EPR NEWSLETTE Volume 12, Number 4 Page 1 2002

Friends and Colleagues, tell us your e-mail addresses!

These New sletters are available to all members through the web. As soon as an issue goes to press, we post the access information in an e-mail to all members of IES. But many members have not given us their current correct e-mail addresses, so they get only a paper copy, many, many weeks later! To avoid this, please make sure you have paid your dues and check our listing of your e-mail address on the IES website, http://ierc.scs.uiuc.edu/IES-email.html. If your listing is missing or incorrect there, please send the correct information to Chris Felix, the IES treasurer, at cfelix@mcw.edu.

Letter From Prof. Yuri D. Tsvetkov, IES President

Dear Colleagues,

It appears that according to the Constitutional Executive



Committee decision. I have the privilege to serve as the President of the Society for the next three years. It is a high honour for me.

During the last three-year-period, the IES obtained a new modified Constitution, which precisely defines purposes and tasks of the IES and then, the rights and duties of members. communication with other

societies and organizations, and the activity of the society administrative board including the President. This somehow simplifies the work of the leaders of IES.

(President's Letter continued on page 6)

• Edi	tor: R.	Linn	Belford,	Urbana,	IL r	belford	@uiuc.edu
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- Assoc. Editor: Graham Timmins, <u>gtimmins@salud.unm.edu</u>
 Assistant Editor: Becky Gallivan, Urbana, IL, <u>ierc@uiuc.edu</u>
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- *Starting 1 January, 2003.
- For additional information, see masthead, page 21.

FELLOWS OF THE INTERNATIONAL EPR(ESR) SOCIETY

- Anatole_Abragam
- Brebis Bleaney
 Clyde A. Hutchison, Jr.
 Aleksandr Prokhorov(decd.)
- George Fraenkel
 Karl Hausser (decd.)
- Yuri Molin Charles P. Poole, Jr. Martyn C.R. Symons (decd.)
- Anders Ehrenberg
 August H. Maki
- Tengiz Sanadze James S. Hyde

- Erwin Hahn Joan H. van der Waals
- Samuel I. Weissman Charles P. Slichter
- •

George Feher

- John A. Weil David Whiffen Melvin P. Klein (decd.) Hans Christoph Wolf
- Noboru Hirota
- Bruce R. McGarvey
 James R. Bolton

Keith McLauchlan, IES Gold Medallist 2002

The 2002 IES Gold Medal is awarded to Professor Keith

McLauchlan for his pioneering work on flashphotolysis ESR in which he obtained the first highresolution spectra from very short-lived radicals, providing the means for their identification in solution. Simultaneously with Smaller's group in the USA, he developed a new technology in which the spectrum was accumulated from information obtained from a multitude of flashes which occurred as the magnetic field of the spectrometer was incremented, rather than from a single radical creation event.

(McLauchlan continued on page 2)

Letter From the Editor

Dear Colleagues,

2001 IES Gold Medal to **Prof. Keith McLauchlan** at the VIth Voevodsky Conference on 22nd July, 2002, Novosibirsk, Russia.

This is my last issue of the EPR Newsletter to edit. Starting in 2003, I will be passing on the duties to our colleague, Dr. Laila Mosina of Kazan, Russia. Sixteen years ago, when I started this effort, there was no vehicle like this newsletter to provide the international EPR community

(Letter From the Editor continued on page 6)

• This, the official newsletter of the International EPR(ESR) Society, is supported by the Society plus corporate and other donors including NCRR -NIH.

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McLauchlan, Gold Medallist (continued from page 1)-

This technique, called Chemically Induced Dynamic Electron. Polarization, or CIDEP, permits radicals to be observed shortly after their creation. He and his group have exploited this to investigate photophysics and photochemistry in solution and a wide range of kinetic processes including degenerate electron transfer, proton transfer and site exchange. Professor McLauchlan has also considered wider aspects of Spin Chemistry including the effects of extremely low static and radiofrequency magnetic fields on chemical and biological processes.

Keith McLauchlan is a Fellow of the Royal Society of London, a past winner of the Zavoisky Prize [2001], the Bruker Prize [1997] and the Silver Medal of the Society for Chemistry in 1994 and is a past President of the Society.

