



CROATIAN SOCIETY OF MECHANICS
Ivo Alfirević



THE STORY ABOUT
**DANUBIA
ADRIA**



1983 – 2013

Zagreb, Croatia
2013

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DANUBIA – ADRIA

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Ivo Alfirević

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2013

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PREFACE

As one of the founders of the Danubia-Adria Committee and an active member of the Organizing and Scientific Committee of each and every in the series of thirty Danubia Adria Symposia organised insofar, I have been given an opportunity to speak about the ideas and history of the Danubia Adria Symposia. It was mostly at the opening ceremonies and symposia gala dinners held in Steyr, Parma, Brijuni, etc. However, these were just short reflections within a limited timeframe, so that the need for a more thorough review of the Danubia Adria history has emerged eventually. When 2010 Wrocław Scientific Committee offered me to write a booklet on Danubia-Adria Committees and Danubia-Adria Symposia, I was very pleased and deeply honoured. I promised to prepare the booklet for the thirtieth jubilee symposium, which will take place in Primošten, Croatia, in 2013. Altogether five Danubia-Adria Symposia have been organized in Croatia. The very first was held in Stubičke Toplice in 1983, while this jubiliary one is going to take place in Primošten in 2013. In the interim period, Croatia hosted the symposia held in Pula in 1990, in Poreč in 1997 and on Brijuni Islands in 2004.

While writing this Story about the Danubia-Adria, I tried to be as impartial as possible. However, it was not easy for me to keep it that way, so that - in some aspects, at least - this Story brings my personal view on the events around the Danubia-Adria Symposia. It was inevitable for several reasons, first of all because of the flood of my memories. Furthermore, in writing this "Story about the Danubia-Adria" I have used the archive of the Croatian Society of Mechanics, as well as some letters sent to me by other members of the Danubia-Adria Committee and saved by pure chance. The same can be said for the choice of the displayed photographs.

My colleagues from the Danubia Adria

Committee have been of great assistance. The most important help came from R. Beer, F. Thamm, S. Jecić, D. Semenski, A. Freddi, L. Borbás and some others. Their advice and notes were of great help. An excellent Photo Album prepared by S. Jecić proved itself invaluable and indispensable. He recorded not only a number of events that took place at Spring Meetings and Symposia held over the years, but also carefully labelled the photos with dates and names of the persons who can be seen on them. Many of these data and facts would otherwise be lost. Many thanks to the Research Assistant Frane Pamuković for the preparation of diagrams and graphs displayed in the Appendix. Special thanks to the enthusiastic secretary Ms Jasminka Biondić for careful typing and preparation of this book. Finally, I wish to thank the Croatian Society of Mechanics and Studio Hrg for their support in publishing this book.

Since the actual lists of Symposia participants were not available to me, I have used Extended Summaries as a source of information. This information may not be quite correct, but is not completely wrong either.

This is probably the best place to mention the persons who, although never actually appointed official members of the Danubia-Adria Committees, have been very active in helping the organisation and promotion of the Danubia Adria Symposia and the ideas behind them. The most important among these individuals are Karl-Hans Laermann, Jan Javornicky, Giovanni Bianchi, Elmar Ficker and Senator Leonardo Melandri.

It is with pleasure and rejoices that I remember some of the attendees of the Danubia Adria Symposia that came from very distant countries, for instance Sameh S. Issa, who came from the College of Engineering and Petroleum Kuwait and attended the first Symposium held in Stubičke Toplice. Kozo

Ikegami from the Tokyo Denki University, Japan, attended the symposium held in Poreč in 1997, as well as all of the symposia held between 2001 and 2009. They had travelled a very long distance to share with us not only scientific knowledge and experience, but also different cultures and friendly feelings.

In writing the names of the Symposia venues and the names of other geographical locations, I have used their original names in local spelling. The exceptions have been made

with large cities like Vienna (Wien), Prague (Praha), Warsaw (Warszawa), Tokyo, Kuwait etc, whose original names are often replaced by their well-known and widely accepted English counterparts,

Zagreb, December 13th, 2012

Ivo Alfrević

INTRODUCTION

Foundation of the Danubia-Adria Committee in 1983

Danubia Adria Committee and Danubia-Adria Symposia were founded by a group of scientists and professors established in the Middle Europe and disappointed with the political, economic, cultural and, above all, scientific division of Europe, enforced at the time. Professors and scientists established in eastern countries had been put in a particularly awkward position. Namely, in these countries international scientific cooperation between the East and the West had been heavily hindered. There were numerous obstacles to travelling from east to west, both of political (passport and visa regulations) and economic (foreign currency availability) nature. Scientists from eastern countries could easily travel across the East, but when it came to western countries, the story was quite different.

The first scientists that started to promote Danubia-Adria ideas were as follows:

Ivo Alfirević, Zagreb,
 Stjepan Jecić, Zagreb,
 Rudolf Beer, Vienna,
 Hans - Peter Rossmann, Vienna,
 Istvan Huszár, Budapest,
 Fryges Thamm, Budapest.

The idea to organize such symposia across the Middle-European countries situated both on the eastern and on the western side of the Iron Curtain, had been contemplated for a longer period of time, but it first came to life at Plitvice Lakes, where Ivo Alfirević and Rudolf Beer met for the first time ever.

Namely, Ivo Alfirević was two time-elected



Plitvice Lakes' waterfalls

However, scientists from eastern countries could travel to Yugoslavia more easily than to the western countries. At the time Yugoslavia was officially a socialist republic, but its citizens could easily travel both to the West and to the East. Given these facts, Yugoslavia seemed like a very convenient host of the first symposium.

president of the Croatian Society of Mechanics (1980-1982 and 1982-1984). Together with Džemal Kalajđisalihović and Osman Muftić, his colleagues from the Croatian Society of Mechanics, he had organized seven Yugoslav symposia on the plasticity theory. The first three symposia took place in Jezero Hotel at

Plitvice Lakes National Park in 1981, 1982, and 1983, respectively. Andrija Mulc from the Faculty of Mechanical Engineering and Naval Architecture in Zagreb invited his friend Rudolf Beer from the Technical University of Vienna to attend the third symposium, held on Thursday, June 2, and Friday, June 3, 1983, at Plitvice Lakes.



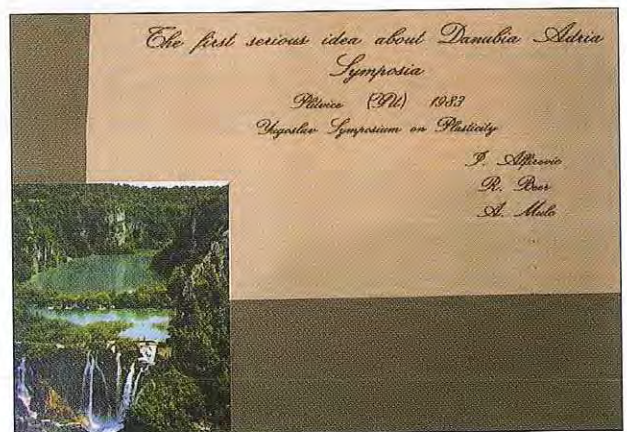
I. Alfrević, Dž. Kalajdžisalihović, O. Muftić

Several very interesting papers using experimental methods - particularly photo-elasticity and birefringent coatings - were presented at the third Yugoslav Symposium on Plasticity. On the Symposium day 2, R. Beer and I. Alfrević walked around the Lakes having a cosy chat.. They were discussing the papers presented at the Symposium dealing with experimental methods. The beauty of the 16 lakes, with their numerous waterfalls and cascades and their water constantly changing colour from emerald green to azure

blue, was very inspiring. It certainly helped creating a good mood and high spirits. When walking around the largest and the deepest of the Lakes, the Kozjak Lake, Beer and Alfrević started talking about the possibility of organizing a symposium on experimental methods in Mechanics. Such a symposium was supposed to be as inexpensive as possible and easily accessible for scientists from Eastern and Western European countries. At that moment, the idea of organizing a series of symposia on experimental methods in Mechanics was born. R. Beer suggested that such a symposium should be organized by the three neighbouring countries, that is to say, Austria, Hungary and Yugoslavia (Croatia). R. Beer and I. Alfrević decided to meet again in Zagreb in early September, right after the summer holidays.



