



EPR NEWSLETTER

Volume 12, Number 3

Page 1

2002

IES Medalists Announced for Year 2002

GOLD MEDAL:

Prof. Keith A. McLauchlan, Univ. of Oxford

SILVER MEDALS:

Silver Medal in Biology/Medicine:

Prof. Ohara Augusto, Univ. de São Paulo

Silver Medal in Instrumentation: Jointly to

Prof. George A. Rinard, Univ. of Denver

Richard W. Quine, Univ. of Denver

Silver Medal in Physics/Materials Science:

Prof. C. A. J. (Rob) Ammerlaan

Univ. of Amsterdam

Silver Medal in Chemistry:

Prof. Daniella Goldfarb

Weizmann Institute, Israel

YOUNG INVESTIGATOR:

Dr. Marina Bennati

J.W. Goethe Univ., Frankfurt.

Full citations for all of these award winners will appear in a future issue of the *EPR Newsletter*.

International EPR Society Incoming Officers 1 October 2002 to 30 September 2005

The following were nominated by the current Executive. As there were no other nominations, these are elected to serve as the Officers of the Society from 1 Oct 2002 to 30 September 2005.

President Yuri Tsvetkov,

Institute of Chemical Kinetics and Combustion,
Novosibirsk, Russia

Vice-Presidents

Americas Ron Mason, NIEHS/NIH, North Carolina, USA

Asia-Pacific Takeji Takui, Osaka City University, Japan

Europe Marina Brustolon, University of Padua, Italy

Treasurer Chris Felix, Medical College of Wisconsin, USA

Secretary Shirley Fairhurst, John Innes Research Centre, Norwich, UK

In Memoriam articles for Arnold Hoff, Martyn Symons and Aleksandr Prokhorov appear in this issue, pp. 6 - 7.

From the Editor— Dear colleagues,

This issue of the EPR Newsletter is appearing about three months later than we had planned. I am responsible for the delay, which was caused by a series of emergency back surgeries starting in the Spring

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- Web page: <http://ierc.scs.uiuc.edu/news.html>
- For additional information, see masthead, page 21.

FELLOWS OF THE INTERNATIONAL EPR(ESR) SOCIETY.

- | | |
|-------------------------------|---------------------------|
| ANATOLE ABRAGAM | • GEORGE FEHER |
| • BREBIS BLEANEY | • ERWIN HAHN |
| • CLYDE A. HUTCHISON, JR. | • JOAN H. VAN DER WAALS |
| • ALEKSANDR PROKHOROV (DECD.) | • SAMUEL I. WEISSMAN |
| • GEORGE FRAENKEL | • CHARLES P. SLICHTER |
| • KARL HAUSSER (DECD.) | • JOHN A. WEIL |
| • YURI MOLIN | • DAVID WHIFFEN |
| • CHARLES P. POOLE, JR. | • MELVIN P. KLEIN (DECD.) |
| • MARTYN C.R. SYMONS (DECD.) | • HANS CHRISTOPH WOLF |
| • ANDERS EHRENBERG | • NOBORU HIROTA |
| • AUGUST H. MAKI | • BRUCE R. MCGARVEY |
| • TENGIZ SANADZE | • JAMES R. BOLTON |

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and complicated by two extensive spinal infections. To my many friends in the EPR community who have called or written to express concern and wish me a speedy recovery, I thank you sincerely one and all! And I can report continual, if not speedy, progress toward recovery.

In my long stretches in hospital beds and in followup rehabilitation at home, I perforce learned more about infectious disease, eccentric immune systems, antibiotics, diagnostic radiology, and pain control than I ever wanted to. Almost certainly, I'm alive now only because of the research advances that have been made in many of these areas. But it quickly became clear that a lot more research is needed, and I am certain that modern advanced EPR techniques have an important role to play in such research. One aspect of all this was a revelation to me – the great value of gadolinium-based contrast agents in MRI scans in identifying and locating infections. I found this personally pleasing because my research colleague, Bob Clarkson, and I have been using EPR techniques to characterize, and hopefully lead to improving, Gd-based paramagnetic contrast agents for diagnostic radiology. It's one thing to understand in the abstract that your research may lead to some improvement in the human condition, but it's especially dramatic to experience such improvements personally.

During my long absence from the lab, our assistant editor, Becky Gallivan, collected and assembled notices and other material for this issue and drafted copy so as to make my task easy when I returned to the office. For this, I thank her warmly. A reminder: As announced in the previous issue, Prof. Graham Timmins, University of New Mexico, has agreed to be an Associate Editor of the Newsletter. Graham is a member of the faculty of Medicinal Chemistry and Toxicology, and his special research focus is in free radicals in biology. He holds a BSc and PhD in Biochemistry from the University of Leeds, UK. Please contact him with publishable items or ideas for the EPR Newsletter.

R. Linn Belford, Urbana

Letter from the President—

The 2002 Awards have been decided and the list of this year's winners may be found on the frontpage of this issue. I am sure you will all join me in congratulating them. It so happens that I shall have the pleasure of making all of the presentations during three conferences in July. The Silver Medals to Daniella Goldfarb and Rob Ammerlaan will be presented during the Ampere Congress in Poznan. The following week Keith McLauchlan will receive his Gold Medal during the Voevodsky Conference in Novosibirsk. Finally, the remaining medals – Silver Medals to Ohara Augusto [Biol/Med] and Richard Quine and George Rinard [joint winners of the Instrumentation Award] and the Young Investigator Award to Marina Bennati, will all be presented at the 25th International EPR Symposium in Denver. You will have noticed that for the first time three of our winners are women. Citations for all winners will appear in the final Newsletter for the year.

I want to thank all members of the Awards Committees for the work they have done this year and also to those members who had served previously but whose positions were taken over by new members this year. We have been trying to comply with the Constitution that requires a change of one ordinary member on each Silver Medal Committee every year. Further changes will be arranged by the incoming Executive in time for 2003 Awards.

It gives me much pleasure to welcome the incoming Officers of the Society, who will serve for three years from October 1st later this year, until the end of September 2005. They are:- Yuri Tsvetkov (President); Ron Mason, Takeji Takui and Marina Brustolon [Vice-Presidents]; Shirley Fairhurst (Secretary); and, Chris Felix (Treasurer, continuing). Short biographical details are given elsewhere in this Newsletter.

Before attending the Ampere Congress in Poznan next month, I shall spend a day in Norwich, UK, to work through Society business with the incoming Secretary, Shirley Fairhurst. Then, two weeks later in Novosibirsk, incoming President, Yuri Tsvetkov, and I will have the opportunity to discuss all aspects of the Society and its affairs. May I urge everyone to give the new Officers their full support and the best way to do that is to make sure that your dues are up-to-date! Dues letters are being sent out at the moment so if you have received yours and not paid already, I urge you to do so right away.

Becky Gallivan who has run the IES Office in Urbana for the past 12 years wishes to phase out her activities on behalf of the Society. To that end the database has already been copied and is being set up in Milwaukee under the direction of the Treasurer, Chris Felix. Details regarding the management of the IES Office are still being worked out; these will be outlined in the next EPR Newsletter.

We are working on a questionnaire survey that should be included with the next EPR Newsletter in order to gauge what members would like the Society to be doing in the future. Advice from the Presidents/Chairs of the three Affiliate Societies (Asia-Pacific EPR Society, Benelux Group and the Polish Group) will also be sought on this matter. The extent to which this arrangement should be formalised will be for the incoming Officers to consider.

On the financial side, I can report that the Society has reasonable funds in the bank and these will be enhanced once funds have been transferred from three of the Regional Treasurers. I expect to report in more detail at a General Meeting of the Society during the 25th EPR Symposium in Denver at the end of July. There are, however, far too many members behind in their dues payments. Regrettably we have no option but to remove from our membership those who have not paid since 1998 and who did not respond to reminders last year. This year we are giving those who have not paid since 1999 or 2000 the opportunity to catch up and to pay for three and two years respectively. Another matter concerns payments by Corporate Sponsors. Recently the Treasurer and I wrote to all of our Corporate Sponsors as some had fallen behind in payments for up to three years. We have continued to carry advertisements for them all but, of necessity, are reviewing the position at the moment. All but two of our Corporate Sponsors failed to respond to the last reminder sent from the Office at the end of 2000. Only recently did I recognise the seriousness of the situation and so the Treasurer and I decided we should jointly sign the letters this time. My hope is that when the present Officers hand over on 1st October, there will be somewhere between \$15,000 and \$20,000 US in the bank. We will urge the incoming Officers to keep in reserve a sum approximately equal to the projected expenditure for each year.

