D. (1995). Sonar Feature Based Exploration, to appear in: *IEEE/IRJ Conf. on Intelligent Robots and Systems*, Aug. 5-9, Pittsburgh, 1995.

## PROJECT REPORTS

### Some pathways to integrative study, education, and thought

Joseph Engelberg

UNIVERSITY OF KENTUCKY, COLLEGE OF MEDICINE, LEXINGTON, KENTUCKY 40536-0084, USA.

email: ENGELBEJ@UKLANS.UKY.EDU,  
Tel: (606)323-5563, Fax: (606) 323-1070.

The systems sciences appear to have three interrelated tasks: discerning of the integrative "wisdom" stored in biological organisms after several billion years of evolution; integrating knowledge and understanding; applying the insights obtained to problems of human and ecological existence. The approach is necessarily integrative rather than disciplinary or inter-disciplinary, interdisciplinarity being taken to the limit so that the disciplines become invisible, not even referred to.

Specialists have developed powerful methods to meet their objectives. They include the propa-



gation of their ideas and results via numerous specialized journals and monographs; lectures on special subjects followed by brief periods of discussion; special languages; etc. These methods are effective when dealing with parts or aspects of systems; however, they tend to be inimical and counterproductive to undertakings of an integrative nature. Yet, they are presently the principal means of discourse in the systems sciences. Can the systems sciences fully flower until alternative forms of study and communication are developed and adopted?

Here are some thoughts:

- First, as systems scientists we cannot afford the luxury of devoting many words to the description of each of the numerous aspects of complex systems. Concision would appear to be a necessary property of our texts -- with insights encapsulated in a few words, sentences or equations. The resulting statements need to be evocative -- have the power to evoke chains of far-reaching ideas. The fundamental texts of the systems sciences are likely to turn out to be integrated chains of aphorisms.
- Secondly, since integrative thinking cannot be confined within conventional academic

boundaries, in place of the multitude of dispersed, fragmented texts which characterizes the areas of specialization, the possibility of a single, communal, archival text might be considered.

- Thirdly, it would seem desirable for the scholarly interaction in the systems sciences (at professional meetings, in the classroom) to take the form of structured dialogues rather than lectures. In these dialogues participants ponder insights; they perform integrative tasks; they turn away from their areas of specialization, bringing instead their whole life experience to bear upon the process.

see also 'News from the Book market'.

#### CORRIGENDUM:

##### Dictionary of Systemics and Cybernetics

*Unfortunately in No. 36 I gave an old address for Charles Francois. Here is the correct one:*

Charles Francois,  
 Libertad 742  
 1640 MARTINEZ, Argentina  
 (tel: 792-7160)

## CONFERENCE REPORTS EUROCAST and ESPITI

May 23, 1995, Innsbruck (A)



ESPITI, the European Software Process Improvement Training Initiative is a Europe-wide effort sponsored by the European Commission. It aims at raising the awareness for high quality software by improving the 'software process', i.e. by improving the way software is developed. Concentrating on the software production process and its improvement in all so-called 'software producing units' (The term includes software houses and departments within other organizations which produce software as a subsidiary product). This improvement has to be based on a clear definition of the process via a so-called 'process model'. At the same time it must be ensured that the defined process is provably followed and applied by everybody involved in the process. In the long run this leads to a certification of appropriate so-called

software producing unit according to one of the certification models (e.g. ISO9000, BOOTSTRAP, TICKIT, CMM).

A key for ensuring conformance to the process is an automatic support/control of the process via a computer. Access to tools can be combined with the enactment of the process. If this arrangement is completed with a central data base for intermediate and final results and a common user interface a software engineering environment has effectively been created.

In many ways the problems and solutions proposed for software development are largely paralleling the research done in CAST.

Some of the more obvious parallels are:

- The definition of a process model is an abstraction of past processes.
- A process model is a template for further development processes, which are usually instantiated from the process model.
- Any reasonable process needs computer support for the administration/control of both the multitude of activities to be performed and the intermediate, partial and final results.
- The actual design tasks must be supported by computer programs (usually called 'CASE-tools').
- Both CAST and software development are often concerned with large, complex and highly dynamic systems.



- In both areas a holistic, systemic view is necessary if excellent results are to be expected.

Therefore it was quite natural to place some of the papers presented at the EUROCAST'95 congress in an ESPITI-oriented session.

Under the ESPITI-program (lasting till May 1996) meetings, workshops and training courses will be conducted in all European countries.