Professor Daniella Goldfarb wins 2002 IES Silver Medal defects with for Chemistrv

Since the early 1980's Professor Daniella Goldfarb has concentrated on the application and development of advanced pulsed EPR and ENDOR methodologies to obtain structural and dynamical information on oxides and porous materials, on the one hand, and metalloenzymes on the other. Her work covers: (i) construction of versatile X-band and W-band pulse EPR/ENDOR spectrometers for multi-



Silver Medal for Chemistry to Prof. Daniella Goldfarb on 16th July, 2002 at 31st Ampere **Congress**, Poznan

dimensional experiments to resolve more than 60 complex ENDOR and ESEEM spectra of in silicon species with containing overlapping EPR different spectra; (ii) impurities; (4) development of application of efficient simulation high frequency programs for E P R HYSCORE spectra for microwave S = 1/2 and any nuclear spin, I; (iii) applications of to resolve experiments for the detection of weakly coupled nitrogens in metalloenzymes; (iv) studies of Fesubstituted zeolites and use of ⁵⁷Fe ENDOR at

pulse and multi-

both X- and W-bands to characterize framework sites in zeolites; (v) use of W-band EPR and ENDOR to differentiate between and to characterize Mn(II) species in mesoporous systems. Professor Goldfarb is currently President of the European Federation of EPR Groups that is

dedicated to fostering international training of, and cooperation between, young EPR scientists. It is for these many outstanding contributions that she is being honoured with the 2002 Silver Medal for Chemistry of the International EPR (ESR) Society.

2002 IES Silver Medal (Physics/Materials Science) to Professor Dr. Cornelis A. J. Ammerlaan.

Professor Dr. Cornelis A. J.(Rob) Ammerlaan is being honoured by the International EPR (ESR) Society for outstanding research in applications of EPR and ENDOR spectroscopy for the characterisation of defects in semiconductors. This work falls into four main areas: (1) pioneering investigations of thermal oxygen-related donors in silicon, especially the determination of g- and hyperfinetensors for

different structures; (2) identification of defects in semiconductors doped with transition metal and rare-earth i o n s ; (3) identification of defect complexes a t frequencies as high as 140 GHz



Silver Medal for Physics/Materials Science to Prof. C. A. J [Rob] Ammerlaan on 19th July, 2002 at 31st Ampere Congress, Poznan

H Y S C O R E elaborate anisotropic spectra in semiconductors. From 1970 until his recent retirement, Professor Ammerlaan was Head of Semiconductor Research at the Van der Waals-Zeeman Institute of the University of Amsterdam. In addition over the years he also accepted responsibility as Chair and Organiser of several international conferences on defects in semiconductors and as a member of Steering and Advisory Committees for several international conferences on more general themes in semiconductor physics. He is the author or co-author of approximately 200 scientific publications and during his career he supervised more than 20 PhD theses, mainly involving EPR and ENDOR investigations.

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2002 IES Silver Medal (Biology/Medicine) to Professor Ohara Augusto

Professor Ohara Augusto of the Biochemistry Department at the Universidade de São Paulo, is being honoured with the Society's Silver Medal for Biology/Medicine for outstanding research focused on the Biochemistry of free radicals and oxidants, molecular toxicology, and the uses of EPR to detect and identify free



Silver Medal for Biology/Medicine to Prof. Ohara Augusto on 31st July, 2002 presented during the 25th International EPR Symposium, Denver

radicals under biological conditions. Of special significance is her initially controversial proposal, based on spin trapping, that peroxynitrite, formed by nitric oxide reacting with superoxide, spontaneously decomposed to hydroxyl radical and nitrogen dioxide. She and others, notably K. Ingold, have since confirmed that hypothesis. She is the author or co-author of more than 70 publications in highly prestigious, peer-reviewed scientific journals such as The Journal of Biological Chemistry, FEBS Letters, Free Radical Biology and Medicine Research, Archives of Biochemistry and Biophysics, Chemical Research in Toxicology and The Proceedings of the US National Academy of Science and seven book chapters. Following graduation with a PhD in Biochemistry from the Universidade de São Paulo, Professor Augusto carried out postdoctoral research at the University of California, Berkeley and the University of California, San Francisco. She is a Fellow of the Oxygen Society, a Member of the Brazilian Academy of Sciences and a member of the editorial board of Free Radical Biology and Medicine.