As this may be my last 'From the President' letter, I would also take this opportunity to thank my fellow Officers who have worked for the Society these past three years. Thanks are due to the three Vice-Presidents, Sandy Eaton, Hiro Ohya and Kev Salikhov, to the Secretary, Haim Levanon, and to Treasurer Chris

Felix for all the work they have done. They have coped with countless e-mails from me! And frequent reminders when they have not responded to messages! It would have been good to have met face-to-face once a year but that was not possible. I managed to meet with all but one of the Officers at least twice during my term as President. Informal meetings of some Officers took place in 2000 and 2001 during the EPR Symposium in Denver. Without email, it would have been impossible for the present Officers to have contributed to management of the Society. They do so as volunteers.

A special thank you is due to Becky Gallivan for the extent of her contribution, much of it 'out of hours' and well beyond the call of duty. She has provided the 'glue' that has kept the Society going and she will be missed. Linn Belford as Founding Editor of the EPR Newsletter, which began two years before the Society was launched, has done a sterling job as Editor. Many of you will know he was very ill about three months ago, suffering major complications following what should have been fairly routine back surgery. He deserves a well-earned break from running the Newsletter and we hope this will happen from the start of 2003. Negotiations are proceeding with a possible new Editor for the Newsletter and a decision should be reached by about the end of July.

I also want to acknowledge the financial support for travel to conferences from my own institution that has made it possible for me to attend several major conferences each year and to take responsibility for the majority of the Award Presentations. Julia Barnes, a secretary in our School, is thanked for preparing all of the awards certificates and citations since 1998.

Elsewhere are tributes to two fellows, Aleksandr Prokhorov and Martyn Symons, and to a highly respected senior colleague, Arnold Hoff, all of whom passed away in recent months. During my graduate student days at Oxford, I remember Brebis Bleaney bringing Professor Prokhorov into our lab for coffee, the year before he shared the Nobel Prize with Townes and Basov. Two years ago we had an email correspondence in which he said he regretted not visiting Australia, the land of his birth, which he left at the age of eight. Although Martyn Symons and I engaged in correspondence for about 20 years, I did not meet him until 1986. His intuition on many tricky points of EPR theory often took me completely by surprise. Professor Alan Carrington, who was Martyn's first Ph.D. student at Southampton University, wrote that "I owe a great deal to Martyn Symons, who taught me much, broadened my education, and above all, communicated his infectious enthusiasm for science". Although I got to know Arnold Hoff only during the last decade, I always enjoyed his company and appreciated his lectures. My last conversation with him occurred on the Kobe Underground last October as we travelled back from the Banquet during the 3rd Asia-Pacific EPR Society. He did not speak of his illness and I don't think any of us appreciated how ill he then was. Only this morning did I learn of the sudden and unexpected death of our esteemed colleague and Silver Medallist of the Society, Professor Larry Kevan. A full obituary will be prepared and published in the next EPR Newsletter.

Finally my thanks for all of the support you as fellow members have given us all during these past three years.

John Pilbrow

Prof. Seigo Yamauchi--

of Tohoku University, Japan upon presentation of his 2001 IES Silver Medal in Chemistry at the opening ceremony of the Third Asia-Pacific EPR/ESR Symposium in Kobe, Japan, October 28, 2001. See proceedings in "Conference Reports" section of this edition.



WELCOME TO THE INCOMING OFFICERS for IES

Prof. Yuri D. Tsvetkov Incoming President

Professor Yuri D. Tsvetkov, is Director of the Institute of Chemical Kinetics and Combustion, Novosibirsk, Head of the Laboratory of Chemistry and Physics of Free Radicals, and a Member of the Russian Academy of Sciences. After graduation from the Moscow Physico-Technical Institute in 1957, he worked at the Institute of Chemical Physics of the Academy of Sciences before moving to the Institute of Chemical Kinetics and Combustion in Novosibirsk, where he gained his Ph. D (1961) and D. Sci. (1971) from the Siberian Branch of the Academy of Sciences. From 1983-1992 he was General Scientific Secretary of the Siberian Branch of Russian Academy of Sciences. His research has concentrated on applications of EPR techniques to the structure and properties of free radicals in irradiated polymers, acids, amino acids, and peptides including the kinetics and mechanism of oxidation in irradiated polytetrafluoroethylene. Since 1966 Professor Tsvetkov has developed and applied electron spin echo (ESE) spectroscopy to study magnetic relaxation in spin systems; the spatial distribution of atoms, ions, and radicals in irradiated solids; the super slow motions of organic radicals in amorphous matrices; the kinetics mechanisms of various fast light-induced chemical reactions; the structure of paramagnetic centers and their environments; and dipolar spectroscopy using pulsed electron-electron double resonance. The author of several books and reviews and more than 280 research papers, he is a member of the editorial board of the Journal of Structure Chemistry, High Energy Chemistry, Applied Magnetic Resonance, and member of IES, ISMAR, AMPERE societies. In 1988 he won the USSR State Prize and in 1999 the Society's Silver Medal for Chemistry.

Dr Ron Mason Incoming Vice-President (Americas)

Dr. Mason received his doctoral degree in Chemistry from the University of Wisconsin-Madison in 1972. He then spent a period as a NIH post-doctoral fellow at Cornell University in Ithaca, New York, in the laboratory of Professor Jack Freed. In 1978, he joined the National Institute of Environmental Health Sciences (NIEHS), where he is now Head of the Free Radical Section in the Laboratory of Pharmacology and Chemistry. His *curriculum vitae* includes nearly 300 peer-reviewed papers (including over 60 in the *Journal of Biological Chemistry*) and about 90 reviews and book chapters. Dr. Mason's unique contributions to mechanistic

toxicology and free radical biology have been widely recognized. Since coming to the NIEHS in 1978, he has been invited to present at over 80 international meetings, 30 national or regional meetings, and 100 departmental seminars. Dr. Mason has also served, or is serving, on the editorial boards of *Molecular Pharmacology*, *Archives of Biochemistry and Biophysics*, and *Free Radical Biology and Medicine*. For a number of years he was the Free Radicals Editor for *Chemico-Biological Interactions*. Dr. Mason's work on free radical metabolism was recognized by his selection as the 1996 recipient of the International ESR Society Silver Medal for Biology/Medicine. He is also the 1994 recipient of the Southern Chemist Award and Gold Medal given by the Southeast Region of the American Chemical Society.

Takeji Takui Incoming Vice President (Asia-Pacific)

Takeji Takui is Professor of Chemistry in the Departments of Chemistry and Molecular Materials Science, Graduate School of Science, Osaka City University. He was born in Japan in 1942. He graduated in chemistry with the degree Dr. Eng., from Osaka University under the supervision of Professors Noboru Mataga and Koich Itoh, with a thesis on a study of organic high-spin molecules and organic molecule-based magnetism, making his scientific debut as a pioneer in organic high-spin chemistry and the interdisciplinary field of organic magnetism. After postdoctoral appointments in Osaka University (1973-74) and UBC in Vancouver (1974-78), he joined Professor K. Itoh at Osaka City University in 1978. His major research interests fall into many



areas and categories of organic as well as inorganic chemistry including metalloporphyrin chemistry and molecular materials science, centering on the advancement of molecular spin science. His current research interests focus on the fundamental understanding of spin alignment in organic high-spin systems and the establishment of conceptual advances in molecule-based

magnetics. He is also involved in searching for novel quantum phenomena derived from pluri-anionic high-spin C_{60} fullerenes and novel magnetic systems such as micro-structured ferromagnetic thin films with superlattices on a semi-microscopic scale and for molecular functionalities termed "Molecular Spinics".

Marina Brustolon Incoming Vice-President (Europe)

Professor Marina Brustolon has been a full professor in Physical Chemistry, Department of Physical Chemistry, University of Padova, since 1987. Her research has included the investigations of: radical pairs in solution studied with cw EPR; ENDOR on radicals produced in single crystals by high energy irradiation, especially inclusion compounds with attention to their dynamical behaviour; quasi-



crystal-like ENDOR in disordered systems; amplitude ENDOR spectroscopy applied to the study of methyl group rotation in solids; pulsed EPR techniques applied mainly to intra- and intermolecular dynamics of radicals in solids; radical anions of fullerene derivatives in solution studied with pulsed techniques; photoexcited polarized triplets studied with time resolved EPR and pulsed EPR. Her publication list consists of 70 original papers. Her teaching focusses on Physical Chemistry for students in Materials Science. In 1986 she promoted a scientific interdisciplinary association gathering all the ESR spectroscopists in Italy, the ESR Group GIRSE, and later, in 1991, the European Federation of EPR groups, of which she was President from 1994-2000. Earlier in her career she spent a year in Sheffield, UK, working with N.M. Atherton. An invited professor for three months in 1997 at Linköping Univ., Sweden, and at Ecole Normale Supérieure, Paris, France in 1998, Professor Brustolon has also been an invited speaker and on the scientific committees for many international meetings in Europe. She was director of the European Summer School on "Advanced Methods in ESR" held in Caorle, Italy, in 1999.