Jezero Hotel



From the photo album of S. Jecić

However, R. Beer phoned I. Alfrević from Vienna as soon as on Monday, June 6, and proposed the meeting on the very next day, saying: Let's strike while the iron is still hot. Alfrević accepted, so that Rudolf Beer and Hans-Peter Rossmann, a scientist also affiliated with the Technical University Vienna, appeared in Zagreb on the very next day. This was the first semi-official meeting of the Organizing Committee of the future Danubia Adria Symposia. This meeting was held in the Library of the Institute of Engineering Mechanics, situated on the second floor of the south building of the Faculty of Mechanical Engineering and Naval Architecture.



Current appearance of the Library and the south building of the Faculty of Mechanical Engineering and Naval Architecture in Zagreb

At the meeting held in Zagreb in June 1983, the following was agreed:

1. The symposium shall run under the title **Danubius-Adria Symposium on Experimental Methods in Solid Mechanics**.
2. The symposium shall be co-organized by three scientific societies:
 - Yugoslav (Croatian) Society of Mechanics,
 - Austrian Society of Experimental Strain Analysis (ASESA), and
 - Hungarian Scientific Society of Mechanical Engineers.

Each society should appoint two representatives as the members of the Organizing Committee. The country in which the symposium shall be held may appoint as many as three representatives.
3. The first symposium shall take place in Croatia, while the second shall probably be organised in Austria. The symposia shall be organized in late September or early October, and shall last two days.
4. The symposium-related costs, including the registration fee and the travelling costs, should be kept as low as possible. Thus, future symposia should take place in the tri-border area. As for the first Danubia Adria Symposium, the registration fee was set at 4,000 Yugoslav Dinars for the participants coming from Yugoslavia and Eastern European countries, i.e. 1,000 Austrian Shillings for the participants coming from Western Europe and overseas.
5. Each symposium shall be preceded by the preparatory **Spring Meeting**. The first Spring Meeting shall be organized in Hungary.
6. The working language of the symposia shall preferably be English, but German and the official language of the host country shall be allowed for use as well.

Regarding the name of the Symposia, several propositions like Central European Symposium, Symposium of South-Eastern Europe, etc., had been made. However I. Alfrević suggested that some poetic name should be used. Since the Danube River makes the connection between all of the three organizing countries, as well

as potential future member countries, he felt that the word "Danube" should appear in the name of these symposia. On the other hand, Adriatic Sea connects Italy – as a potential future member country – and Croatia, so that he proposed the name **Danube-Adriatic Symposium**. However, the name was to be expressed in local languages, so that the name: **Danubius-Adria Symposium** was accepted. *Danubius* or *Danuvius* is the Latin name for the Danube River, while *Adria* is the German name for the Adriatic Sea.

After the meeting, the three organizing societies accepted the appointed members of the Danubia Adria Committee, which were as follows:

Ivo Alfirević, Zagreb,
 Stjepan Jecić, Zagreb,
 Hans - Peter Rosmanith, Vienna,
 Rudolf Beer, Vienna,
 Fryges Thamm, Budapest.
 Istvan Huszar, Budapest
 Vlatko Brčić, Belgrade,

Rudolf Beer initially proposed Andrija Mulc as the third Croatian representative, but the Croatian Society of Mechanics delegated Vlatko Brčić to liaise with the central Yugoslav Society of Mechanics. Although Vlatko Brčić was appointed as a member of the Scientific Committee, he has never taken any part in its activities and shall therefore not be mentioned as such any further.

After the meeting, R. Beer and H. P. Rosmanith returned to Vienna and soon sent the **First Announcement** draft. Although the letter Beer wrote is dated July 12, it was most probably written on June 12. I. Alfirević had the First Announcement printed immediately by the Publishing Company **Vjesnik** in Zagreb. *Vjesnik* was a daily newspaper; in Croatian, the word *Vjesnik* means *the messenger* or *the courier*.

The First Announcement was type-set by Tomislav Čić and printed out. It was circulated among the potential participants prior to the summer holidays, as originally planned. Unfortunately, in preparing the text of the first

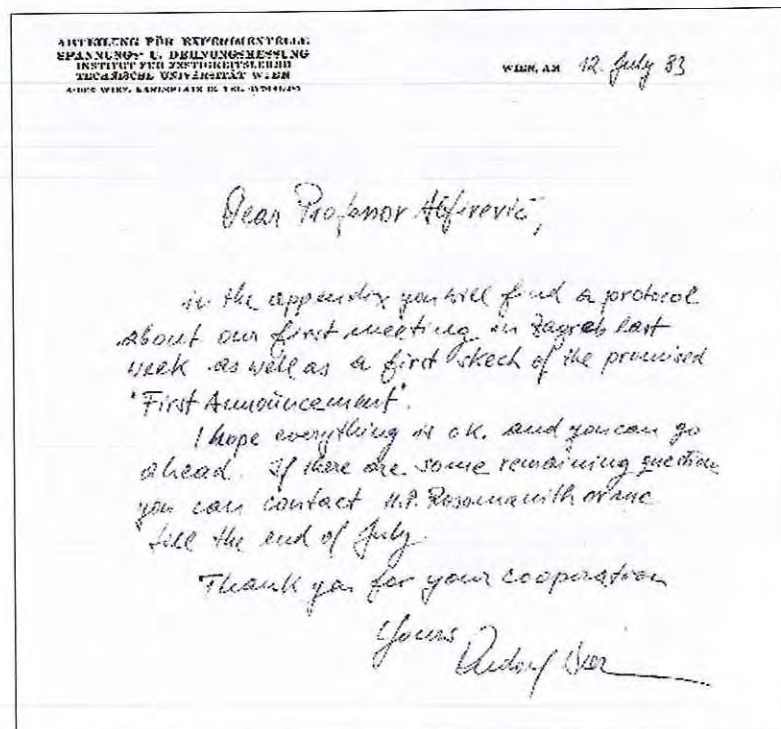


Fig. 5: Letter sent to I. Alfirević by R. Beer after the Zagreb Meeting

Announcement, a mistake had been made - instead of the **Danubius-Adria**, the words **Danubia - Adria** had been written.

However, the mistake turned into tradition, so that the symposium is still running under this title.

Ügyirattám: 2/1984 Ügyintéző:	AGRÁRTUDOMÁNYI EGYETEM MEZŐGAZDASÁGI GÉPÉSZMÉRNÖKI KAR BUDAPESTI TÁRSASÁG 2101 GÖDÖLLŐ, PÁTER KÁROLY U. Telefon: Gödöllő 1.	Tárgy:
	Címzett: Prof. Dr. I. Alfievic Technical University Zagreb 41000	Hív. szám:
	Hivatából díjtalanlyova Duro Salaja 5.	Melléklet:


Dear Professor Alfievic,

I should like to inform you that we - Dr. Rossmannith and Dr. Beer and I - had the possibility to consultate on the Danubia-Adria Symposium having taken part in the Semmering Colloquium in October.

There we discussed several problems as follow:

- 1./ Consultation about the Symposium can be held in Budapest in 1984. 27. april: Our Hungarian Institution of Mechanical Engineers will send an official invitation for this event. We expect You and prof. Jecic as well as Dr. Rossmannith and Dr. Beer.
- 2./ As the sending in terns of the summaries is upto 31. March, each of the three partners can bring these summaries and the propositions to the acceptance. So we shall have a good picture all of the reports. From our side we calculate upon ten reports and the same is the estimation of the Austrian colleagues.
- 3./ The Hungarian Institution of Mechanical Engineers decided that one of the next symposiums can be held in Budapest in 1986. According to our proposition the second one should be organized in Austria in 1985, so ours will be the third. Of course it should be discussed with the Austrian colleagues. (In Semmering they talked about this but according to their opinion the second Symposium should be only in 1986, and so the third one in Austria in 1988. In this case the period would be 6 years and it is too long.)

37-197/78.