2002 IES Silver Medal for Instrumentation (Joint Award) to Professor George A. Rinard

Professor George A. Rinard has enriched EPR by applying his deep understanding of electromagnetic theory to create instrumentation that makes possible new experimental approaches, and to the prediction of signal levels and signal-to-noise ratio as a function of frequency. George Rinard's derivation and experimental confirmation

of the EPR signal as a function of coupling to resonators, and of signal-to-noise ratio as a function of microwave frequency, guides new directions in instrumentation and experimentation. His four-coil, air-core magnet design produces fields of the high homogeneity required for study of very narrow-line EPR signals, while providing access for animal studies. He has also developed a cryogenically coolable microwave limiter. His patented crossed-loop resonator concept has been implemented at 250 MHz, Lband, S-band, and X-band, making possible pulsed EPR and continuous wave dispersion EPR measurements that were



Silver Medal for Instrumentation - joint award to Professor George Rinard and Mr Richard Quine on 1st August, 2002 at the 25th International EPR Symposium, Denver

not previously feasible. His new treatment of signal-to-noise encourages development of lower-frequency EPR, and the magnet and resonator designs make it feasible.

2002 IES Silver Medal for Instrumentation (Joint Award) to Richard W. Quine

Mr. Richard W. Quine has enriched EPR with the design and construction of innovative pulsed and CW spectrometers and imaging systems. He designed very strong, linear magnetic field gradient systems for EPR imaging in the early development of the field. His patented programmable timing unit provides great flexibility in pulse sequences for spin echo and saturation recovery with 1 nanosecond resolution. The spectrometers he has designed at 250 MHz, L-band, S-band, C-band, and X-band incorporate multiple functions for the testing of new resonators and new experimental methodologies. Richard Quine has served the EPR community as a resource for the maintenance and upgrading of EPR spectrometers, and for example, he has provided more than forty interfaces for Division. He was responsible for the reference arm bridge computer control of magnetic fields in older spectrometers. marketed with E-line spectrometers from about 1964. In

2002 IES Young Investigator Award is presented to Dr. Marina Bennati

Dr. Marina Bennati has focussed on free radicals in metalloproteins, in particular recording the initial 140 GHz pulsed ENDOR spectra of tyrosine radicals (Tyr) in ribonucleotide reductase (RNR). At the high Zeeman field, the 140 GHz lineshapes are symmetric about the free ¹H frequency, and have been simulated in great detail to obtain very accurate hyperfine parameters and their orientations in the molecular frame. Dr Bennati has also studied time resolved, time domain



Young Investigator Award presented to Dr Marina Bennati on 30th July, 2002, during the 25th International EPR Symposium, Denver

well as exciting spectroscopy. Dr Bennati graduated PhD from the University of Stuttgart in 1995 for time resolved EPR on the photo-excited states of special donor-acceptor molecules. Since then she has held postdoctoral appointments at the University of Budapest, MIT and at the MIT/Harvard Center for Magnetic Resonance and the Francis Bitter Magnet Lab, MIT. In 2001 she moved to the Goethe University of Frankfurt.

Professor James S. Hyde is an IES Fellow for 2002

Professor James S. Hyde has long been recognised as one of the pace-setters in EPR Spectroscopy. A graduate of MIT where he earned his PhD in 1959, he then spent about 15 years at Varian most of it as Manager of the EPR

140 GHz EPR spectra of the E441Q mutant of RNR a n d demonstrated the presence of two additional radicals in the RNR mutant, the first of which was identified as a disulfide radical anion initially postulated to be on the reaction pathway in 1989. Time domain EPR techniques developed by Dr Bennati attenuate the very strong signals from the dominant Tyr

permitting observation of the weak disulfide signal. Thus, she has pioneered essential new biochemistry as



On the 30th of July, 2002, during the 25th International EPR Symposium, Denver, Professor James Hyde being inducted as a Fellow of the Society by IES President John Pilbrow.