Dr. Chris Felix Continuing Treasurer

Dr. Felix received a bachelor's degree in chemistry from the University of Minnesota and obtained his Ph.D. in 1975 from Washington University in St. Louis under the direction of Professor Sam Weissman, studying intersystems in photo excited organic triplets. Dr. Felix was a postdoctoral fellow in the laboratory of Professor John Garst in the Department of Chemistry at the University of Georgia working in the area of chemically-induced dynamic nuclear polarization. Dr. Felix then joined the National Biomedical EPR Center at the Medical College of Wisconsin where he is now the Scientific Administrator in the Biophysics Research Institute. Dr Felix has been Treasurer of the Society since October 1999. He has generously agreed to serve a second term. Dr Felix has been responsible for setting up the credit card payment facility for dues payments, for handling dues payments and, more recently, he has begun setting up the Society's database at the Medical College of Wisconsin to avoid the double handling of member payment data that had occurred previously.



Dr. Shirley A. Fairhurst Incoming Secretary

Dr. Shirley Fairhurst graduated from Liverpool University with a B.Sc. (Hons) in Physical Chemistry and a Ph.D. supervised by Professor Les Sutcliffe (Chemistry Department) and Robert Connelly (Anatomy Department) for free radical studies using EPR spectroscopy. She then spent two years in Ottawa, at the National Research Council of Canada with John Morton and Keith Preston



where she investigated single crystal transition metal carbonyls using EPR. On returning to the UK Shirley joined BP Research, at Sunbury on Thames, as Senior EPR Spectroscopist in the Magnetic Resonance Laboratory led by Ken Packer. She then joined the Nitrogen Fixation Laboratory in Brighton in 1993 and relocated when the whole laboratory moved to join the John Innes Centre in Norwich in 1995. Dr Fairhurst uses magnetic resonance spectroscopy (EPR, ENDOR and solution-state NMR) to investigate the structure and function of a wide variety of proteins and enzymes and their chemical models. Recent topics include: nucleotide binding to nitrogenase, studies of metal centres at catalytic sites in proteins: nitrate and nitrite reductases, hydrogenase, oxalate oxidase and lipoxygenase, spin labelling and spin trapping.

2001 Zavoisky Award Presentation to Professor Keith A. McLauchlan.--

The 2001 Zavoisky Award in Electron Paramagnetic Resonance Spectroscopy was awarded to Professor Keith A. McLauchlan, Oxford, UK, in a ceremony marking his outstanding contribution to the investigation of short-lived free radicals after their formation in a laser flash.

The ceremony was preceded by the Eleventh Annual Workshop "Modern Development of Magnetic Resonance", 1-3 October 2001. [See Conference Reports for program of the Workshop].

In the evening of October 2, a reception for Professor K. A. McLauchlan by the Prime Minister of the Republic of Tatarstan, R. Minnikhanov, took place.

On October 3, 2001 the Zavoisky Award was presented in Kazan, the capital city of the Republic of Tatarstan. It was there that academician E. K. Zavoisky discovered EPR in 1944. The Zavoisky Award consists of a Diploma, a Medal and one thousand US dollars.

The Zavoisky Award was established by the Zavoisky Physical-Technical Institute of the Russian Academy of Sciences with support from the Kazan State University, the Springer-Verlag Publishing House, the Republic of Tatarstan, the Tatarstan Academy of Sciences, the AMPERE Society and the International EPR Society. The Award Selection Committee consisted of well-known experts in EPR: Professors B. Bleaney (Oxford), G. Feher (La Jolla), K. Möbius (Berlin), A. Schweiger (Zurich), Yu. D. Tsvetkov (Novosibirsk), and the Chairman, K. M. Salikhov (Kazan). The selection of the Awardee was made after consultations with the Advisory Award Committee which consists of C. A. Hutchison Jr. (Chicago) and Yu. N. Molin (Novosibirsk).

Previous winners of the Zavoisky Award were: W. B. Mims (1991), B. Bleaney (1992), A. Schweiger (1993), J. R. Norris, and Ya. S. Lebedev and K. Möbius (1994), J. S. Hyde (1995), G. Feher (1996), K. A. Valiev (1997), J. H. Freed (1998), J. H. van der Waals (1999), and H. M. McConnell (2000). The selection of Professor Keith A. McLauchlan was made from many nominations solicited from international experts in EPR.

The Award Ceremony starting in the afternoon of October 3 was attended by about 200 people, among them were the scientists who had participated in the preceding Workshop.

The ceremony was chaired by Professor K. M. Salikhov. He, as the Chairman of the Award Committee, announced the decision of the Zavoisky Award Committee. The presentation was made by the Deputy Prime Minister of the Republic of Tatarstan Z. R. Valeeva. The Vice-Rector of the Kazan State University Professor N. K. Zamov, the Chairman of the Presidium of the Kazan Scientific Center of the Russian Academy of Sciences, Professor A. I. Konovalov, and the Principal Scientific Secretary of the Tatarstan Academy of Sciences, Professor I. B. Khaibullin warmly congratulated the laureate. Letters of congratulations from Professor A. A. Boyarchuk, Academician-Secretary of the Department of General Physics and Astronomy of the Russian Academy of Sciences, Professor H. W. Spiess, President of the AMPERE Society, Professor J. R. Pilbrow, President of the International EPR Society, Professor M. Mehring, Vice-President of ISMAR, and N. E. Zavoiskaya, daughter of E. K. Zavoisky, were handed to Professor Keith A. McLauchlan.

K. A. McLauchlan gave his Zavoisky Award lecture in which he discussed problems of flash photolysis electron paramagnetic resonance. A concert by a string quartet preceded and followed the ceremony. The event was concluded with a Banquet in honor of Professor K. A. McLauchlan and his outstanding contributions to EPR. During a stay in Kazan the laureate visited the museum of history of the Kazan State University, the places of historical and cultural interest in Kazan, and an agricultural firm "Maiski".

The Organizing Committee owes special thanks to the Ministry of Industry, Science and Technology of the Russian Federation, the Russian Fund for Basic Research, the NIOKR Fund of the Republic of Tatarstan, and Administration of Kazan.

A message from Kev Salikhov, Editor-in-Chief of Applied Magnetic Resonance

We have realized our plans for 2001. We have published two volumes 20 and 21, four issues each. We prepared a special issue dedicated to the 10th anniversary of AMR and a special issue "Magnetic Resonance in Russia". Prof. K. Möbius prepared a special issue on high-field and high-frequency electron paramagnetic resonance.

The impact factor of AMR in 2000 is 0.776. Its value for 2001 will be known in Autumn 2002. Of course, an important question is to increase subscription.

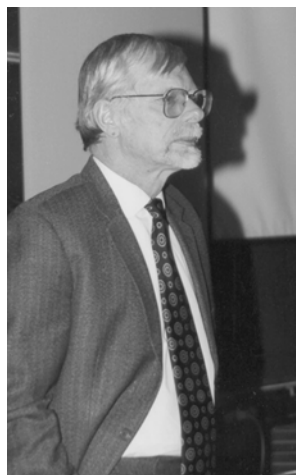
I am glad to remind you that Springer offers a special subscription rate for the members of the EPR(ESR) Society, AMPERE Society and ISMAR. It is US \$ 166.00 plus US \$ 58.00 postage. This means a discount of 85%. Orders have to be sent directly to Springer-Verlag Wien, Editorial Department, Sachsenplatz 4-6, A-1200 Wien, Austria (FAX; +43 1 330 24 46 65 or e-mail: silvia.schilgerius@springer.at).

Our plans for 2002 are as follows. We will have two volumes, 22 and 23, four issues each. 20/1 2002 is a regular paper issue, 20/2 2002 is a special issue "NMR Imaging beyond Medical Tomography" prepared by Prof. B. Bluemich. We plan several other special issues as well.

Sincerely yours,
Kev M. Salikhov.
Editor-in-Chief

IN MEMORIAM**Arnold Hoff**

Arnold Jan Hoff passed away on 22 April 2002 at the age of 62. Until the very last days he chose to ignore the fatal cancer he was suffering from and continued to work with all available energy. After his study in physics Arnold graduated with Johan Blok at the Free University in Amsterdam in 1969. In 1971 Arnold was introduced to the biophysics of photosynthetic reaction centers as a post-doc in George Feher's group at University of California in San



Diego. Fully aware of the great potential of his specialization, magnetic resonance techniques, in the field of photosynthesis research, in 1974 Arnold joined Lou Duysens (Biophysics Laboratory at Leiden University), which at that time used mainly optical techniques. In 1985 he was appointed full professor in Biophysics.