 GÉPIPARI TUDOMÁNYOS EGYESÜLET A MOSZAKI ÉS TERMÉSZETTUDOMÁNYI EGYESÜLETEK SZÖVETSEGENEK TAGJA	HAYASHI-TAKEMICHIHO OKAJIHO NO MAJUMONSHO ASSOCIATION SCIENTIFIQUE DES INGENIEURS MECANICIENS SCIENTIFIC SOCIETY OF MECHANICAL ENGINEERS WISSENSCHAFTLICHER VEREIN FÜR MASCHINENBAU BUDAPESTI V. KOSSUTH LAJOS TER 4-A. POSTAL ADDRESS/POSTANSCHRIFT: 192 BUDAPEST 5, P.O.B. 451 (Telep: OTT Budapest) (Telef): Telefon: 124-413, 309-365
---	--

Herr
 Prof. Dr. Ivo Alfievic
 Sveučilište U Zagrebu
 Fakultet Strojstva i Brodogradnje
 YU-41 000 Zagreb
 Duro Salaja 5

BUDAPEST 8. März 1984
 N. REF. KB.190/K/84
 V. REF.

Sehr geehrter Herr Professor Alfievic!

Mit Bezugnahme auf die Besprechung von Prof. Dr. Huszár am 14.10.1983 mit Herrn Dr. Rossmannith und Herrn D. Beer, weiterhin auf den Brief vom 29. Dezember an Sie, laden wir Sie höflichst zu einem Gespräch am 27. April um 11 Uhr im Haus der Technik ein.

Das Ziel der Besprechung ist die Vorbereitung der Danubia-Adria Konferenz im Oktober in Zagreb /Stubaike Toplica/, das heißt Auswertung der eingetroffenen Resumes, Gementsprechend die Annahme der Vorträge, Zahl der Delegierten auf gewissenlosen Austausch. Gleichzeitig wird der Ort der folgenden Danubia-Adria Konferenz entscheiden /der Vorschlag: II. Konferenz in 1985-Wien, III. Konferenz in 1986 - Budapest/, dann werden die Orte und Zeitpunkte der Vorbereitungsgespräche beraten.

Zum Ablauf der obenwähnten Gespräche, werden wir Ihnen auf unser Kosten für 27/28 April Unterkunft sichern.

Das Datum der 27. April hat begründet, dass wir so zur Optik'84 Konferenz uns anknüpfen können, welche von Optischer, akustischer und Filmtechnischer Verein zwischen dem 23-27 April organisiert wird. Diese hat eine Sektion in Thema optische Spannungsanalyse, waren wir mit mehreren Fachleute teilnehmen.

Wir möchten den Termin 11 Uhr abstimmen. Wir bitten Sie höflichst uns zu benachrichtigen welcher Zeitpunkt in Mittagstunden Ihnen abhängig von Ihrer Ankunft entspricht. Wir warten die Antwort von den österreichischen und jugoslawischen Kollegen. Gementsprechend werden wir Ihnen noch eine Mitteilung schicken, in der wir den endgültigen Zeitpunkt und die Hoteladresse angeben werden.

Wir ersuchen Sie uns postwendend zu informieren, ob Sie unsere Einladung annehmen und an der Besprechung teilnehmen können.

Mit freundlichen Grüßen
 Dr. László Matay
 geschäftsführender Generalsekretär

Letter of Invitation to 1984 Spring Meeting sent by László Matay, Secretary General of the Hungarian Scientific Society of Mechanical Engineers

4./ The preliminary consultation about the Symposium can be held in Budapest, in Zagreb and in Vienna cyclically.

5./ In Hungary we have the possibility to send colleagues to take part in conferences in the form of exchange, i.e. our Institution of Mechanical Engineers can give all the costs in Budapest for several persons, and the same is wished from the partner Institutions. This way we can invite ten colleagues from Jugoslavia and ten colleagues from Austria. We should naturally discuss this solution.

I hope that my letter gives some real propositions we can consultate about in Budapest in the interest of the planned cooperation. And so, after sending the official invitation we wait you in Budapest.

Yours sincerely

Gödöllő, 29. Dec. 1983.

DLH
 /Prof. Dr. HUSZÁR/


The letter sent to Ivo Alfievic by Istvan Huszár

THE FIRST DANUBIA-ADRIA SYMPOSIUM

Stubičke Toplice, Croatia, 1984



The preparations for the first Spring Meeting and the First Danubia-Adria Symposium started at the beginning of 1984. Letters were exchanged between the members of the Organizing Committee. The members of the Committee were active in inviting their friends to the first Danubia-Adria Symposium. On the Croatian side, S. Jecić was particularly active. He had planned to organize a symposium in 1983 to celebrate the 80th birthday of Professor Davorin Bazjanac, an honorary

member and the former president of both Croatian and Yugoslav Society of Mechanics. Since this symposium was not held after all, S. Jecić channelled the invited scientists - mostly from Germany - to the first Danubia-Adria Symposium.

The Spring Meeting precedent to the first Danubia Adria Symposium was held on April 27, 1984, in Budapest. The main conclusions of the meeting were as follows:

The second Danubia Adria Symposium should be held in Austria, while the third should take place in Hungary.

The second Spring Meeting shall be held in Croatia in 1985, the third in Austria, and so on, cyclically.

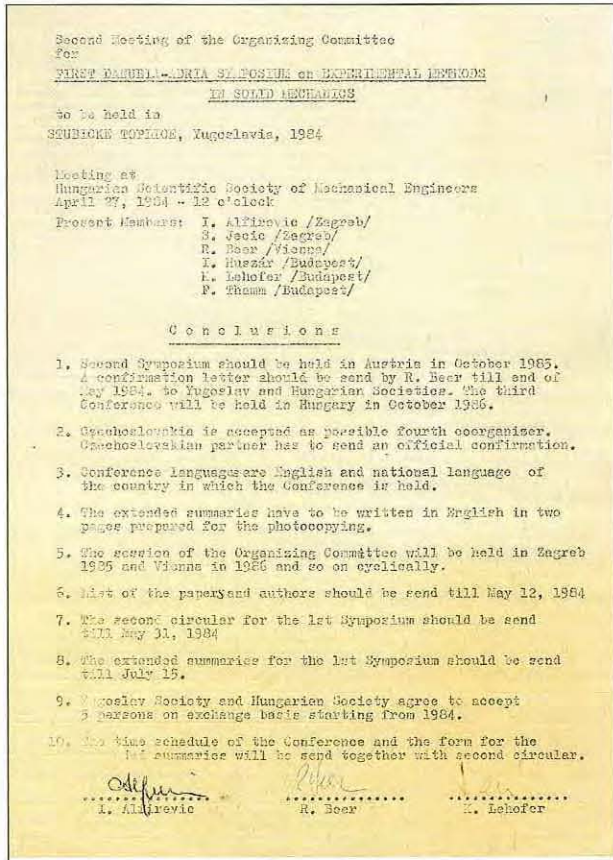


Oršić Castle in Stubičke Toplice

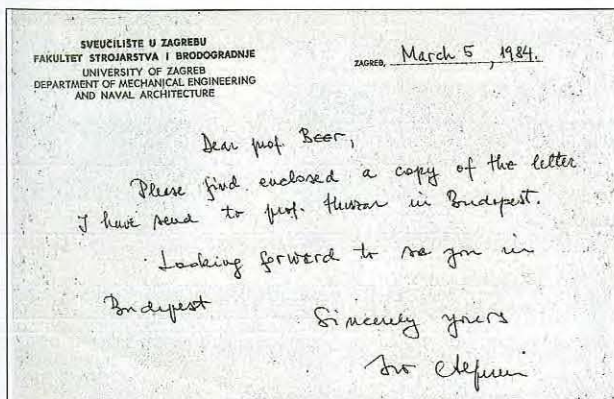


Photos taken immediately after the Spring Meeting in Budapest

The Croatian Society shall cover the expenses of five Hungarian participants attending the symposium at Stubičke Toplice in Croatia; in turn, the Hungarian society shall cover the expenses of five Croatian participants attending the symposium in Hungary.