1974 he and Hal Swartz established the National Biomedical ESR Center at the Medical College of Wisconsin in Milwaukee that quickly became a leading laboratory for innovative EPR spectroscopy particularly in biology and medicine. Throughout he has continued to develop new instrumentation. He became Director of the Center when Hal Swartz moved to Illinois and later Director of the Biophysics Research Institute when that was established. Jim will always be associated with developments in ELDOR, saturation recovery, loop gap resonators and, although some of his time is now spent in MRI, his love of EPR, technical innovations and good science remain as keen as ever. Jim has been honoured with many awards: Bruker Prize 1989; Zavoisky Prize 1995; the Society's Gold Medal in 1993 and the Gold Medal of the Society for Magnetic Resonance in Medicine. It is thus fitting that he should be honoured with Fellowship of the Society.

Special Distinguished Service Medal of the IES to **Professor R. Linn Belford**

Professor R Linn Belford is honoured by the Society with a gold Special Medal for Distinguished Service for his outstanding contribution as Founding Editor of the EPR Newsletter from 1987 until the present time. The Newsletter preceded the foundation of the Society by about two years and was quickly recognised as being a most appropriate

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Prof. Bob Clarkson, CoDirector IERC, UIUC, receiving special distinguished service medals on behalf of Ms. Becky Gallivan and Prof. R. Linn Belford on 30th July, 2002 during the 25th International EPR Symposium, Denver

organ for the new Society. Professor Belford has not only served the Society well in this way but he has also ensured



Prof. R. Linn Belford, Editor of the EPR Newsletter, honored by gold distinguished service medal presented at Denver on 30th July, contributed more 2002 on the occasion of the 25th International EPR Symposium

Society have had administrative support through the Illinois EPR Research Center. Those members of the Society who do not know him personally have, nevertheless, come to know him through his editorials in the Newsletter and learned something of the generous spirit that we associate with him. Professor Belford has than most to the development of a

that both the

Newsletter and the

sense of international identity for all researchers in EPR Spectroscopy and he is truly one of our colleagues who has gone the 'extra mile' in our service.

Special IES Medal for Distinguished Service to Ms. Rebecca Gallivan

Rebecca (Becky) Gallivan is honoured by the Society with a gold Special Medal for Distinguished Service for her outstanding support of the EPR community since 1990 through maintaining the IES Office at the University of

Illinois. Becky, a Senior Administrator in the Illinois EPR Research Center, has, more than anyone else, kept the Society going. Her contribution, much of it 'out of hours' and well beyond the call of duty, must not go unrecognised at this time as her involvement is being



maintained our July, 2002 member database

wound back. She is a Ms. Rebecca (Becky) J. fount of knowledge about the Society that distinguished service medal will not easily be presented at 25th International replaced. She has EPR Symposium, Denver 30th

throughout, responded to email and other communications with admirable professionalism. Her involvement with the Society will be sadly missed but it will be a mark of her contribution that the Society has reached a stage of maturity when these tasks can, and must, now be undertaken by others. The Society says "thank you" in the form of this special gold medal and with a thank-you gift check.

Special IES Distinguished Service Medals for Professors Sandra S. Eaton and Gareth R. Eaton



Profs. Sandra S. and Gareth R. Eaton receiving gold special distinguished service medals celebrating 25 continuous years of International EPR Symposia on 30th July, 2002 during the 25th International EPR Symposium, Denver

In 1978 Sandy and Gareth Eaton organized the first of the International EPR Symposia in Denver, now an annual highlight on the EPR conference calendar. This being the 25th International EPR Symposium, it is appropriate that the Society should honour our colleagues with special medals. Under the leadership of the Eatons, each International EPR Symposium has had a carefully defined focus, leading to coverage of a wide variety of EPR spectroscopy over the years. The Society acknowledges both Gareth and Sandy as excellent conference organisers and very generous hosts these past 25 years and the EPR Community is in their debt. The Society also congratulates them both as the joint winners of the 2002 Bruker Prize for EPR Spectroscopy. This reflects that they have continued to pursue excellent science in spite of the load imposed by running the annual EPR Symposia. In the past they have both served as Officers of the Society. Gareth was the first Secretary and Sandy the first Treasurer. For the past two years, Sandy has served as one of the Vice-Presidents.