The impact of Arnold's efforts for the development and application of magnetic resonance techniques for the study of primary reactions in photosynthesis is hard to overestimate. With his team of graduate students and post-docs he worked on electron spin polarization phenomena studied with cw and time-resolved EPR and ESE. Around 1982 he developed the technique of ADMR, an ODMR technique especially suited for photosynthetic samples. In recent years his attention turned to isotopically labeled reaction centers which were studied by NMR and EPR. Also, with his Russian collaborators he worked on improving and re-evaluating magneto-photosynthesis and applied it to radical-pair spin polarization. His future plans were the study of reaction centers with site directed spin labeling and developing the technique of CD-ADMR, but this was not to be. Arnold published more than 250 articles and 19 students graduated with him.

One of the things he loved most was to travel and to meet new people and to make new friends. He must have visited hundreds of symposia and congresses. Visitors to his office will remember the large collection of photographs on the wall of friends from all around the world. His joy for travel also led to a special relation with scientists in the field of EPR and photosynthesis from Russia. Since 1992 he was director of the Dutch-Russian Research Collaboration Network. In 1999 he was awarded the Voevodsky Gold Medal of the Russian Academy of Sciences. He was also the chairman of the highly successful ESF program: Biophysics of Photosynthesis, that, in his own words, forged a network of cordial links between a great number of groups in practically all European countries. At Leiden University he was the initiator of BIOSPEC, a collaboration between physics, chemistry and biology, which led to the foundation of the research school BIOMAC.

This department and the biophysics community have lost a strong leader. We feel deep compassion for Zina and his children, who have lost much more.
Peter Gast, Leiden

A. M. Prokhorov

Professor Aleksandr M. Prokhorov, a world-renowned and prominent physicist, one of the founders of quantum electronics passed away on 8 January, 2002. He lived a bright and exceptionally dynamic life, and worked actively for science until his last days.

A. M. Prokhorov was born on 11 July, 1916 in Atherton, Queensland, Australia in the family of a Russian revolutionary worker who was forced to emigrate from Russia in order to escape from persecution by the Russian Czarist regime. The Prokhorov family returned to Russia in 1923. He graduated in 1939 from the Leningrad State University and joined the Lebedev Physical Institute, the USSR Academy of Sciences, Moscow as a postgraduate student.

His scientific career was interrupted by the Second World War in which he participated from 1941-1944, and was wounded twice. After demobilization from the Army he continued his research at the Lebedev Institute in the field of radioelectronics. He received PhD degree in 1945 and D. Sci degree in 1951, both from the Lebedev Institute, for his pioneering work on frequency stabilization of vacuum-tube oscillators and on coherent microwave radiation emitted by electrons in a synchrotron-type accelerator.

His subsequent scientific activity, covering more than over half a century, was devoted to the creation and development of quantum electronics and its various scientific and practical applications. His interest in this field was initially stimulated by his research work in the field of microwave spectroscopy of gases (1952) and EPR spectroscopy of solids (1953-1958).

Studies of microwave spectra of gases (molecular beams) led him and his collaborator Nikolai Basov to the idea of using stimulated emission of atoms and molecules for amplification and generation of electromagnetic radiation. They formulated and theoretically substantiated this new principle of amplification and generation, and proposed the most effective method of population inversion of quantum states, the so-called electromagnetic pump method. Prokhorov also proposed a new type of electromagnetic resonator, called the open resonator.

These ideas of Prokhorov and Basov, as well as those proposed independently by Charles Townes and his coworkers in the USA, were a basis for creation of masers and lasers, and the foundation of quantum electronics.

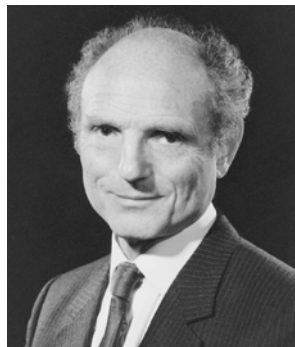
A. M. Prokhorov contributed to further outstanding developments of quantum electronics and the closely linked fields of modern optics and physics including nonlinear optics, fibre optics, physics of high-power laser-matter interaction, and many practical applications of masers and lasers. The latter involved proposals for, and studies of, the new most effective materials for masers and lasers, new types of gas and solid-state lasers, discovery of new effects in light propagation in nonlinear bulk media and fibres.

Prof. Prokhorov significantly contributed to electronic paramagnetic resonance spectroscopy and to studies of relaxation processes in crystals, pioneering studies of EPR spectra of various crystals and the discovery of new types of spin-lattice and spin-

spin relaxation processes.

He paid considerable attention to the organization of scientific research in Russia and international collaboration. He was the Head of the General Physics and Astronomy Division of the USSR Academy of Sciences for twenty years, was the founder and first director of the General Physics Institute of RAS. These activities were highly appreciated by both national and international scientific communities. He was an honorary fellow of numerous societies, including the International EPR Society, winner of many awards, including, especially, the Nobel Prize in Physics together with N. G. Basov and C. H. Townes, for his contributions to the foundation of quantum electronics. He always took special pride in the Medal "For Courage" awarded to him for the courage displayed during the Second World War against fascism. The name of Aleksandr Mikhailovich Prokhorov, a great scientist, will be remembered for a long time to come.

Martyn Christian Raymond Symons FRS



Martyn Symons was born in 1925 in (Suffolk) England. He had spent most of professional life as an inorganic physical chemist at the University of Leicester, U.K., where he became an internationally recognized authority in spectroscopy and in radiation damage and solvation processes. Professor Symons was a leading expert in EPR spectroscopy and his principal areas of interest include the roles of free radicals in biological and chemical systems. He had also published work on the structure of water.

Professor Symons was a Fellow of the Royal Society, and was honored by doctorate degrees from a number of universities. He had published more than one thousand five hundred papers (a feat unsurpassed by anyone in the history of scientific publishing) and five books and numerous review articles. His 1967 book, co-authored with his well-known graduate student Peter Atkins, is a classic - still much used.

Professor Symons was known to possess an enviable comprehensive and encyclopedic memory, and was much sought after by his colleagues for consultation. He had been extraordinarily kind to his students and coworkers who came to him from almost every corner of the world. He had guided no less than 100 research scholars (Ph. D.s and post-docs), quite a large fraction of whom are shining either in the academics or in industry across the globe.

In addition to his achievements in the physical sciences, Martyn was an accomplished water-colorist, and had held several international exhibits of his paintings. He was a gifted classical pianist too.

Martyn was not only a great scientist, but also had positively influenced several generations of research scholars. Martyn passed away on January 28, 2002. In his untimely demise, the International EPR Society lost a highly honored Fellow, and the entire EPR community and his associates lost a dear friend.

May his soul rest in peace.

Prof. Sankaran Subramanian
National Institutes of Health
Bethesda, MD 20892, USA

MARTYN SYMONS - An Appreciation

Martyn Symons has now become a figure in the annals and history of EPR spectroscopy. He will be remembered for his very many contributions in wide areas within that field, and especially in the context of free-radical species, and quantum-mechanical insightful interpretations. His notable text "The Structure of Inorganic Radicals" (1967), written in conjunction with his graduate student Peter Atkins, has been widely used, and should really have been reworked into a new edition. What may not be widely appreciated is the breadth of Martyn's skills and interests. Perhaps an especially fine example is the set of three Whelen lectures he delivered at the University of Saskatchewan in March of 1997. They were entitled "Flint - a Vital Stone-Age Tool - Radiation Damage as a Measure of Age", "Water - Its Structure and How it Solvates: Unique but not Anomalous", and "Why I Paint with Watercolours" [Links with his famous grandfather, British painter William Christian Symons and with his Uncle, Robert David Symons: noted Author, Ornithologist, Western Canadian Rancher and Painter. Martyn's lectures beautifully tied together his scientific and artistic focus on water. He was a fine water-colourist. The Whelen lectures are available on video-tape, from the U of SK]. Martyn will not be easily forgotten. He was a vivid and sometimes controversial personality, and he was a dear friend to me.

John A. Weil
University of Saskatchewan

IES Awards Nominations —

annual deadline is 15th November

Members should consider making nominations for IES awards. Confidential nominations for all awards are to be sent directly to the President-elect, International EPR Society, Prof. Yu.D. Tsvetkov, Institute of Chemical Kinetics and Combustion, Russian Academy of Sciences, Siberian Branch, Novosibirsk-90, 630090, Russia. The deadline for receiving nominations is November 15. Nominations arriving too late for current consideration may be held over for consideration in the following year. Nominations must include a draft citation of about 150 words highlighting the achievements of the nominee. If the nominee is selected to receive an award, a final version of the citation will be read at the award ceremony and printed in the *EPR Newsletter*. Send nominations in an envelope marked "Confidential: to be opened by addressee only." Alternatively, send nominations and accompanying citations as either an e-mail text message or a PC-readable attachment in RTF format to the following e-mail address:

tsvetkov@kinetics.nsc.ru

Although awards are not strictly restricted to IES members,

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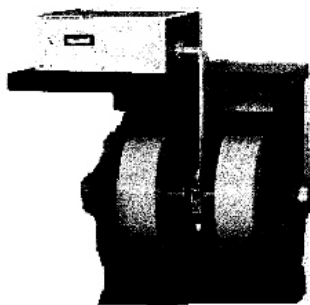
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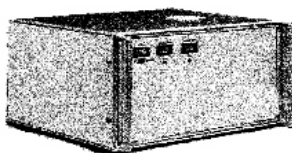
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the award committees may take membership into account when deciding on the award winners.