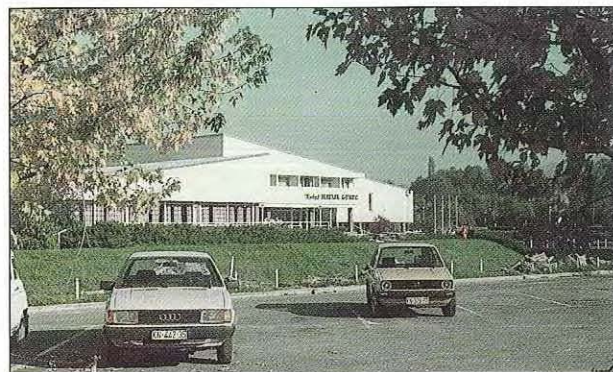


The minutes of the Spring Meeting held in Budapest in April 1984




Correspondence relative of the Spring Meeting

The first Danubia-Adria Symposium took place from October 15 to October 17, 1984, at Matija



Matija Gubec Hotel, Stubičke Toplice



ÖSTERREICHISCHER INGENIEUR- UND ARCHITECTEN-VEREIN
GEGRÜNDET 1844

FACHGRUPPE MASCHINENWESEN INGENIEURHAUS
A S E S A ESCHERSGASSE 9, 1040 WIEN
P. & KONTOR: WIEN 70405 TELEFON NR. 424000 FACHGRUPPE 27 02 01 SERIE

to
Prof. Dr. Ivo ALFIREVIĆ
University of Zagreb
Djura Salaja 5, 2.vat
41000 ZAGREB
YUGOSLAVIA

Wien, 04-08-84

Dear Professor Alfircvic,

please find in the appendix the extended summaries, except the summaries from:

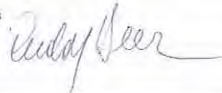
Picker E./ Daffner E. and Thiel E./ Angerer S. and Hutmann P. Mr. Picker promised me that you will get the missing summaries directly from the authors.

It was a little bit hard to collect the summaries and it was necessary to rearrange some of them to get it in a way you want it. I hope this will be o.k.

I also have a publishing company for the proceedings, it is the "Literas-Verlag Wien. The managing director of this company, Dr. A. Soritsch, is also chief-secretare of the Yugoslav-Austrian Society and he is very helpful to us. He has a lot of experience in printing scientific monographs in a cheap way and showed me very nice examples. However due to his experience it would be better to shorten the extended summaries, for extended summaries are a big competition to the final proceedings.

I don't believe that we are able to change our way, to hand over the extended summaries to the participants of the symposium and to prepare a proceeding with selected papers. But for the future we should think about the advices from Dr. Soritsch.

I hope you have a nice vacation, I am going for it tomorrow morning and I'll be back in Vienna again on Sept.3.

Yours


Dr. techn. THAMM FRIGYES
alt. gépészmérnök
H-105 BUDAPEST, II. SZÉKELAK U. 1.

Budapest, 13.7.1984.

Prof. Dr. Ivo Alfircvic
University of Zagreb
Bure Salaja 5.
YU - 41 000 Zagreb /Yugoslavia/

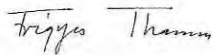
Dear Sir!

Enclosed I send You the short text of the lectures of

- 1./ Halmos, E.- Galli, Cs.
- 2./ Thamm, F.-Vörös, G.-Gáti, R.-Vörös, P.

for the preprint of the Danube-Adria conference. The exact compliance with the rules for the appearance of the manuscript given by You was at the paper of Mr. Halmos and Galli not possible, because of getting it before the Arrival of Your letter. Nevertheless I hope, that with a little use of scissors it will be easily possible to bring it to the desired shape.

Wishing You some nice holidays in good weather I close

with kindest regards


Letters sent by R. Beer and F. Thamm to the Croatian Society of Mechanics

The purpose of this international Symposium is to provide a forum for engineers, scientists, and industrial managers of neighbouring countries of the Danubian-Adriatic region to present and discuss the current status and the impact of modern technology and development in the field of experimental methods in solid mechanics.

The increasing need for joint industrial development and technology transfer calls for an intensive scientific cooperation.

SCOPE

The Conference will be concerned with recent research and development to the study of all aspects of experimental methods in solid mechanics. Primary attention will be given to industrial application of new methods and techniques. There will be four main sessions each opened with a state-of-the-art review lecture by a representative of the organizing countries.

CALL FOR PAPERS

Offers of papers describing current work in all areas of experimental research in solid mechanics are welcome. Particular topics of interest include:

- a) Classical and advanced optical methods
- b) Electronics in experimental mechanics
- c) Data acquisition and microprocessing
- d) Nonclassical problems and biomechanics
- e) Statistical and probabilistical aspects of reliability assessment
- f) Similarity laws for nonlinear problems.

The Executive Committee invites authors of all nationalities to submit papers for presentation in the conference languages: English [preferred], German, Hungarian, and all Yugoslav languages. Authors are requested to present an extended summary in English of no more than two type-written pages including tables and figures. The abstracts will be subjected to reviewing by an international paper review committee. The deadline for the submission of extended summaries is March 31, 1984. They should be sent to one of the following addresses:

Prof. Dr. Ivo Alfircvic
University of Zagreb
Djura Salaja 5
41000 Zagreb, Yugoslavia

or

Doz. Dr. H. P. Rossmanith
Technical University Vienna
Karlsplatz 13
A-1040 Vienna, Austria

Authors will be notified by May 31, 1984 about acceptance of contributions. Preprints of all extended summaries will be available at the conference. Papers will be published in a proceedings volume.

REGISTRATION FEE

The registration fee is estimated at Dinars 4 000.— for participants coming from Yugoslavia or Eastern European countries, and AUSchillings 1000.— for participants from Western Europe and Overseas.



The Organizing Committee standing in front of Matija Gubec Hotel, Stubičke Toplice: I. Huszar, R. Beer, H. P. Rossmanith, S. Jecić, I. Alfircvic, F. Thamm

Out of 36 submitted papers, 18 dealt with optical methods, 5 with tensometric methods and 4 with hybrid methods. In the field of vibrations and fatigue, 5 papers were submitted, two dealing with fracture mechanics, one dealing

Part of the First Announcement of the first Danubia-Adria Symposium

with image processing and two dealing with industrial applications. Regarding optical methods, most of the papers were concerned with the field of photoelasticity, but some dealt with holography and birefringent coating as well.

All of the members of the first Danubia Adria Committee had witnessed or experienced the misery of the people and atrocities brought by the World War II, as well as the poverty and lack of freedom in eastern countries engaged in the Cold War. From the very first Danubia Adria Symposium on, people coming from these countries have tried not only to present their recent research and developments in

experimental methods used in the field of Solid Mechanics, but also to promote friendship and mutual understanding between the neighbouring countries. Visits to historical and cultural sites, museums and natural beauty spots have been established as the common symposium practice. On the occasion of the first Symposium, the participants visited the Museum of Peasants' Revolt located in Gornja Stubica Castle, as well as the monument to Matija Gubec. Matija Gubec was the leader of the Peasants' Revolt that spread in eastern Slovenia and north-western Croatia in the years 1572 and 1573.