The Society thanks you both for your outstanding contribution on behalf of the EPR Community.

IES Business - President's Letter (continued from p. 1)

As I know, owing to attempts of Dr. Chris Felix, the situation with finances has become much better due to a clear system of fees. I am glad that Chris has agreed to remain with us as the Treasurer of the IES during this next term. As of Sept. 1, 2002, he is also maintaining the database for the Society. Everything is ready for the future new Web Site of the IES, which is highly important for operative connection among the members of the IES. This is just the shortest list of the most important affairs of the Executives in recent years.

The most important link of our communications is the EPR Newsletter. For a long time, this issue has been edited by R. Linn Belford and Assistant Editor Becky Gallivan. I think that their contribution to the activity of IES is rather significant. For a long time, in the absence of a full WEB site, this issue united the members of the Society and was almost the only IES source of information, particularly for the countries of Eastern Europe and Asia. On behalf of all the IES members, I would like to express my gratitude to all of the editorial board of the EPR Newsletter for their important and fruitful work.

It is noteworthy that in the near future, according to our agreement, the editorial board of the EPR Newsletter leaves Urbana, Illinois and goes to Kazan, Republic of Tatarstan, Russian Federation. Dr. Laila Mosina, who is now the Deputy Editor-in-Chief of Applied Magnetic Resonance, is appointed by me as the chief Editor. She is a highly qualified specialist in the field and I am sure that she will in due course publish our main information organ and maintain high quality. We wish success to her and her group. I hope for further fruitful cooperation and help for the

EPR Newsletter productions and distribution with American ESR Centers and Bruker BioSpin (USA).

As you understand, the main assistants of the President are Vice-Presidents whose activities and opinions form a basis for all decisions of the Executive. I would like to express my gratitude to previous Vice-Presidents Kev M. Salikhov, Horoaki Ohya-Mishiguchi, and Sandra S. Eaton and Secretary Haim Levanon for their important work in IES for the last three years and for their approval, together with past President John Pilbrow, of my new appointment.

There is no need to introduce the incoming Vice-Presidents and the Secretary. Their CV's and photos were published in the previous issue of EPR Newsletter. On their and my behalf I promise you to do our best for the benefit of the IES.

In November 2002, I visited the USA as a guest of Prof. Jack Freed in his ACERT Center and to meet with Ron Mason and Chris Felix. I hope to use this opportunity to discuss some problems of Society activity. I'll try to inform you from time to time about the activity of the President and the Executives.

Yu. D. Tsvetkov, President IES.

Welcome to Incoming Vice-President, Americas, Ron Mason, NIEHS/NIH, North Carolina, USA (see Vol. 12 #3 for the story on Dr. Mason.)



From Editor (continued from p. 1)--

with a common medium for news and exchange of information. As we started the Illinois EPR Research Center (IERC) here, we saw a need for such a bulletin and decided to undertake it as a service. What we had in mind was very modest - just a few photocopied sheets that would come out once a year or so, and I undertook to start it as an "Electron Spin Resonance Centers Newsletter". But the EPR community of several thousand scientists around the world also had no international organization, and Hal Swartz, then director of the IERC, made a strong case to many of our colleagues from several countries to start one. So the

International EPR(ESR) Society was born, with the fledgling Centers newsletter to serve as our Society publication. Soon, under its new name "EPR Newsletter", this little pamphlet grew to a substantial and timeconsuming professional publication with announcements and reports on both local and international conferences, news items, want ads, and equipment exchange section, information on experimental techniques, computer programs and methods, exchanges of opinion through letters to the editor, guest columns, sponsors' ads, a lot of news about the International EPR Society, and an extensive annual directory of members and other EPR scientists. This has been a very major effort, not only on my part, but also that of our former IERC secretary, Martha Moore, and especially of Becky Gallivan, whose organizational skills, dedication, and hard work as Assistant Editor made my editorship job possible. I thank them profusely. To our many colleagues around the world who provided material and helped in other ways, I am grateful. And I sincerely thank the IES for recognizing my starting and developing this Newsletter with a medal. I'm not sorry to lose all the effort, time, and attention that editing this Newsletter has required, but I will miss the many interactions with colleagues and the making of new acquaintances and friends that it has occasioned.