The *IES Gold Medal*, *Silver Medals*, *Young Investigator Award*, and *Fellows of the Society* are described in the EPR Newsletter, Vol. 11 #3, 2000, and on our Website.

EPR Newsletter – Associate Editor Sought

We are calling for expressions of interest from members interested in becoming an Associate Editor of the EPR Newsletter. We need someone who will proactively seek out and edit news items and column material that is both interesting and high quality and will assist in timely publication. To complement Associate Editor Graham Timmins, we would prefer someone whose research interests are complementary to his and who is not located in the US. Expressions of interest should be sent promptly to the President, Professor John Pilbrow, School of Physics and Materials Engineering, Box 27 Monash University, Victoria, Australia 3800. Please include information regarding prior experience in editing similar materials and any other data considered relevant.

NOTICES of MEETINGS

ATTENTION

NOTICES AND UPDATES ABOUT SOME MEETINGS ARE NOT PRINTED IN THIS COLUMN IF THE INFORMATION ARRIVES TOO LATE OR IF SPACE IS LIMITED. BUT SUCH MEETINGS MAY BE ANNOUNCED ON THE EPR NEWSLETTER WEB SITE WITH LINKS TO DETAILED CONFERENCE INFORMATION WHERE POSSIBLE.

***CONTACT IERC@UIUC.EDU TO HAVE YOUR MEETING ADDED-
http://ierc.scs.uiuc.edu/news.html***

31ST WORLD CONGRESS on "Magnetic Resonance and Related Phenomena", 50TH Anniversary of the Groupement AMPERE, Poznań, Poland July 14-19, 2002 [NEW NOTICE]

The Ampere Group (Groupement AMPERE) was established in France, in 1952, with a view to providing different European Laboratories with exact information exchange and research coordination. The original motto (proposed by Prof. Ren  Freyman) for this new Society was, in fact, based on three ideas: "Se connaitre, S'entendre, S'entraider" (mutual knowledge, understanding and cooperation). Today the name and the traditions of the Groupement Ampere are a guarantee of high scientific standard of its organized activities.

It is widely known that the Group plays quite a relevant role in keeping efficient exchange of scientific ideas and human resources between western and eastern countries. The Congress will be held in Poznań, Poland, on July 14-19, 2002. The organizing committee cordially invites you to participate in this Congress.

The aim of the conference is to provide an international forum for physicists, chemists, biologists and material scientists working in the fields of NMR, EPR and NQR.

ON SCOPE OF THE CONGRESS:

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- Theory of Magnetic Resonances
- Experimental Methods/New Techniques/NMR and EPR
- Liquid Crystals and Polymers

For more information web page: <http://ampere.amu.edu.pl>

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25th INTERNATIONAL EPR SYMPOSIUM at the 44th ROCKY MOUNTAIN CONFERENCE on ANALYTICAL CHEMISTRY, Denver, Colorado, July 28-August 1, 2002. [REVISED NOTICE]

The 25th International EPR Symposium will be held July 28 August 1, 2002, in Denver, at the Hyatt Regency Denver, in conjunction with the 44th annual Rocky Mountain Conference. About 150 people participate in the EPR Symposium each year, presenting over 100 papers. Approximately 1000 people attend the Rocky Mountain Conference, which also includes an NMR Symposium and instrument exhibit. The International EPR Symposium covers all aspects of EPR spectroscopy, and contributions in all areas are invited. This year we will be celebrating Jim Hyde's 70th birthday and the 25th anniversary of the EPR Symposium. Lectures and posters will be scheduled from Monday am (July 29th) through Thursday noon (August 1st). We invite you to participate in the EPR Symposium. The book of abstracts for the Rocky Mountain Conference will be prepared electronically (see <http://www.milestoneshows.com/rmcac> for instructions). We hope that you will be able to come to the 2002 EPR Symposium. As it becomes available, updated information on the conference, including the preliminary program, will be posted on our web page

<http://www.du.edu/~seaton/eprsym.html>

Sunday afternoon, July 28th, Bruker Instruments will sponsor a tutorial workshop on EPR of aqueous samples at the University of Denver, which will be followed by an open house at the University of Denver EPR labs. Supper will be provided by Bruker Instruments and transportation for each event will be provided to and from the Hyatt Regency. Details will be available at <http://www.du.edu/~seaton/workshop.html>. Please inform Dr. Arthur Heiss (ah@bruker.com or fax: 978-670-8851) if you will attend.

Contact for further information: Prof. Gareth and Sandra Eaton, Department of Chemistry and Biochemistry, University of Denver, 80208 USA, 303-871-3102, seaton@du.edu.

The 32nd SOUTHEASTERN MAGNETIC RESONANCE CONFERENCE and SYMPOSIUM HONORING EDWARD O. STEJSKAL, Research Triangle Park, NC, USA, Oct. 24 through Oct. 27, 2002. [NEW NOTICE]

The 32nd Southeastern Magnetic Resonance Conference and Symposium honoring Edward O. Stejskal will be held at the Sheraton Imperial Hotel and Conference Center in Research Triangle Park, NC, Oct. 24 through Oct. 27, 2002.

The SEMRC provides an ideal opportunity for scientists in all areas of magnetic resonance to come together and share new applications and technique developments. This year's meeting will be particularly special, as we will gather to honor the many significant contributions that Edward O. Stejskal has made to the science of magnetic resonance.

To register and for further details about the conference and symposium go to:

<http://www.ncsu.edu/chemistry/semrc/index.html> or contact the conference and symposium co-chairs:

Alex I. Smirnov Alex_Smirnov@ncsu.edu

Tatyana I. Smirnova Tatyana_Smirnova@ncsu.edu

Jeffery L. White Jeff_L_White@ncsu.edu

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EU SCHOOL "MODERN EPR SPECTROSCOPY, METHODOLOGY AND APPLICATIONS IN PHYSICS, CHEMISTRY AND BIOLOGY", Retie, Belgium, December 1-7, 2002. [NEW NOTICE]

The school intends to disseminate modern EPR methodology to the scientific community through its young researchers. It will expose young scientists to the newest methodological and instrumental developments in EPR spectroscopy along with novel research applications, and it will give them the theoretical tools that are essential for the comprehension of the various techniques. The school is intended for graduate students and post-doctoral fellows with some background in EPR spectroscopy, equivalent to that acquired during the first year of Ph.D studies. The final circular is on the web

(<http://www.weizmann.ac.il/conferences/EUEPR/>).

Now it includes all the registration details.

Organizing committee:

D. Goldfarb, Co-ordinator, Weizmann Institute of Science, Israel

K. Möbius, Free University, Berlin, Germany

E. J. J Groenen, Leiden University, The Netherlands

E. Goovaerts, University of Antwerp, Belgium

5th MEETING OF THE EUROPEAN FEDERATION OF EPR GROUPS (EFEPR), Lisbon, Portugal, September 7-11, 2003. [NEW NOTICE]

The fifth meeting of the European Federation of EPR groups will be held in Lisbon, Portugal, from Sunday, 7 September to Thursday 11 September 2003. The location will be the Conference

Centre of Instituto Superior Técnico, a school of the Technical University of Lisbon.

This meeting will provide a forum for scientists engaged in EPR spectroscopy to present and discuss recent results and developments. The scope of the meeting will cover all aspects of EPR spectroscopy, including applications in the fields of physics, chemistry, materials, biology and medicine, new techniques, instrumentation developments and theory.

The official language of the conference will be English.

Key dates:

Pre-registration by 7 July, 2002.

Abstracts received by 7 June, 2003.

Hotel reservations - late 2002 or early 2003.

More information and the pre-registration form are available in the web page of the meeting:

<http://dequim.ist.utl.pt/EFEPR>

Organizing Committee: Bernardo Herold and João Paulo Telo, Instituto Superior Técnico, Portugal.

Scientific Committee: Daniella Goldfarb, Weizmann Institute of Science, Chair; Thomas Prisner, University of Frankfurt; Carlo Corvaja, University of Padova; João Paulo Telo, Instituto Superior Técnico.