TENTATIVE LIST OF PAPERS

- ALFIREVIC, I.
Reduced Stress Concentration Factors
- ALFIREVIC, I., PUSTAIC, D.
An Experimental Method of the Identification of Plastic Regions
- ANGERER, S., HUTMANN, P.
Methoden der experimentellen Spannungsanalyse bei BMW
- BAEBLER, M., ŠTOK, E., ŽVOKELJ, J., KOSEL, F.
Tensometry at Low Values and Large Changes of Temperature
- BAJONS, P., PICHL, W.
Statistical Analysis of Fatigue Data of Brittle Materials
- BAKIC, A.
Practical Realization of Photoviscoelastic Experiments
- BREUCKMANN, B.
Neue Entwicklungen holografischer Messverfahren
- CSIZMADIA, B.
Dynamical Investigations of Bar Structures
- DAFFNER, E., THIEL, E.
Hybride Festigkeitsanalyse autofrettierter Hochdruckarmaturen
- ERDELYI, L., FAGAN, W. F.
New Development in the Application of Image-Derotation to Engineering Measurements. With Exhibition
- FEKETE, T.
Colour-Analysis of Photoelastic Fringe-Patterns in the Colour-Triangle
- FICKER, E., ZVADA, D.
Variation der Eigenschaften eines Epoxidharz-Systems beim spannungsoptischen Einfrierversuch
- GYIMESI, F., FÜZESSY, Z.
Difference Holographic Interferometry: A New Possibility
- HALMOS, E., GALLI, Cs.
The Function of an Industrial Big-Scale Stress Analysis in Economical Design
- HAMPL, N., FISCHER, D.
Ermittlung der Dämpfungscharakteristik mittels Schwingungsmessung
- HARMATI, K., SZILASSY, I.
Comparative Stress Investigation Using the Stress Analysis of Three-Dimensional Models
- HERMAN, K., HERCEG, L.J.
Measuring of the Relative Damping Change of the Screw Connected Shell Structure with the Impulse Excitation
- HEURE, R.
Dynamische Effekte eines Schwimmbeckens auf dem Dach

- HUSZAR, I.
Determination of Stresses in Rocks by Strain Measurement
- ISSA, S. S., MARIE, I.
Characteristic Angle, Light Intensity and their Correlation to the Wavelength in Three-Dimensional Photoelastic Medium
- JECIC, S., GOJA, Z.
Some Aspects of Gamma-Irradiation Applied on Photoelastic Models
- JOVANOVIĆ, M., ČIROVIĆ, M.
Determination of Temperature-Field and Thermal Stresses in Welded Steel Structures
- KOPPÁNY, I.
Stress Analysis of the Model of Wall Beams with Non-Uniform Thickness and Openings
- KRPAN, M.
Experimental Measurement of the Approaching of the Real Contact Surface
- LAERMANN, K. H.
On the Reconstruction of the Internal Strain and Stress State in Solids from Experimentally given boundary values
- LINSBAUER, H. N., ROSSMANITH, H. P.
Direction of Slow Stable Crack Growth. A Photoelastic/ FE-Analysis
- NIKOLIĆ, S., ĐURACIĆ, Z.
The Experimental Research of Ship Structural Behaviour due to Wave Loads
- PERZBORN, V.
Application of Digital Image Processing for the Evaluation of Interference Fringes in Photoelasticity
- PÜRINGER, P., SCHUCH, F.
Experimentelle und numerische Affimierung eines Getriebegehäuses
- SCHNEEWEISZ, G.
Bruchlagerdichte und Spannungsverteilung
- STEINBICHLER, H., ENGELSBERGER, J.
Einige neuere Anwendungen der holografischen Interferometrie
- STOHREL, H. P.
Determining the Shape of the Mirror of a Large Scale Solar Concentrator
- STOHREL, H. P.
Deformation Analysis by Digital Image Processing
- THAMM, F., VOROS, G., GATI, R., VOROS, T.
Hybrid Method of the Evaluation of Residual Stresses around Welded Joints
- ZSARY, A., BORBAS, L.
Investigation of Parts with Rotational Symmetry by Photoelastic Coating

Tentative list of papers submitted to the First Danubia-Adria Symposium

The Symposium dinner was served at the lovely and well-known restaurant Slamnati Krovovi (Straw Roofs) arranged in a rustic style. The Cottage is covered with straw.



The Monument dedicated to the Peasant's Revolt and Slamnati Krovovi Restaurant. Photographs illustrating the atmosphere at the Symposium dinner



FIRST

DANUBIA — ADRIA — SYMPOSIUM

ON

EXPERIMENTAL METHODS
IN SOLID MECHANICS

First Announcement
September 1983

Co-organized by:

Yugoslav Society of Mechanics (Croatian Society
of Mechanics)

Austrian Society of Experimental Strain Analysis
(ASESA)

Hungarian Scientific Society of Mechanical
Engineers

STUBICKE TOPLICE
(ZAGREB, YUGOSLAVIA)
OCTOBER 15-17, 1984



UNIVERSITY OF KUWAIT
COLLEGE OF ENGINEERING AND PETROLEUM
P. O. Box 5969, Kuwait

Department of Civil Engineering

Ref :

Date: 22nd October 1984

CROATIAN SOCIETY FOR MECHANICS,
Djуре Salaja,
41000 Zagreb,
Yugoslavia.

Dear Prof. Alfırevic,

It was my pleasure to meet you, visit your beautiful
country, and exchange scientific and research experience dur-
ing the first DANUBIA-ADRIA-SYMPOSIUM.

I hope that we shall stay in contact. For today please
find enclosed a photocopy of the promised paper.

Best regards.

Yours sincerely,

Assoc. Prof. Sameh Issa

The First Announcement and the letter by Sameh Issa

Country	Number of papers
Austria	9
Croatia*	6
Hungary	10
Germany	9
Kuwait	1
Serbia*	2
Slovenia*	1
Total	36

* Parts of the former Yugoslavia.

Participants from seven countries submitted a total of 36 papers, as shown in the Table. At that time, three countries (Croatia, Serbia and Slovenia) were parts of the former Yugoslavia.

ORGANIZING COMMITTEE	
Austria:	H. P. Rossmannith (Vienna) R. Beer (Vienna)
Hungary:	I. Huszár (Budapest) F. Thamm (Budapest)
Yugoslavia:	I. Alfırević (Zagreb) S. Jecić (Zagreb) V. Brčić (Belgrade)

Tisak: SOUR »Vjesnik« — OOUR TM, Zagreb — 1984.

THE SECOND DANUBIA-ADRIA SYMPOSIUM

Graz, 1985



Graz (Slovenian: Gradec) is the second largest city in Austria and the capital of the federal state of Styria. It lies on the Mur River, some 200 km southwest of Vienna, and has a population of about 260,000. The area around Graz was inhabited already in the Copper Age. In the 12th century it fell under the Babenberg rule and was first documented in a monastery document dating back to the year 1125. In the 13th century Graz came under the Habsburg rule and was given special privileges by the king Rudolf I in 1281. Between 1379 and 1619, Graz was the residence of the Austrian Habsburgs.

Graz is a home of several universities providing academic education for roughly 40,000 enrolled students. The most known among them is the *Karl-Franzens-Universität Graz*, the largest and the oldest university in Styria, also known as the *University of Graz*. It was founded in 1585 by Archduke Charles II of Austria, and controlled by Jesuits. When the Emperor Joseph II dissolved the Jesuit Order in 1782, the University was transformed into a lyceum. In 1827, the Emperor Francis I reinstated the university.



Aerial view of Graz



University of Graz

The Spring Meeting precedent to the second Danubia-Adria Symposium was held in Tuheljske Toplice in parallel with the fourth Yugoslav symposium on the plasticity theory. The president of the symposium's Organizing Committee was I. Alfrevič. The Danubia-Adria Committee meeting was attended by Alessandro Freddi from the University of Bologna, who acted in the capacity of the observer.



Tuheljske Toplice

He expressed the wishes of AIAS (Associazione Italiana per l'Analisi delle Sollecitazioni, that is to say, the Italian Association for Stress Analysis) to join the Danubia-Adria Committee as the fourth member state. This proposal was supported by Giovanni Bianchi, Secretary

General of the CISM (Centre Internationale des Sciences Mécaniques), Udine. Freddi proposed that one of the future Danubia-Adria Symposia could take place at CISM, Udine. The proposal was warmly welcomed by the Danubia-Adria Committee members.



Mihanović Castle rear



A. Freddi (observer), F. Thamm, R. Beer, I. Alfrevič, G. Niederwanger, I. Huszár

The second Danubia-Adria Symposium on Experimental Methods in Solid Mechanics took place in Pfeifer Hotel near Graz. It was organized in cooperation with the Österreichisches Kolloquium für Experimentelle Dehnungs- und Spannungsanalyse (Austrian Colloquium for Experimental Strain and Stress Analysis). This scientific meeting was co-organized by the Österreichischer Ingenieur-und Architekten Verband Fachverband: Maschinenwesen and Danubia-Adria Committee.