I am happy to transmit the following note from Becky Gallivan, Assistant Editor until December 2002:

Farewell and Thanks for the Memories.

As I will take retirement Dec. 1, 2002 I wish to say good bye and send my best wishes to all of the IES members. My thanks to past and present IERC faculty, students, and visitors who have all made each day of the last 16 years interesting. Special thanks to Linn, Hal, Bob, Mark, Alex and Peter and to the past and present officers and regional treasurers of the IES for including a "non scientist" in your world of research. I was especially honored by the special citation with the lovely gold medal and check issued to me this year by the IES. Thank you one and all for the wonderful memories.

> Sincerely, Becky Gallivan Urbana, IL USA November, 2002

It is fitting that the editorial office now moves to Kazan,

where EPR was born. Please, everyone, help our new Editor, Laila Mosina, not only to keep the EPR Newsletter going, but to make it even better!

> Sincerely, R. Linn Belford, Urbana, IL USA December, 2002

THE ZAVOISKY AWARD 2002

Following the extensive nominations from the International Community of EPR scientists the International Zavoisky Award Committee is delighted to announce that the Zavoisky Awardee 2002 is Professor Dr. Wolfgang Lubitz (Germany). Prof. W. Lubitz is distinguished for his work in electron paramagnetic resonance and, in particular, his outstanding contribution to multifrequency EPR spectroscopy in bacterial and plant photosynthesis.

A further citation of his work will appear in a forthcoming issue of "Applied Magnetic Resonance." The award will be presented at the annual Workshop "Modern Development of Magnetic Resonance" to be held in Kazan, 1 - 5 October 2002.

Chairman of the Zavoisky Award Committee, Professor Kev M. Salikhov

NEW EDITOR FOR EPR NEWSLETTER Dr. Laila Mosina, Kazan Physical Technical Institute of the Russian Academy of Sciences

Dr. Laila Mosina has been appointed as the new editor of the EPR Newsletter. She received her M.Sc.(with Honors) in Radiophysics and

Electronics from Kazan State University in 1971 and her Ph.D. in 1978 in Condensed Matter Physics from Kazan Physical **Technical Institute** (KPhTI). She began her career as an undergraduate at KPhTI in 1969, and during her years there reached the position of Senior Researcher, her field of interest being EPR study of exchange



interactions in polynuclear clusters and their dependence on the fine details of structure and nature of the bridging ligands. Starting in 1990, she is involved in the activity with publishing the journal *Applied Magnetic Resonance* as its scientific secretary. Starting in 1996, she is Deputy Editor-in-Chief of Applied Magnetic Resonance. Please contact her regarding future newsletters by e-mail: <u>mosina@kfti.knc.ru</u> or at her office address: Kazan Physical Technical Institute of the Russian Academy of Sciences, Sibirsky trakt 10/7 Kazan 420029 Russian Federation; \mathbf{r} 7 8432 720503; Fax 7 8432 725075.

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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, 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, 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.

AWARDS COMMITTEES 2002

Our Thanks to those who served-

Filtering, Fellowships and Young Investigator Award Committees: President [Chair], Vice-Presidents and Past President.

Gold Medal Committee: Jack Freed [Chair] and Chairs of Silver Medal Committees;

Silver Medal [Chemistry]: Brian Hoffman [Chair], Keith McLauchlan, Seigo Yamauchi, Carlo Corvaja

. Silver Medal [Biology/Medicine]: Ron Mason [Chair], Marjeta Senjurc, Balaraman Kalyanaraman, Bernard Gallez

Silver Medal [Physics/Materials Science]: Peter Dinse [Chair], George Watkins, Gert Denninger, Mark Newton

Silver Medal [Instrum entation]: Jan Schmidt [Chair], Peter Hoefer, Sankaran Subramanian, Ted Walzcak

Members of Silver Medal Committees up until 2001, all of whom had served for at least three years, are also thanked for their contribution to the Society. They are: Noboru Hirota, Kev Salikhov, Hideo Utsumi, Ted Sarna, Hal Swartz [Chair, Biol/Med Cttee], George Feher, Jan Stankowski, Michael Baker and David Singel. John Pilbrow, President

CORRECTION:

In the last EPR Newsletter (12/3, 2002, page 1) it was stated there were no further nominations for any of the Officers' positions. However, Professor C Rudowicz had been nominated by 18 members of the Society for the position of Vice-President [Asia-Pacific]. However he withdrew his nomination in favour of Professor Takui who had been nominated by the Executive. This was in view of Prof. Belford's illness and the pressures on the Office in Urbana and in order to facilitate the election procedure. This correction is printed to keep the record straight.