Correspondence to:

João Paulo Telo, 5th Meeting of EFEPR

Dep. de Química, Instituto Superior Técnico

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CONFERENCE REPORTS

2001 Zavoisky Award Presentations/Proceedings "11th Annual Workshop "Modern Development of Magnetic Resonance"

The 2001 Zavoisky Award in Electron Paramagnetic Resonance Spectroscopy was awarded to Professor Keith A. McLauchlan Oxford in a ceremony marking his outstanding contribution to the investigation of short-lived free radicals after their formation in a laser flash.

The ceremony was preceded by the Eleventh Annual Workshop "Modern Development of Magnetic Resonance", 1-3 October 2001. The program of the Workshop was as follows:

M. M. Zaripov (Kazan Physical-Technical Institute, Kazan, Russia), "Magnetic Resonance in Kazan and S. A. Al'tshuler. Reminiscences"

Yu. V. Yablokov (Institute of Molecular Physics, Polish Academy of Sciences, Poznan, Poland), "Paramagnetic Resonance of Oxides. Crystals or Ceramic?"

A. M. Prokhorov, A. A. Manenkov (Institute of General Physics, Moscow, Russia), "Reminiscences about S. A. Al'tshuler"

V. A. Golenischev-Kutuzov (Kazan Physical-Technical Institute, Kazan, Russia), "The Main Discovery of S. A. Al'tshuler"

M. V. Eremin (Kazan State University, Kazan, Russia), "Crystal Field and Dzyaloshinsky-Moriya Interaction in $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_3$: an EPR Study"

K. A. McLauchlan (University of Oxford, Oxford, UK), "The Chemical Effects of Very Low Static and Time-Varying Magnetic Fields"



Scientists attending Satellite A of the 3rd Asia Pacific EPR/ESR Symposium, International Symposium on New Prospects of ESR Dosimetry and Dating, October 25 - 27, 2001, Sigma Hall, Osaka University-Toyonaka Campus, Osaka, Japan

M. P. Tseitlin, K. M. Salikhov (Kazan Physical-Technical Institute, Kazan, Russia), "EPR Imaging of Lossy Objects"

J. Forrer (ETH, Zurich, Switzerland), "From the First Down to the Present EPR Detection Systems: Investigations and Modern Applications"

G. Annino (Institute of Atomic and Molecular Physics, Pisa, Italy), "Development of an Effective Whispering Gallery Modes-Based EPR Probehead"

E. L. Vavilova, N. N. Garifyanov (Kazan Physical-Technical Institute, Kazan, Russia), "The High-Temperature Magnetic Anomalies in NaW_3O_3 Single Crystals at Low Sodium Content"

H. Stegmann (Institute of Organic Chemistry, Tübingen, Germany), "Molecular and Chiral Recognition by EMR"

S. A. Moiseev (Kazan Physical-Technical Institute, Kazan, Russia), "Principles of the Photon Echo for the Complete Reconstruction of the Quantum States of the Light"

C. Corvaja (University of Padua, Padua, Italy), "Spin Polarization of Stable Free Radicals by Singlet Oxygen"

R. M. Eremina (Kazan Physical-Technical Institute, Kazan, Russia), "Temperature Dependence of EPR Spectra of $\text{Cu}_{1-x}\text{Ni}_x\text{GeO}_3$ "

M. L. Falin, K. I. Gerasimov (Kazan Physical-Technical Institute, Kazan, Russia), A. V. Leushin (Kazan State University, Kazan, Russia), H. Bill (University of Geneva, Geneva, Switzerland), "EPR and Optical Spectroscopy of Yb^{3+} Ions in Fluorite-Type Crystals".

The Organizing Committee owes special thanks to the Ministry of Industry, Science and Technology of the Russian Federation, the Russian Fund for Basic Research, the NIOKR Fund of the Republic of Tatarstan, and Administration of Kazan.

Report on the Satellite A of the 3rd Asia Pacific EPR/ESR Symposium, International Symposium on New Prospects of ESR Dosimetry and Dating, October 25 - 27, 2001, Sigma Hall, Osaka University-Toyonaka Campus, Osaka, Japan

The world suddenly faced the tragedy in New York and Afghan war and anthrax. Our economic and social activities have shrunk generating further unemployment, which is exactly what the terrorists aimed for. It is not sufficient to defend the world against their attack. We must restore our usual life! Scientific activities aiming at the development of science for the benefit of people should not be disturbed by terrorist activities. We dare to

hold this symposium despite the difficulties of this time to discuss our scientific activities, renew our friendship and exchange our views. We sincerely hope that electron spin resonance (ESR) dosimetry of A-bomb radiation and of residents near nuclear facilities is never exploited on this occasion.

The ESR Applied Metrology Society founded soon after the 1st International Symposium on ESR Dating including Dosimetry organized the above symposium **2001-ESRDD-Osaka** from October 25 (Thur) to 27 (Sat) at Osaka University-Toyonaka before the 3rd Asia Pacific ESR/EPR Symposium as Satellite A. This meeting took place on the occasions of the 10th Anniversary of the Department of Earth and Space Science and 70th Anniversary of Osaka (Imperial). We are pleased to report that about 100 scientists (30 foreign scientists) from 16 countries participated in 2001 ESRDD-Osaka at this difficult time in the world.

The aim of this Satellite A was to bring together all active researchers at the start of new century and show new prospects and strategies for the 21st century by summarizing the progress of this field in 20th century. The meeting encouraged breakthroughs such as new methods, ideas and materials rather than mere applications of the ESR methods to radiation dosimetry and geological and archaeological dating.

The symposium started with the opening address requesting the Moment of Silence to those innocent people in the tragedy and all involved. The highlights of this symposium were:

- 1) Tokai JCO special session, Chernobyl accidents and A-bomb radiation dosimetry
ESR revealed the exposure dose of about 12 Gy to victims in JCO using ESR signal in their teeth.
- 2) Uses of ESR in nuclear waste depository in sediments and simulation of radioactive elements release.
- 3) ESR dating of icy bodies in the outer planet world; H₂O ice on Europe, SO₂ ice on Io etc.
- 4) Trace of irradiation in liquid water and environmental studies by the diamagnetic to paramagnetic (D-P) conversion of stable products as a breakthrough.
- 5) Scanning ESR imaging using a new JEOL cavity with an aperture and exhibition of a small ESR spectrometer with a permanent magnet of Nd-B-Fe alloy.
- 6) Food irradiation monitoring by UV-irradiation at low temperature (D-P Conversion).
- 7) Dating and assessment of geological fault materials
ESR evidence of heating by the intense current flow was discovered at the outcrop of the Nojima Fault indicating the cause of lightning and tornado clouds as electroatmospheric phenomena before the Kobe earthquake. Unusual animal behavior before earthquake retrospectively reported and also abundant in legends can be explained as caused by electromagnetic pulses.

Please look at <http://quartz.ess.sci.osaka-u.ac.jp> You can order the Proceedings published as a special issue of Advances in ESR Applications (ISSN 0918-6824) as a book and as a CD (expected price of about \$5 + postage etc=1000yen). The collected abstracts cost 500 yen and can be downloaded from the above web site by clicking "Abstracts" button.

ESR Applied metrology Society is in Quantum Geophysics Laboratory. M. Ikeya: Department of Earth and Space Science, Graduate School of Science, Osaka University, 1-1 Machikaneyama, Yoyonaka, Osaka 560-0043, Japan Fax +81-6-6850-5540 or +81-6-6850-5480 Phone +81-6850-5490

Third Asia-Pacific EPR/ESR Symposium, Kobe University, Kobe, Japan, October 28 through November 1, 2001

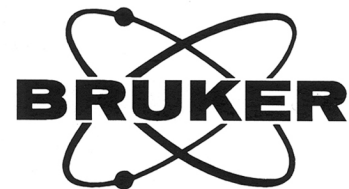
The 3rd Asia-Pacific EPR/ESR Symposium (APES'01) was held, under the auspices of the Asia-Pacific EPR/ESR Society (APES), at the Kobe University, Kobe, Japan, from October 28 through November 1, 2001. The Symposium was attended by 210 participants from 18 different countries, among whom 69 were from Asia-Pacific, Europe and North America, whereas 141 were from Japan. At the Opening Ceremony, Prof. Seigo Yamauchi was presented the 2001 IES Silver Medal in Chemistry by Prof. John R. Pilbrow, President of the International EPR/ESR Society.