Symposium Proceedings, invitation sent to the participants by

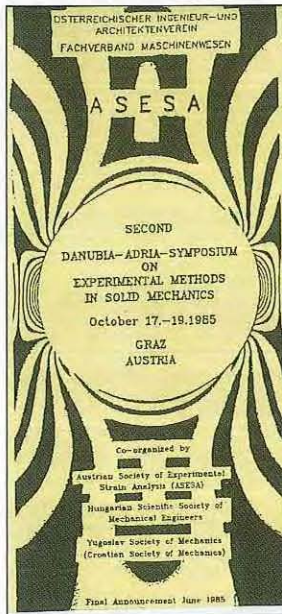
Ü I A V FACHGRUPPE MASCHINENWESEN A S K S A
 Darf ich die Gelegenheit wahrnehmen und Sie bereits jetzt auf das 3. Österreichische Kolloquium für experimentelle Dehnungs- und Spannungsanalyse aufmerksam machen (Okt. 85). Auf Grund des guten Echos haben unsere jugoslawischen und ungarischen Kollegen vorgeschlagen, die Donau-Adria Symposien jährlich zu veranstalten. Wir haben diesen Vorschlag aufgegriffen und uns bereit erklärt das 2. Donau-Adria Symposium im Rahmen unseres 3. Österreichischen Kolloquiums zu organisieren. Um nahegelegende Kooperationsmöglichkeiten zu schaffen, wurde Graz als nächsten Tagungsort gewählt. Mit den besten Wünschen für einen erholsamen Urlaub
 Rud. Beer



Hotel Pfeifer, Graz

TENTATIVE LIST OF PAPERS	
ALFREVID I., BAJIĆ B.: "Stress concentration factors in rotating discs with circular holes".	BERIGENKO A.I.: "Estimation of the forces in prestressed concrete beams by strain measuring in cables during long period of time".
BAUER W., NECHTELBERGER E.: "Zusammenhang zwischen den erfassten mechanischen Eigenschaften und der Morphologie von Wulsten mit Lamellengraphit (Grauguss)".	LINSBAUER H.K., TSCHEDIGER E., ROSSKOPF H.: "Der geschwächte Keilbolzen - ein thermoschockinduziertes Bruchproblem".
CAUSSE D.: "The comparison of the experimentally and numerically obtained dynamic values of full-scale prefabricated building built by IMS system of construction".	MILIN M.: "Plastische Anisotropie infolge Änderungen der Mikrostruktur. Einfluss der Umwandlungsprozesse auf die Höhe und Verteilung von Hörspannungen".
CHYZA J.: "Stress measurements on nine supports".	NIDLETTI G.: "Crack tip displacement analysis by Moiré-interferometry".
CURIONI S., DAL KE V., FREDDI A., ZANONI M.: "Fracture mechanics analysis of a nickel-titanium alloy turbine disc".	NIEDERWANGER G.: "Fehlermöglichkeiten bei der Erfassung und Digitalen Weiterverarbeitung dynamischer Belastungen".
DAFFNER E.: "Mathematical description of the results of experimental and numerical stress analysis".	NAVY S.: "Methods of determination of large residual strains".
FEDER I.: "Photoelastic investigation of night strains".	OSBORN R.H.: "Verfahren und Entwicklungstendenzen bei der Rauhheitskontrolle".
FILBER E.: "Holographic interferometry - A simple experiment and a valuable tool of practical engineering".	PAULI G.: "Kraftaufnehmer in Verbundbauteilen und als Kraftpunkte".
FLEGEN W.: "Dynamische Modellierung - Grundlagen und praktische Anwendungen".	PETASCHNIGER H.: "Einsatzmöglichkeiten von CAD-LW-Code-Systemen zur Bildbewertung".
GRUBER M.: "Verformungskörper mit hohen Dehnungsgradienten im Sandbereich".	PHILBSCH N.: "Dynamische Modellierung in Maschinenaufbau".
GYMSEI F., FUZEŠKY Z.: "Difference holographic interferometry for direct comparison of deformation".	FRÖDAN W., SOBEK G.: "Spannungsanalytische Berechnungen mit dazu gehörigen Parallelmessungen".
HAUZEUBERGER K.: "Statische und dynamische Messungen an getriebenen Eisenbahnbrücken".	RAMHARTSTORFER F.H., FISCHER F.D., FLEGEN W.: "Simulation von Probendruckbeanspruchungen flüssigkeitsgefüllter Laserbohrlochbohrverfahren".
HEINMAN K.: "Modellversuche der Flächentragwerke an den Holzwerkstoffmodellen".	ROSDORFER H.P.: "Experimentelle Kontaktmechanik".
HUSZÁR I., KAZA F.: "Stress field of opening reinforced by rock bolts".	SCHMATTINGER N.: "Konzept der Datenerfassung und Datenerarbeitung bei Steyr-Bolzen-Pfuch".
KNAUSMILLNER H.K.: "Vielpunkt-Methode zur Bestimmung des Spannungsintensitätsfaktors mit Hilfe der Methode der Kräfte".	SZITNER A.: "Test with precast, prestressed composite beams".
KÖRNER E.: "Model test of stress pattern in a gusset-plate of a railway bridge".	THAMM F.: "Photoelastic investigation of the stress distribution around a prestressed reinforcement".
	WESSELBOEDER H.: "Flexible Automation in der Fertigung".

Tentative list of papers



Österreichischer Ingenieur- und Architektenverband
Fachverband: Maschinenwesen

ÖSTERREICHISCHES KOLLOQUIUM FÜR EXPERIMENTELLE DEHNUNGS- UND SPANNUNGSANALYSE
DANUBIA-ADRIA SYMPOSIUM ON EXPERIMENTAL METHODS IN SOLID MECHANICS
ASESA
18. und 19. Oktober 1985 in Graz
Hotel PFERFER Graz - Maria Theres

Programmkomitee

Österreich

J. Affenzeller	Graz
F. Sturm	Leoben
G. Krisper	Steyr
R.-J. Beer	Wien
G. Niederwanger	Innsbruck

Ungarn

I. Huszar	Budapest
F. Thamm	Budapest

Jugoslavien

I. Alfrevic	Zagreb
St. Jecic	Zagreb

Örtliche Tagungsleitungen

J. Affenzeller	AVL, Graz
O. Gründler	VEW, Kapfenberg
G. Habeltler	Waagner-Hiro, Graz
F. Sturm	Hortensmühl, Leoben
J. Tschirchnig	MF Andritz, Graz



S. Jecić, E. Ficker and F. Thamm

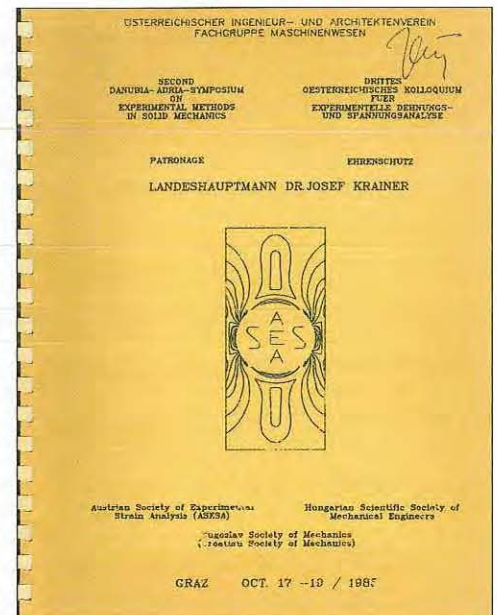


Symposium participants

Final Announcement and the cover page of the Symposium Proceedings



Danubia-Adria Committee: I. Alfrević, R. Beer, I. Huszar, F. Thamm, J. Affenzeller, S. Jecić



Country	Number of papers
Austria	20
Croatia	2
Hungary	13
Germany	5
Italy	2
Serbia	1
Total	43

Der Landeshauptmann von Steiermark
Dr. Josef Krainer
gibt sich die Ehre,
aus Anlaß des 3. Österreichischen
Kolloquiums für Experimentelle Dehnungs-
und Spannungsanalyse und des
2. Donau-Adria-Symposiums (ASESA)
zu einem Empfang am Freitag,
dem 18. Oktober 1985, um 19 Uhr
in Graz, Burg, Weißer Saal,
einzuladen.

the Governor of Styria, Dr. Josef Krainer, and the list of submitted papers displayed per participating country

THE THIRD DANUBIA-ADRIA SYMPOSIUM

Budapest, Hungary, 1986



Budapest is the capital and the largest city in Hungary, with a population of about 2,000,000. The site has been continuously inhabited since the prehistoric times. *Aquincum*, originally a Celtic settlement, became the Roman capital of the Lower Pannonia in 106 AD. Within the perimeter of this fortified military camp, Romans had built roads, baths and amphitheatres. Pannonia was subsequently incorporated into the Bulgarian Empire. Budapest arose out of two Bulgarian fortresses: Buda and Pest. Hungarians settled down on the territory at the end of the 9th century and a century later founded the Kingdom of Hungary.