John Pilbrow. Past President.

INTERNATIONAL EPR (ESR) SOCIETY--GENERAL MEETING

Report of the General Meeting of the Society held during the 25th International EPR Symposium, Hyatt Regency, Downtown Denver July 31st 2002 at 5.15 pm.

Chair: Professor John R Pilbrow (President)

Agenda

1. Apologies and Attendance

The following 25 members were in attendance: John Pilbrow [President, in the Chair], Sandra Eaton

[Senior Vice-President], Chris Felix [Treasurer], Gareth Eaton, Ron Mason, Guenter Maresch, Graeme Hanson, Howard Halpern, Keith Madden, Reef Morse, Keith Earle, Tomasz Wasowicz, Jeffrey Harmer, Chris Noble, Marina Bennati, Gary Gerfen, Bruce H Robinson, Joy Joseph, Eric Hustedt, Anna Lisa Maniera, Soha Mattar, John Weil, Mark Nilges, Sushil Misra, Herb Sipe. Also in attendance were two non-members, Robert D Nielsen and Paresh C Dane.

2. Appointment of Minute Secretary

Professor Keith Madden had agreed to act as minute secretary and was appointed on the voices.

3. Acceptance of report of General Meeting held on 1^{st} Aug 2000

The Report of the previous General Meeting held in Denver, 1st August 2001, and published in EPR

Newsletter 12/2, were accepted as a true record of that meeting. Moved H Halpern, Seconded R Morse.

4. Matters arising from General Meeting not covered elsewhere. Nil.

5. Thanks

The President thanked all of the Office Bearers, members of Awards Committees and Bruker, especially for covering cost of distribution of the EPR Newsletter.

6. Reports

6.1 President [on behalf of the Executive]

The President spoke to his written report which was distributed to the meeting and published in Vol. 12 #3 of the EPR Newsletter. The names of the incoming Officers to serve from 1 October 2002 to 30 September 2005 are listed in the President's report. With regard to the EPR Newsletter, Keith Earle thought that a downloadable version would be a good idea, but suggests controlling access.

The President indicated that a questionnaire to members was being prepared and it would address the question whether the Newsletter should be a Web-only document. Ron Mason asked if web access is good worldwide. The President pointed out that about 1/3 of our global emails to members bounce! Howard Halpern asked if this problem was localised. The President indicated that the problem was more acute, but not limited to, Eastern Europe.

6.2 Financial Report [Treasurer]

Treasurer Chris Felix provided some summary financial information. From 1996-2001 average income was \$US17,600 with average expenditure of \$US19,300 per year. 2001: Income was \$US19,700 and expenditure only \$13,300. For 2002: Expenditure so far \$4,700.

The Treasurer said that the mailing of 2002 dues letters by Bruker would happen during the next few weeks.

The current bank balance in the US=\$US8,500.

Projected income for 2003:

•	
Corporate Sponsors	\$ 7,500
Member dues	\$20,000
Total Income	\$27,500
Projected expenditure for 2003:	
EPR Newsletter	\$ 7,000
Administration	\$ 7,000
Awards costs [medals]	\$ 250
Grad. Student Travel Awards	\$ 5,000
Total Expenditure	\$19,250

Gareth Eaton asked what were the costs for Presidential travel in the future. The President explained that his successor expected to be able to make at least two trips to Europe each year and that this would not be a cost to the Society.

The President expressed the opinion that by the end of 2002 the Society's reserves should be in excess of \$US15,000 and this will stabilise our financial position. Keith Earle said he wanted to encourage vigorous support of student travel.

The President commented that we had a number of Corporate Sponsors, who pay for advertising in the Newsletter. In the case of Bruker, however, their contribution was 'in kind', namely distribution of the EPR Newsletter with a real cost to them of about \$US10,000 per year when there are four EPR Newsletters.