The meeting featured the following plenary lectures: Prof. C. Rudowicz, Electron Magnetic Resonance (EMR) of the Spin $S \geq 1$ Systems: An Overview of Major Pitfalls Awaiting Unwary Spectroscopists; Prof. J. H. Freed, Modern ESR Methods in the Study of Proteins and Membranes; Prof. R. Grün, ESR Dating Applications in Archaeology and Earth Sciences; Prof. L. Kevan, Pulsed Electron Magnetic Resonance of Transition Metal Ions in Microporous and Mesoporous Oxide Materials; Prof. S. I. Kuroda, ESR and ENDOR Spectroscopy of Solitons and Polarons in Conjugated Polymer; Prof. N. Hirota, Time-resolved EPR-Studies of Excited States: Some old and some new stories; Prof. L. J. Berliner, Advances in the Spin Labeling Method; Prof. M. Oshikawa, Recent Developments in Low-Temperature ESR in Quantum Antiferromagnetic Chains; Prof. Z. L. Liu (Z. H. Chen, B. Zhou, H. H. Zhu, L. M. Wu, L. Yang), Kinetic EPR Study on Vitamin E Radical in Membranes; Prof. T. Yoshimura, In Vivo and Ex-Vivo EPR Spectroscopy and Imaging of Endogenously Synthesized Nitric Oxide under Physiological and Pathophysiological Conditions. A number of invited talks were also presented.

The interdisciplinary character of the EPR/ESR spectroscopy was reflected in the Scientific Programme, which following the tradition of the previous Symposia, consisted of the plenary sessions and several parallel sessions focusing on: (1) biology, life and medical sciences, (2) chemistry, earth (including geology and EPR dosimetry) and environmental sciences, (3) physics (including magnetism) and materials science, (4) new developments (including high frequency EPR) and cross-disciplinary areas. The refereed Proceedings containing the selected papers will be published by Elsevier Science as a Proceedings book with Profs A. Kawamori, H. Ohta, and J. Yamauchi as the Guest Editors.

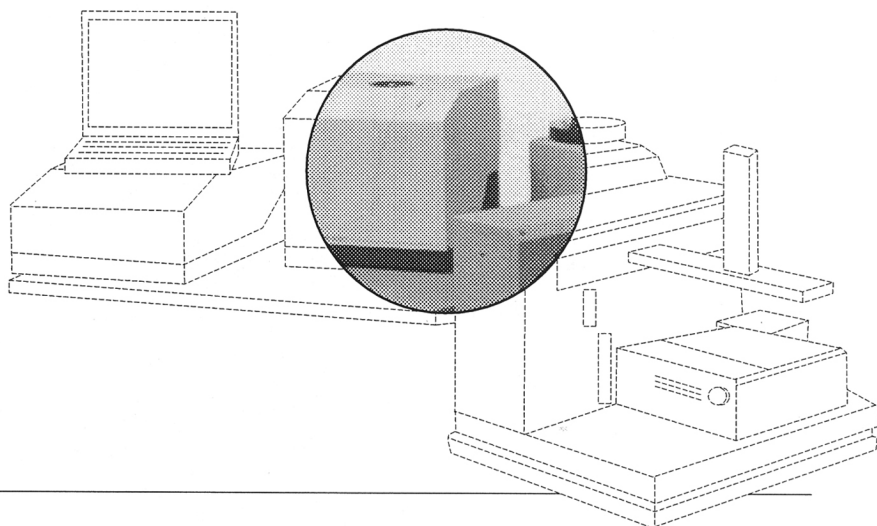
For the first time two Satellite Meetings: *Symposium A*: 2001 ESR Dosimetry and Dating and *Symposium B*: International Workshop on Advanced EPR Applied to Biosciences, have also been arranged. This is a very positive development, which shows that the idea of the APE Symposia is expanding and attracting other specialized areas of applications of EMR (encompassing EPR and ESR). Thanks are due to Prof. M. Ikeya and Prof. A. J. Hoff for their effort in organizing, in coordination with Prof. A. Kawamori, the Symposium A and B, respectively.

During the Symposium the 3rd Meeting of the Asia-Pacific EPR/ESR Society was held. We were privileged to have with us Prof. John R. Pilbrow, President of the International EPR/ESR Society, who delivered an Address to the participants of the Meeting. The 26 APES members were present. The new APES Council has been elected as follows: President: Prof. C. Rudowicz (Hong Kong); Vice-President: Prof. S. V. Bhat (India); Vice-



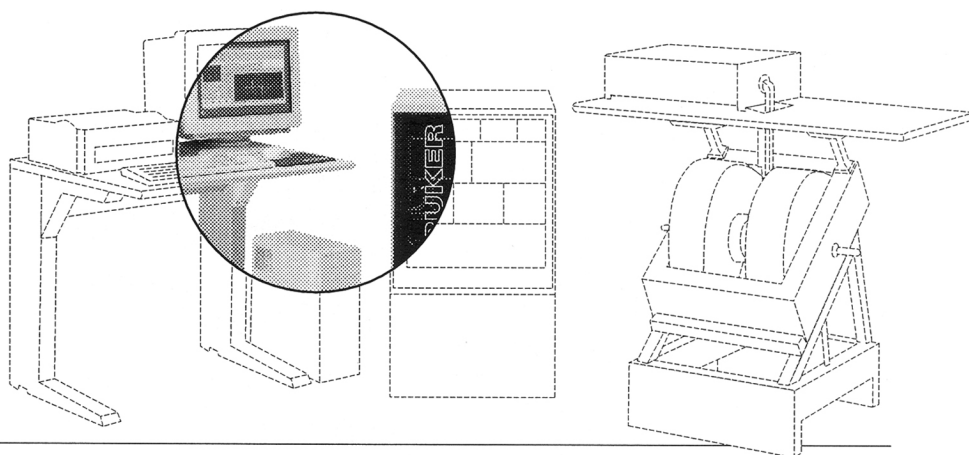
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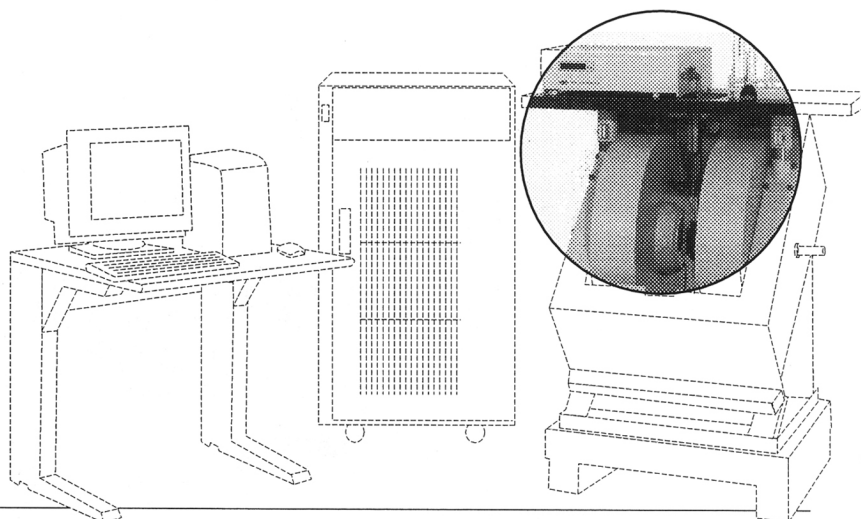
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It was decided at the APES Meeting that the fourth Symposium (APES'03) will be held at the Indian Institute of Science in Bangalore in November 2003, with Prof. S. V. Bhat as the Chairman of the Local Organising Committee (LOC) for APES'03. An International School on EPR/ESR Spectroscopy with tutorial sessions for students and researchers will be held at Bhabha Atomic Research Centre in Mumbai prior to the APES'03, with Prof. K.P. Mishra as the Chairman of the OC for the School. All materials related to the APES'01 as well as the APES Meeting will be available on the APES Web site at <http://www.ied.edu.hk/has/phys/apepr>. The tentative schedule (to be confirmed) of the future Asia-Pacific EPR/ESR Symposia is: APES'05 in Korea, APES'07 in Russia (Vladivostok), and APES'09 in Australia. Please visit the APES Web site for updated information on the Asia-Pacific EPR/ESR Symposia and the Society.

On behalf of the APES Council I would like to thank all hard working Members of the APES'01 Local Organising Committee for their dedicated effort as well as the sponsoring organisations who financially supported the Symposium. Under the skilful leadership of Prof. A. Kawamori and Prof. H. Ohta, the APES'01 has been a very successful Symposium. In appreciation of the commitment and hard work, Prof. A. Kawamori and each member of her team has been awarded the APES Distinguished Service Award, which were presented by the President of the Asia-Pacific EPR/ESR Society during the Symposium Banquet. Special thanks are due to Prof. A. Kawamori for her dedicated two-terms service as the Vice-President of the Asia-Pacific EPR/ESR Society. We all wish Prof. A. Kawamori an enjoyable and fruitful retirement.