Danube flowing through Budapest



Budapest at night

In the later course, Mongols destroyed both Buda and Pest. King Béla IV erected stone walls around the two towns and set the royal palace on the top of the Buda hills in 1248. Buda became the capital of Hungary in 1361. King Matthias Corvinus (1458-1490) had turned Buda into one of the main centres of the European Renaissance. *Bibliotheca Corviniana* represented the largest collection of historical chronicles and philosophic and scientific books in Europe north of Alps.

Turks occupied Buda and Pest in 1541. Austrian Habsburgs recaptured Buda in 1668. Both towns were destroyed completely. Maria Theresa moved *Nagyszombat University* to Buda in 1777. The University was founded in 1635 in Nagyszombat, nowadays Trnava in Slovakia. The three independent cities, Buda, Pest and O'Buda, were united and thus the new capital Budapest was established in 1873.



Session of the Scientific Committee convened in Vienna
Celebration after the Spring Meeting

The Spring Meeting precedent to the third Danubia-Adria Symposium took place at Vienna Technical University in May 1986. This was the year in which the disaster in the Chernobyl Nuclear Plant took place. At the meeting, I. Alfrević and S. Jecić presented the first English version of the Statute of the Danubia-Adria Committee. Following its amendments that boiled down to minor changes and improvements, the Statute was accepted by the Danubia-Adria Committee.



Vienna Technical University

The Congress and the Symposium will be held under the auspices of the **SCIENTIFIC SOCIETY OF MECHANICAL ENGINEERS, (GTE)** of the **AUSTRIAN SOCIETY OF EXPERIMENTAL STRAIN ANALYSIS, (ASESA)** and of the **YUGOSLAV SOCIETY OF MECHANICS (CROATIAN SOCIETY OF MECHANICS)**

A Kongresszus és a szimpózium rendezésében részt vesz a **GÉPIPARI TUDOMÁNYOS EGYESÜLET (GTE)** **OSZTRÁK KÍSÉRLETI FESZÜLTSEGVIZSGÁLÓ EGYESÜLET (ASEA)** **JUGOSZLÁV MECHANIKAI EGYESÜLET (HORVÁT MECHANIKAI EGYESÜLET)**

**ORGANIZING COMMITTEE:
A RENDEZŐ BIZOTTSÁG:**

- K. Lehofer chairman
- I. Havas secretary
- E. Czoboly editor of the Proceedings
- J. Affenzeller (Austria)
- I. Alfrevic (Yugoslavia)
- R. Beer (Austria)
- Mrs. E. Buray-Mihályi
- L. Borbás
- F. Fűcsök
- F. Gillemot
- I. Huszár
- St. Jecic (Yugoslavia)
- Á. Kutý
- Mrs. I. Soltész
- S. Szabó
- F. Thamm
- G. Zolnay

The third Danubia Adria Symposium took place in Budapest from September 29 to October 3, 1986, in parallel with the ninth Congress on Material Testing. The Organizing and the Scientific Committee of this scientific meeting consisted both of the members of the Danubia Adria Committee and the members of the Scientific Committee established to serve the purposes of the ninth Congress on Material Testing.

PREFACE

The Section for Material Testing of the Scientific Society of Mechanical Engineers organizes the 9th Congress on Material Testing in cooperation with the Austrian Society of Experimental Strain Analysis and Yugoslav Society of Mechanics /3rd Danubian-Adria Symposium/. This traditional Congress has been organized every third or fourth years since 1958. It is also a tradition of the Congress that one of its main purposes is to encourage the industrial experts and scientists to meet and discuss commonly new results and problems on the field of material testing, failure processes, quality control, life assessment, stress analysis, etc. All these questions are strongly related to an improvement of industrial products, design and technology, a higher safety of service and a more economical manufacturing.

More than 200 lectures /about 80 oral presentations and 130 poster contributions/ will be presented by experts of 17 countries - numbers, which proof the steadily increasing interest. The oral lectures will be held in three sections, where the topics are:

- fracture, fatigue and creep /Session I/
- stress analysis and measurements /Session II/
- non-destructive testing /Session III/

the posters will be introduced in five groups:

- stress analysis and measurements /Session A/
- problems of fatigue /Session B/
- non-destructive testing /Session C/
- creep and different problems of testing /Session D/
- problems of fracture /Session E/.

The proceedings contain all the papers, included oral and poster presentations. In volume I the papers of Session I, Session B, D and E, in volume II the papers of Session II and III, Session A and C are arranged. All papers are written in English and they are printed in the original form received from the authors as camera-ready manuscripts. The volume contains also a summary of the activity on the field of photoelasticity done in Hungary in the last 10 years.

The Organizing Committee expresses its sincere thanks to the authors for preparing their papers and for the contribution to the success of the Congress and wishes a successful meeting to all participants.

Dr. Ernő Czoboly
editor

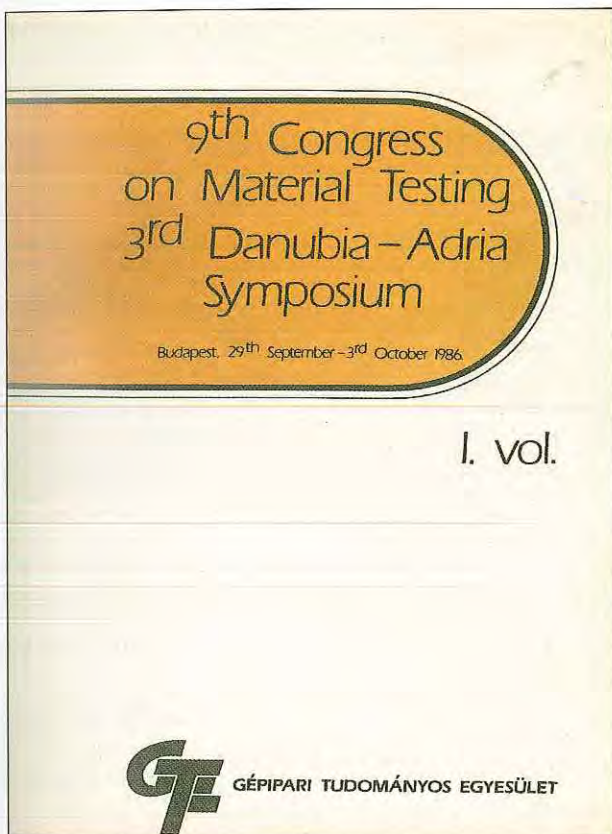
The first two pages of the Symposium Proceedings



Neo-gothic Parliament House located in Budapest



Hungarian Academy of Science



The first volume of the Symposium Proceedings

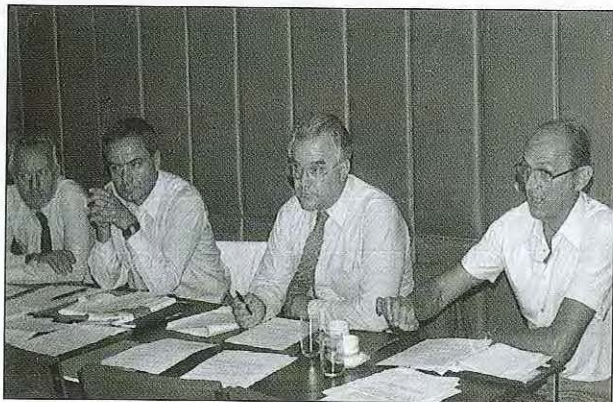
As a rule, the Scientific Committee of the Danubia-Adria Symposia used to meet three times a year, starting with the Spring Meeting. At that meeting, the received papers were either accepted or rejected; the opportunity was also used to discuss issues pending solution. The second meeting of the Scientific Committee was usually held after

the Welcome Cocktail on the evening before the Symposium day 1. On the occasion of that meeting, the Final Programme of the Symposium was accepted and the chairmen of the particular sessions were elected. The third meeting of the Scientific Committee used to take place immediately after the Symposium closure. At that meeting, the host country and the venue of the next symposium were officially confirmed and provisionally accepted. The letter by F. Thamm in which the members of the Scientific Committee are invited to the second meeting, can be found on the next page.