*For details contact Gerhard Chroust*

## CONFERENCE ANNOUNCEMENTS

*For contacts, etc. see Calendar of Events.*

### 13th European Meeting on Cybernetics and Systems Research

**( EMCSR 1996)**

**April 9 - 12, 1996**

University of Vienna

Cybernetics - "the study of communication and control in the animal and the machine" (N.Wiener) - has recently returned to the forefront, not only in cyberpunk and cyberspace, but, even more important, contributing to the consolidation of various scientific theories. Additionally, an ever increasing number of research areas, including social and economic theories, theoretical biology, ecology, computer science, and robotics draw on ideas from second order cybernetics. Artificial intelligence, evolved directly from cybernetics, has not only technological and economic, but also important social impacts. With a marked trend towards interdisciplinary cooperation and global perspectives, this important role of cybernetics is expected to be further strengthened over the next years.

Since 1972, the biennial European Meetings on Cybernetics and Systems Research (EMCSR) have served as a forum for discussion of converging ideas and new aspects of different scientific disciplines. As on previous occasions, a number of sessions providing wide coverage of the rapid developments will be arranged, complemented with daily plenary meetings, where eminent speakers will present latest research results.

#### Sessions and session chairpersons:

- General Systems Methodology (G.J.Klir, USA)
- New Developments in Mathematical Systems Theory (Y.Rav, France, F.Pichler, Austria)
- Complex Systems Analysis and Design (J.W.Rozenblit, USA, H.Praehofer, Austria)

- Fuzzy Systems, Approximate Reasoning and Knowledge-Based Systems (C.Carlsson, Finland, K.-P.Adlassnig, Austria, E.P. Klement, Austria)
- Designing and Systems, and Their Education (B.Banathy, USA, W.Gasparski, Poland, G.Goldschmidt, Israel)
- Humanity, Architecture and Conceptualization (G.Pask, UK, E.Prem, Austria)
- Biocybernetics and Mathematical Biology (L.M.Ricciardi, Italy)
- Cybernetics and Informatics in Medicine and Psychotherapy (M.Okuyama, Japan, G. Porenta, Austria)
- Cybernetics of Socio-Economic Systems and of Country Development (K.Balkus, USA, P.Ballonoff, USA, S.A.Umpleby, USA)
- Systems, Management and Organization (G.Broekstra, Netherlands, R.Hough, USA)
- Communication and Computers (A M.Tjoa, Austria)
- Theories and Metaphors of Cyberspace (F. Heylighen, Belgium, S.A. Umpleby, USA)
- Knowledge Discovery in Databases (Y.Kodratoff, France)
- Artificial Neural Networks and Adaptive Systems (G.Palm, Germany, G.Dorffner, Austria)
- Theory and Applications of Artificial Intelligence (V.Marik, Czech Republic, E.Buchberger, Austria)

SCHOLARSHIPS: IFSR and ÖSGK are willing to provide a limited number of scholarships for colleagues from weak currency countries. Applications should be sent to the Conference Secretariat before October 12, 1995.

*For an electronic version of this CfP (and further information whenever it becomes available) see: <http://www.ai.univie.ac.at/emcsr/emcsr.html>*

### Int. Symposium and Workshop on Engineering of Computer Based Systems (ECBS)

March 11 - 15, 1996

Friedrichshafen, Germany

The symposium is the ninth in a series of international meetings dedicated to formulating and advancing methodologies and techniques for engineering of computer based systems (ECBS). This emerging discipline is devoted to design, development, deployment, and analysis of complex systems comprising heterogeneous, distributed, software, hardware, communication,



and other components. It aims at integrating systems engineering and engineering fields like software, electronics or communications into a total engineering discipline for computer based systems.

Contributions (Proceedings will be published with the IEEE) are sought primarily in the following (and in related) areas:

- Requirements Elicitation and Analysis
- Systems Analysis and Modeling
- Systems Design and Interface Management
- Architectures and Design Templates
- Domain Modeling and Analysis

- Codesign
- Reengineering and Reuse
- Development Processes
- Process Optimization
- Information Management and Traceability
- System Assessment, Testing and Metrics
- Systems Simulation
- Case Studies
- Standards
- Reliability, Safety, Dependability
- ECBS Infrastructures (Tools, Components, Environments)
- Training and Education

---

## OTHER SOCIETIES

*Here we report on other societies in the systems area, hoping to create interest and perhaps later acquire new members.*

### **IGEL: International Society for the Empirical Study of Literature**

The aim of the Society, founded in 1987, is the advancement of the systemic and empirical approach to literature (SEAL) through international and interdisciplinary co-operation. The principal objectives of the Society are:

- 1) to support systemic and empirical literature research projects through information and co-operation;
- 2) to further the application of the framework and methodology of the systemic and empirical approach in the study of literature;
- 3) to support students and junior researchers in the field of systemic and empirical literary research;
- 4) to further personal contact in all areas of research supported by the Society;
- 5) to organize international conferences.