Czeslaw Rudowicz, President

The Asia-Pacific EPR/ESR Society

Electron Paramagnetic Resonance Spectroscopy and Earth Science Research: EPR-ESR, Saskatoon, May 28th, 2002

A special session entitled "Electron Paramagnetic Resonance Spectroscopy and Earth Science Research: EPR-ESR" was held in Saskatoon on May 28th, 2002, as part of the Geological Association of Canada and Mineralogical Association of Canada Joint Annual Meeting. This special session, organized by Yuanming Pan and John A. Weil and sponsored by the Mineralogical Association of Canada, examined the applications of electron paramagnetic resonance (EPR) spectroscopy to a wide range of geologically important materials, ranging from minerals to melts/glasses, clays, coal, petroleum, groundwater, to archaeological artifacts and dating.

The oral program in the morning was opened with a special presentation by Jack Rink (School of Geography and Geology, McMaster U), who gave a detailed overview of the latest developments in the EPR optical dating of quartz, including applications to an archaeologically relevant sand unit at the site of Ubediya in Israel (i.e., the oldest archaeological site in the Middle East). Mark Nilges (Illinois EPR Research Center, UIUC) discussed the advantages of multi-frequency EPR in probing local structures at paramagnetic metal-ion and radical centres in polycrystalline materials, glasses, coals and clays, and demonstrated

an efficient and accurate method for calculating strain effects in EPR spectra. Yuanming Pan (Department of Geological Sciences, U of SK) used the detection and characterization of sub-ppm-level Gd and Mn centres in fluorapatite as examples to demonstrate the single-crystal W-band EPR technique as a powerful tool to probe the state and local structural environments of extremely dilute species in minerals. Ning Chen (Canadian Light Source, U of SK) compared the results of a single-crystal EPR spectral simulation and a second-order perturbation theory calculation for an EPR-observed ¹⁵⁷Gd hyperfine structure in fluorapatite, to demonstrate especially the major effects of non-nuclear spin-hamiltonian terms on hyperfine anisotropy and significant "coupling" between electronic quadrupole, hyperfine and nuclear quadrupole effects. Nick Lees (Department of Chemistry, Northwestern U) gave an overview of paramagnetic defect centres in zircon, some previously characterized by Russian EPR scientists, and presented a summary of numerous new results about the structures of both electron-excess and electron-deficient centres formed in irradiated zircon crystals, obtained at the University of Canterbury, New Zealand. John Weil (Department of Chemistry, U of SK) reported on a new X-band EPR study of a previously unknown aluminum oxygenic-hole centres in an alpha-quartz single crystal. Nick Lees presented a review of O-H defects in quartz, and reported on the characterization of a new hydrogenic lithium-containing defect centre closely related to the geologically important hydrogarnet defect in this mineral.

Participants of the EPR-ESR special session toured the U of SK EPR Laboratories at the Department of Chemistry in the afternoon. Several participants also took a tour of the Canadian Light Source (a new synchrotron research facility), currently being constructed on the U of SK campus. Further discussion on EPR, involving participants of both the EPR-ESR special session and other GAC-MAC sessions, was held at a poster on cathodoluminescence colors in quartz and their possible relationship(s) to structural defects (presented by A. Zhang, Department of Geological Sciences, U of SK). Discussion was continued over a succulent dinner at a local Chinese restaurant.

All participants of this special session expressed their satisfaction with this special session as a venue for promoting EPR as a powerful tool in Earth Sciences Research, and with the concomitant lively discussion and information transfer.

Yuanming Pan and John A. Weil, University of Saskatchewan, E-mail: John.Weil@usask.ca

POSITIONS AVAILABLE & WANTED

JUNIOR NMR SPECTROSCOPIST NEEDED--USAMRICD

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Contact: Dr. Carmen M. Arroyo, USAMRICD, 3100 Ricketts Point Rd, APG, MD 21010. ☎: 410-436-4454 or E-mail: carmen.arroyo@amedd.army.mil.

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The Nijmegen SON Research (NSR) center and the Research Institute for Materials (RIM) are research schools based at the University of Nijmegen, The Netherlands. The objective of the collaborating schools is to design and synthesize new functional materials and study their structure and properties. NMR plays an important role in this research. Within the Physical Chemistry department / HF-NMR facility there is an opening for a graduate student (4 years) or a Postdoc (2.5 years) to develop solid-state NMR using MICRO COILS at high magnetic fields. The position is supported by a grant from the Dutch Foundation for Fundamental Research on Matter (FOM) and Philips Research Laboratories. In this project, in collaboration with the Philips Research Labs and the MESA Institute of the University of Twente, high-frequency NMR detectors will be developed based on MICRO COILS (m scale). To optimize sensitivity, integration of rf-detection and pre-amplification is necessary. After implementation in regular NMR setups, it is aimed to apply these detectors at high magnetic fields up to 30 T, well beyond the strength of "conventional" NMR magnets. In this way a significant increase in the sensitivity and applicability should be obtained. Emphasis will be on the application of the detectors in materials science, e.g., in studying the molecular behavior of self-organizing nano-materials and the detection of quadrupolar nuclei in various functional materials.

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An enthusiastic researcher with a Master's or PhD degree in physics or physical chemistry, with a strong affinity for electronics development, who likes to work in an internationally oriented environment.

Further Information:

Contact Prof. Dr. A.P.M. Kentgens (e-mail arno@solidmr.kun.nl / phone +31-24-3652078). Written applications, including curriculum vitae, summary of research interest and experience, should be directed to:

Prof. Dr. A.P.M. Kentgens, Dept. of Physical Chemistry / solid-state NMR, NSR Center, Toernooiveld 1, 6525 ED Nijmegen, The Netherlands

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Interested individuals should contact Prof. Alex Smirnov or Prof. Tatyana Smirnova:

Prof. Alex I. Smirnov, Alex_Smirnov@ncsu.edu

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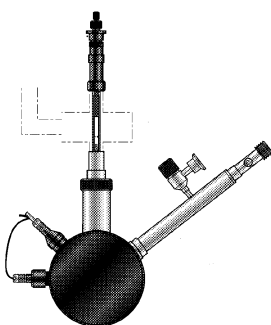
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Contact information:

Prof. Roman Eismont

6 Shafirovsky Avenue, St. Petersburg 195273 Russia.

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Dr. John Maher
Regional Treasurer, IES
School of Chemistry
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Bristol, BS8 1TS
UK

Make checks payable to: International EPR Society (IES) for the yearly rate of 20 UK£ = US\$30. Please enter your card/guarantee number. (NB Eurocheques are no longer valid, so cheques from outside the UK can no longer be accepted).

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Tohoku University
Institute for Multidisciplinary Research
Katahira 2-1-1, Aoba-ku
Sendai, 980-8577
JAPAN

The exchange rate for Yen has been fixed at 3,261 Yen = \$US30.

PAYMENT IN U.S. DOLLARS:

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(in US dollars only)

Send to:

Dr. Chris Felix, IES Treasurer
Medical College of Wisconsin
National Biomedical ESR Center
8701 Watertown Plank Road
Milwaukee, WI 53226
USA

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To Pay by Credit Card next page.

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Regional Treasurer, IES
Univ. Queensland
Center for Magnetic Resonance
St. Lucia, Queensland 4072
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Regional Treasurer, IES
Inst. Chem. Phys., Russian Acad. Sci.
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RUSSIA
OR
Dr. Michail Leonidovich Falin
Kazan Physical-Technical Institute
Sibirsky Tract 10/7
Kazan 420029
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Polish Academy of Science
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Smoluchowskiego 17/19
PL-60-683 Poznan
POLAND

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Indian Inst. Tech.
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600-036 Madras, INDIA

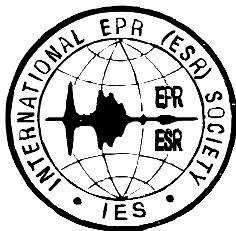
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Dr. David Japaridze
Tbilisi State Univ.
Dept. Physics
Chavchavadze Str. 3
380028 Tbilisi
REPUBLIC OF GEORGIA

VISIT the INTERNATIONAL EPR(ESR) SOCIETY WEB PAGE at:
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REGISTRATION/INFORMATION FORM FOR NEW/CONTINUING MEMBERS OF THE INTERNATIONAL EPR(ESR) SOCIETY

Please fill out this form and send with your dues (credit card payment preferred) and/or you may also use this form to update or correct the information in the IES database and return it to Dr. Chris Felix.

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Subscriptions are now due for 2002 and for any unpaid previous years of membership. You may if you wish also pay for 2003 — Check the list of dues paid on the Society's web page for your payment record. If you have paid dues and do not see your payment listed, please provide details of date and method of payment so our records can be checked.			
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☐ Full Member (Active in EPR/ESR/FMR)	US\$30	BIOMED POLAR COAL COMP CRYST DMR
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Send this information to: Dr. Chris Felix, Treasurer of the IES Medical College of Wisconsin, National Biomedical ESR Center 8701 Watertown Plank Road, Milwaukee, WI 53226 USA E-mail: cfelix@mcw.edu; FAX: 1-414-456-6512
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