In 1986, Mikhail Sergeyevich Gorbachev, the Soviet premier, proclaimed *Glasnost* (openness, freedom of speech) and *Perestroika* policies (restructuring of the political, social and economic system). This inadvertently set the stage for democratic changes in Central and Eastern European countries and the collapse of the Soviet Union, witnessed in 1991.

<p>GÉPIPARI TUDOMÁNYOS EGYESÜLET</p>	<p>Հայրենա-Տեխնիկական Օժիստերու ու Մասնագետների ASSOCIATION SCIENTIFIQUE DES INGÉNIEURS MÉCANICIENS SCIENTIFIC SOCIETY OF MECHANICAL ENGINEERS WISSENSCHAFTLICHER VEREIN FÜR MASCHINENBAU</p> <p>BUDAPEST V., KOSSUTH LAJOS TÉR 6-8. POSTAL ADDRESS/POSTANSCHRIFT: 1291 BUDAPEST 5, P.O. B. 421 Telefax: GTE Budapest Telex: 22-3192 Telephone: 324-415, 329-345</p>
<p>A MŰSZAKI ÉS TERMÉSZETTUDOMÁNYI EGYESÜLETEK SZÖVETSÉGÉNEK TAGJA</p>	<p>BUDAPEST 10. 09. 86.</p> <p>N.REF. V.REF.</p>
<p>Prof. Dr. Ivo Alfrevic Sveucilista u Zagrebu Fakultet Strojarsstva i Brodoradnje</p> <p>YU-41 000 Zagreb Dura Galođa 5.</p>	
<p>Dear Sir!</p>	
<p>According to a previous agreement of the organizing Committee of the Danube-Adria-Symposia we have the pleasure to announce that the next meeting of the Organizing Committee is scheduled for the 2nd October 1986 at 11 a.m. in the office of the Hungarian Society of Mechanical Engineers /Budapest, V. Kossuth Lajos tér 6-8./.</p>	
<p>We hope for Your kind participation.</p>	
<p>With the kindest regards Dr. Frigyes Thamm <i>Dr. Frigyes Thamm</i> /on behalf of the Organizing Committee/</p>	

Letter sent by F. Thamm



Danubia-Adria Committee in session: S. Curioni, A. Freddi, I. Alfrevič, S. Jecić

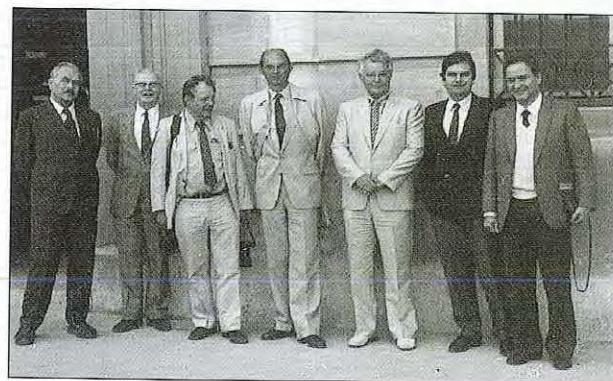


Opening of the third Danubia-Adria Symposium. Gentlemen sitting in the first row: A. Freddi, S. Curioni, I. Huszár, R. Beer

Scientific Committee



R. Flesch, S. Curioni, A. Freddi, F. Thamm, I. Alfrevič, S. Jecić, R. Beer, I. Huszár



I. Huszár, I. Thamm, R. Beer, S. Jecić, I. Alfrevič, R. Flesch, A. Freddi

THE FOURTH DANUBIA-ADRIA SYMPOSIUM

Plzeň, the Czech Republic, 1987



Plzeň (German: Pilsen, Polish: Pilzno) is the fourth most populous city in the Czech Republic, located 90 km southwest of Prague. Its population amounts to roughly 173,000. Plzeň is

the centre of academic, business and cultural life of western Bohemia. The University of West Bohemia (Západnočeská Universita v Plzni) was founded in 1991. The most prominent sights of Plzeň are Gothic St. Bartholomew's Cathedral, the Renaissance Town Hall and the Moorish Revival Great Synagogue, the third largest synagogue after that in Jerusalem and Budapest. Plzeň was first mentioned as a castle in 976.

Vaclav II, the King of Bohemia and Poland, granted Plzeň a free royal city status in 1295. The first Plzeň printing house was established in 1468. The city is world-known for its Pilsner Beer produced by the Citizens' Brewery (Plzeňský Prazdroj, Bürger Brauerei) established in 1839. The largest industrial enterprise in Austria-Hungary, Škoda Works (Škodovy závody), was founded in 1869.



Position of Plzeň on the map



Plzeň

The fourth Danubia-Adria Symposium was not preceded by a Spring Meeting. Although the Czechoslovak Society of Mechanics was not a member of the Danubia-Adria Committee,

the organization of the fourth Danubia-Adria Symposium was entrusted with that society by virtue of a special decision.

<p>Co-organized by: IMEKO — TC 15 — Experimental Mechanics Czechoslovak Society for Mechanics of CSAV, Prague, Group for Experimental Stress Analysis ŠKODA — Concern Enterprise Plzeň</p> <p>Organizing Committee: Doz. Dr.-Ing. R. Beer, Vienna, Austria Doc. Ing. S. Holý, CSc., Prague, Czechoslovakia Prof. Dr. Tech. DrSc., J. Huszár, Gődöllő, Hungary Prof. Dr. S. Jecič, Zagreb, Yugoslavia Prof. Dr. Ing. K. H. Laermann, Wuppertal, Fed. Rep. of Germany Prof. Dr. Ing. M. F. Tschinke, Palermo, Italy Ing. J. Visner, CSc., Pilsen, Czechoslovakia Dr. H. Wieringa, Delft, Holland</p> <p>Scientific Guarantor: Doc. Ing. J. Javornický, DrSc., ÚTAM, CSAV, Prague, Czechoslovakia, Chairman of the Organizing Committee</p>	<p>Scientific Programme:</p> <p>The aims of the Conference correspond to 6 scientific topics approved by General Council of IMEKO:</p> <ul style="list-style-type: none"> a) Automatic detecting, digitalization and processing of data measured. b) Automation of measurement of mechanical parameters and of other phenomena. c) Optical methods of Experimental Stress Analysis. d) Electric methods of Experimental Stress Analysis. e) Measurement on structures, particularly dynamic measurements. f) Special methods of measurement of deformations within of solids (roentgen tomography and others). <p>To above topics lectures were promised to be performed by prominent experts, e. g.:</p> <ul style="list-style-type: none"> prof. H. Aben — Soviet Union, prof. J. W. Dally — U. S. A., prof. K. H. Laermann — FRG, prof. P. S. Theocaris — Greece and others.
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Part of the Announcement of the first Conference of IMEKO TC-15 and the fourth Danubia-Adria Symposium

Part of the Announcement and the Proceedings of the International Conference on Measurement of Static and Dynamic Parameters of Structures and Materials, and of the fourth Danubia-Adria Symposium