The Society issues an annual Newsletter and holds international biannual conferences. The next conference: August 21 - 26, 1996, in Banff, Alberta Canada.

President: Steven Tötösy de Zepetnel, Research Institute for Comparative Literature, University of Alberta, Edmonton, Alberta Canada T6G 2E6 (Ph.: 403-492-4776; Fax: 403-492-5662; Internet: stotosyagpu.srv.Ualberta.ca).

Membership fees: US\$ 20.00, US\$ 10.00 for student, unemployed, retired.

### **Cybernetics & Systems in the Sociological World**

A new board of the Thematic Group 02 "Sociocybernetics and Social System Theory" of ISA has been elected.

Felix Geyer and Johannes van der Zouwen, discussed in an article in *Cybernetics*, vol 20/6, 1991 the penetration of systems and cybernetics, as conceptual possibilities, in the mainstream sociological thinking:

"The empirical social science research increasingly utilizes methods taken from systems methodology; that social science theory, on the other hand, still barely uses the conceptual scheme of GST/cybernetics; that the most theoretical studies stimulated by the sociocybernetic approach are generally fertile and thought-provoking;

The Thematic Group feels that the time seems to be finally ripe for introducing the sociocybernetics/systems approach in mainstream sociological thinking."

"... the times seems to be changing. In an increasingly complex and interdependent world, sociologists are confronted by increasingly complex problems, for the solution of which the usual social paradigms often do not suffice, but indeed an extremely interdisciplinary approach is needed. An approach of this kind is offered by what Prigogine has termed 'the Emerging sciences of complexity', in which socio-cybernetics certainly play a central role."

This panorama is now the main concern of the Thematic Group 02 'Sociocybernetics and Social System Theory' for planning its participation in the 1988 Montreal World Congress of Sociology.

President:	Kenneth D. Bailey
Vice-President:	Richard L. Henshel
Past president:	Francisco Parra Luna
Secretary-treasurer:	Felix Geyer
Newsletter editor:	Elohim J.L.



## NEWS FROM THE BOOK MARKET

Zhenyuan Wang, George J. Klir

### **Fuzzy Measure Theory**

State University of New York at Binghamton  
341pp., \$69.50

Plenum Publishing Corp.,

233 Sprint St., New York, NY 10013-1578

tel: (212) 620-8000; fax(212) 463-0742

G.J. Dalenoort (ed.)

### **The Paradigm of Self-Organization II**

Volume 24 of Studies in Cybernetics

ISBN: 2-88124-976-0

272 pages, \$ 65.00 / £42.00 / ECU 54.00

Bernd Schiemens (ed.)

### **Interaktion**

Modellierung, Kommunikation und Lenkung in  
komplexen Organisationen

Duncker & Humboldt, Berlin

ISBN 3-428-08200-1

289 pages, DM 76,00

Mauro Ceruti

### **Constraints and Possibilities**

### **The Evolution of Knowledge and Knowledge of Evolution**

Translated from the Italian by Alfonso Montouri

ISBN 2-88449-123-6

1994 - 202 pages, US\$ 40,00

Hanif Shah and Sharon Dingley

### **Information Systems**

### **The Interdisciplinary Reality**

Department of Computer Science and Applied  
Mathematics

Aston University, Birmingham, B4 7ET, UK

ISBN 0471 94296 0 (hardback) May 1994, 416  
pages, £24.95/\$39.95

Steven Tötösy

### **Bibliography of Works in the Systemic and Empirical Approach to Literature**

1,400 titles selected from the early 1980s to  
present available on diskette (DOS Wordperfect  
5.1, see 'New Societies')

Joseph Engelberg

### **The Nature of Integrative Study**

New Forums Press, Stillwater, Oklahoma, USA  
(1994).

*for details see section 'Project Reports'*

News  
from  
the  
IFSR



News  
from  
the  
IFSR

### **An Informal Annual Report from Your Executive Committee**

Following the '94 Board Meeting, your Executive Committee (EC) initiated work on several fronts. The Fuschl meeting of IFSR (April 1994), attended by Bela Banathy and Gerhard Chroust and several representatives of member organisations, provided a fine opportunity for detailed addressing of IFSR objectives. Top priority was given to finding a new publisher and developing a long-range program for the publication of Systems Research. Under Mike's leadership this objective was achieved by August. A most favorable contractual

arrangement has been made with John Wiley & Sons. Later, in a letter from the EC published in the July Newsletter, an ambitious agenda was set forth for the overall program of IFSR. This included a new approach to the development of the Newsletter, membership development, invitation to participation in a co-ordinated system research program, the extension of the Fuschl Conversations, and a proposal for the establishment of IFSR working committees.

Taking advantage of travel unrelated to IFSR, there have been further planning and co-ordination meetings. Bela Banathy met Gerhard Chroust for a one-day planning session in Vienna in September. Mike Jackson and Bela Banathy were invited to address the Third



European School of Systems Sciences in Valencia, Spain in October 1994. Gerhard Chroust and Mike Jackson met in England in September 1994 in connection with a conference which Gerhard Chroust attended. In the area of membership development, we are pleased to report that our continuing work has resulted in the admission of three new organizations; the Associazione Italian per la Ricerca sui Sistemi; the Korean Society for Systems Science, and the Polish Systems Society. Work is continuing to involve systems organizations from Bulgaria, Japan, Slovenia and South Africa.

A brochure is in preparation which portrays IFSR objectives, Programmes and member organizations. The December double issue of the IFSR Newsletter introduced the program of Systems Research and set out a plan for the involvement of member organizations. Gerhard Chroust developed and mailed out to member organizations a detailed memorandum which addressed programmatic issues, membership development and proposals and topics for the '96 meeting of the IFSR Board. Your EC invites your comments and suggestions that might guide us to advance the program of IFSR. The next meeting of the EC will be in Vienna on Sept. 21 and 22, 1995. Any comments from your side can be discussed there!

*Bela Banathy*

#### **IFSR goes WWW!**

In the last few months we have set up a World Wide Web server with information about the IFSR. You can reach the home page by URL: <http://www.sea.uni-linz.ac.at/ifsr/>

#### **From the Secretary/Treasure**

*Dear Members!*

*I am proud to state that IFSR now is going to use advanced state-of-the-art to improve its business: We are on the WWW! Additionally I plan to include some information about IFSR and the latest IFSR-Newsletters plus information about all our member societies. I also believe that the Fuschl Talks will be even more productive: we will support it with some computer support in order to get the results more quickly and more completely.*

*And please join in creating a lively society - your are the actual society, the Executive Committee can only give some initiative and help.*

*Finally I have the pleasure in reporting that the Austrian Government has again provided a sizable subsidy for our 1995 activities.*

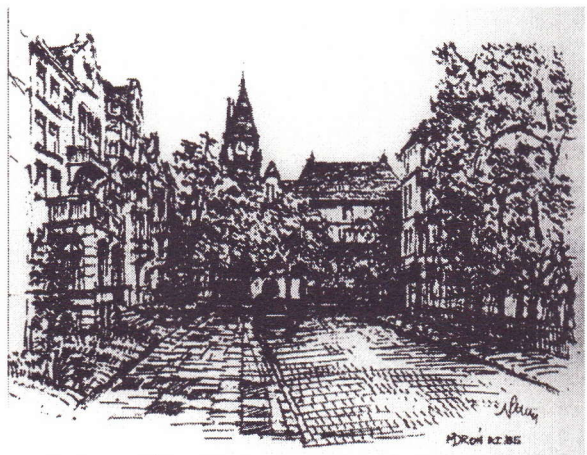
*Yours sincerely,*

*Gerhard Chroust*

## **FROM OUR MEMBER SOCIETIES**

### **The Polish Systems Society**

- In 1995 the basic form of the PSS activities will be debating seminars (conversatorial) on multidisciplinary methodology and practice concerning systems inquiry, connected with information technology, the seminars being organized quarterly.
- In the framework of the activities of PSS, a Bulletin will be published, containing information on the program and achievements of the Society.
- PSS is patronizing the publication of a common, English/Polish book entitled "Methodological Foundations of Human Activity Systems and Informatics".
- PSS is a substantial co-organisor of the 17th International Scientific ISAT School "Systems Inquiry - Information Activity Systems and Technology" (September 25-30, 1995, Szklarska Poreba, Poland) with the following research area: methodological foundations of human activity systems inquiry and informatics, inquiry engineering and distributed artificial intelligence methods, integration of networking and connectionism oriented approaches in information and decision making processes and systems evolution. PSS currently has 60 members.



A view of the Technical University of Wrocław

#### **Board of the PSS:**

President: Prof. Mieczyslaw Bazewicz, Technical University of Wrocław

Vice-Presidents: Prof. Wojciech Sitek, University of Wrocław,

Prof. Dionizy Dudek, Technical University of Wrocław

Secretary: Dr. Franciszek W. Przystupa

Students' Scientific Movement Jacek Zabawa



## WHAT'S NEW IN "SYSTEMS RESEARCH"?

The quarterly *Systems Research*, the official journal of the IFSR, is published by John Wiley and Sons. Papers for publication and subscription requests should be sent to:

*Professor M.C. Jackson*  
*University of Humberside*  
*Cottingham Road*  
*Hull. HU6 7RT, United Kingdom*  
*tel: +44 1482 440550 Ext. 3720*  
*fax: +44 1482 445715*

### Contents of vol. 12, no. 1 (March 1995):

A new Beginning  
*Bela H. Banathy*

Spreadthink: Explaining Ineffective Groups  
*John N. Warfield*

Values, Science and the Quest for Demarcation  
*Gerard de Zeeuw*

Beyond the Fads: Systems Thinking for Managers  
*Mike C. Jackson*

"Whole-Ing" The Parts and Righting the Wrongs  
*Russel L. Ackoff*

Model Validation in Soft Systems Practice  
*Peter Checkland*

The Value of a Systems Approach for Enhancing the Co-Evolution of Ethnic Cultures with the Rapidly Changing Society  
*Gregory V. LaPointe*

The Peace/Development Process at La India, Colombia  
*Ernesto Lleras and A Sanz de Jantamaria*

Chairs  
*Ron Hornsby*

### Contents of vol. 12, no. 2 (June 1995):

Synergy and Self-Organization in the Evolution of Complex Systems  
*Peter A. Corning*

Molecular Approach to Living Systems  
*Lane Tracy*

A Survey of Applied Systemology  
*Donald H. McNeil*

Understanding the Nature of System Change: An Interdisciplinary Approach  
*Francis Stickland and Lawrence P. Reavill*

The Systems Thinker as Revolutionary  
*Kenyon B. de Greene*

A Futurist Look at Systems Science  
*Joseph F. Coates*

## Calendar of Events

Title	Date and Place	Further Information
<i>Abbreviations: CfP, CfA: Call f. Papers/Abstract, FP: Final Paper due, &lt;No. nn&gt;: more details in issue.nn</i>		
ICED 95, 10th Int. Conf. on Engineering Design: Design Science for and in Design Practice	Aug. 22-24, 95, Prague (CZ) <i>CfA: expired</i> <i>FP: Feb 15, 1995</i>	CVUT Faculty of Mech. Eng., Technicka 4, CZ 166-07 Praha 6. tel: +422 311 1273, fax: +422 2431-0292
14e Congres International de Cybernetique	Aug. 21-25, 1995, Namur (B) <i>CfP: expired</i>	Assoc. Int. de Cybernetique, Palais des Expositions, Av. Sergent Vritthoff, 2, B-5000 Namur, Belgique tel. +32 81 73 52 09, fax +32 81 74 29 45
KnowRight'95 - Int. Congress on Intellectual Property Rights for Specialized Information, Knowledge and Technologies	Aug. 21-25, Vienna (A) <i>CfP: expired</i> <i>FP: Apr. 14, 1995</i>	W Grafendorfer, OCG, Wollzeile 1-3, A-1010 Wien, tel: +43 1 512 0235, email:ocg@vm.univie.ac.at
EUROMICRO'95 : Design of Hardware/Software Systems	Sept 4-7, 1995, Como, I <i>CfP: expired</i>	Krzysztof Kuchcinski, Linköping Univ., Dept. of Computer and Info Sciences, S-58183 Linköping, Sweden, tel +46 13-281883, email:kku@ida.liu.se



XII International Conference on Systems Science <No. 34>	Sept. 12-15, 1995 Wroclaw, Poland <i>CfA: expired</i> <i>FP: May 31, 1995</i>	J. Swiatek, Techn. Univ. of Wroclaw, Wybrzeze Wyspianskiego 27, PL-50-370 WROCLAW, tel: +48 71 21-62-26, fax +48 71 22-36-64, email: I17@PLWRTU11.BITNET
Systems Inquiry (17th Int. Scientific School, ISAT-95) <No. 37>	Sept 25-30, 1995 Szklarska Poreba, PL <i>CfP: Aug. 27, 1995</i>	Prof M. Bazewics, Techn. Univ. Wroclaw, Wybrzeze Wyspianskiego 27, PL-50-370 WROCLAW, tel: +48 71 20-35-89, fax +48 71 22-36-64, email: bazew@pwr.wroc.pl
Asilomar Conversation on Social Systems Design	Nov. 5-9, 1995, Asilomar Conf. Center, Pacific Grove, Calif. <i>sign-up: July 15, 1995</i>	B. Banathy, 25781 Morse Dr., CARMEL, CA 93923, USA, email: belas@aol.com
IDIMT'95 - 3rd Interdisciplinary Information Management Talks	Nov. 8-10, 1995, Kubova Hut, Czech Rep. <i>CfA: April 1995i</i>	G. Chroust, Systemtechnik u. Automation, Kepler Univ. Linz, 4040 Linz, tel: +43 732 2468 865, email: CHROUST @ sea.uni-linz.ac.at
12th Int. Conf. on Case Method Research and Case Method Application 'Environmental Problem Solving <No. 36>	Nov. 12-15, 1995, Maribor, Slovenia <i>CfA: Apr 15, 1995</i>	SEG, Center f. Enviromental Activities, Miklosceva 38 / III, SL-61000 Ljubljana, Slovenia, tel/fax: 388-61-302823
International Conference on Brain Processes, Theories and Models W.S. McCulloch: 25 Years in Memoriam	Nov. 12-17, 1995, Las Palma de Grand Canaria, Canary Islands, Spain <i>CfP: May 30, 1995</i>	Univ. de Las Palmas, Mrs. Paria T. Alonson Garcia, C.I.I.C., Campus de Tafira, App. 332, 35080 Las Palmas de Gran Canaria, Spain UNED - Prof. José Mira-Mira, Dpto. Informática y Automática, Senda del Rey, s/n, 28040.Madrid
ISAGA / CAO Joint Conference "The Challenger of Change - Learning to cope with the (self) organization Systems"	July 11-14, 1995, Palma de Mallorca, Spain <i>CfP: May 1, 1995</i>	CAO c/o FED, Via Larga 9, 20122 Milano / Italy tel: +39 2 58371404, fax: +39 2 58304790
Int. Symposium and Workshop on Engineering of Computer Based Systems <No. 37>	March 11-15, 1996 Friedrichshafen (D) <i>CfA: Oct. 15, 1995</i> <i>FP: Jan 15, 1996:</i>	G. Schweizer, Univ. Karlsruhe, IMA, Haid-und-Neu.Straße 7, D-76131 Karlsruhe, email: mvoss@ira.uka.de WWW: <a href="http://i50s19.ira.uka.de/ecbs96.html">http://i50s19.ira.uka.de/ecbs96.html</a>
13th European Meeting on Cybernetics and Systems Research, Vienna <No. 37>	Apr. 9-12, 1996, Vienna, Austria <i>Cfp: Oct. 12, 1995,</i>	R. Trappl, Dept. of Med. Cybernetics & AI, Univ. of Vienna, Freyung 6/2, A-1010 Vienna, Austria, tel: +43-1-53532810, fax: +43-1-5320652, Email: sec@ai.univie.ac.at, <a href="http://www.ai.univie.ac.at/emcsr/emcsr.html">www:http://www.ai.univie.ac.at/emcsr/emcsr.html</a>
Fuschi-Talks 1996 <No. 34>	Apr. 14-19, 1996, Fuschl, Austria <i>CfA: May 15, 1995</i>	B. Banathy, 25781 Morse Dr., CARMEL, CA 93923, USA, email: belas@aol.com
ICCHP 1996: International Conference on Computers for Handicapped Persons	July 16-19, 1996, Linz, Austria	Austrian Computer Society, Wollzeile 1-3, A-1010 Wien, tel: +43 1 512 02 35, email: ocg@vm.univie.ac.at
1996 IEEE Int. Conference on Systems, Man and Cybernetics: 'Information, Intelligence and Systems	Oct. 14-17, 1996 Beijing (China) <i>CfA: Jan 15, 1996</i> <i>FP: June 1, 1996</i>	Prof. Jian Chen, School of Economics and Management, Tsinghua Univ., Beijing 100084, China, tel. (8610) 2595876, fax: (8610) 2561532