6.3 Newsletter [Linn Belford]

The President reported that Becky Gallivan's position at the University of Illinois would come to an end about November and that she would no longer be able to serve the Society. As Linn Belford had been very ill earlier in the year it had been difficult for them to maintain the expected schedule. He assured the meeting that Becky and Linn would prepare the final newsletter for the year.

The President was able to inform the meeting that discussions with Dr Laila Mosina in Kazan by email and in person the previous week in Novosibirsk were leading to the likelihood that she would take over as Editor from the start of 2003. There were several matters still to work out, in particular where the hard copies would be printed. Linn Belford will be listed on future Newsletters as Founding Editor.

6.4 Website

Mark Nilges explained that the website was still maintained at the University of Illinois. The President made a plea for someone to become the Webmaster and he expressed the hope that it would be possible in the future for dues payments to be made via the Web.

7. IES Office

7.1 Current arrangements

Chris Felix now has custody of the Society's database in Milwaukee and it is being transferred to a new platform. It is expected that essential clerical functions, dues data entry etc., will be carried by a secretary at the Medical College of Wisconsin at an estimated cost of about \$US2,000 per year. 8. Any other business

Gareth Eaton asked about Committees of the Society. The President said that the Elections Committee would be set up by the incoming Executive. Awards Committees involve about 20 members of the Society and there will be changes each year as required by the Constitution. The President said that Awards are critical to our visibility in the wider magnetic resonance community.

The President said in conclusion that the Society is in a good financial position and has a viable future. He urged members to pay dues.

The President thanked Keith Madden for taking the Minutes.

A vote of thanks to the President was passed with acclamation.

The Meeting closed at 5.51 pm.

John Pilbrow

SENTINEL WEB SITE AVAILABLE

Dear Collegues,

The web page of the European infrastructure coordination network titled: Service ENhancement Through Infrastructure Networking for Electron paramagnetic resonance spectroscopy with Large fields (SENTINEL) is now available at: <u>www.sentinel2004.org</u>

The site content is in evolution. You will find some of the outcome of the first year of activity and the possibility to register to a forum on High Field EPR. In our ambition this could become a site for discussion on HFEPR issues, such as technology development, new application of HFEPR techniques, new area of research etc..

We ask you to communicate to us the e-mail address of any person that you would like to be included in the list.

Sentinel Coordinator.

Dr. Massimo Martinelli, 🕿 +39 050 315 2234

Dr. Luca Pardi, pardi@ifam.pi.cnr.it

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IN MEMORIAM

Professor Larry Kevan

Larry Kevan, the 2000 Silver Medalist in Chemistry of the International EPR Society and a widely respected leader in EPR spectroscopy died unexpectedly of a heart attack at his home in Houston on 4 June 2002.



Larry was born on 12 December 1938 in Kansas City, Missouri. He received his B.S. degree in Chemistry in 1960 from the University of Kansas, where he was a Woodrow Wilson Fellow. He received his Ph.D. degree in 1963 from UCLA where, as a National Science Foundation Fellow, he studied radiation chemistry with Nobel Laureate Willard F. Libby. After postdoctoral research in Newcastle, UK as a National Science Foundation Fellow, he took a position of Instructor of Chemistry at the University of Chicago in 1963. In 1965 he returned to the University of Kansas for four years, and in 1969 he moved to the Department of Chemistry at Wayne State University in Detroit. In 1980 Larry joined the University of Houston as Cullen Distinguished Professor of Chemistry.

Larry made important contributions in many areas of science through his insightful application of novel EPR methods to problems in Chemistry, Biology, and Materials Science. His early research interests were extremely broad, covering all aspects of radiation chemistry, including: gas-phase ion-molecule reactions; solvation, thermalization and structure of the trapped electron and other early species; photoconductivity and electronic band structure of non-crystalline insulators; photoionization; ion cyclotron resonance mass spectrometry; and especially EPR spectroscopy. In the 1960's-70's Larry was a pioneer in the application and extension of EPR techniques such as passage effects, ENDOR, ELDOR and electron spin echo to scientific problems in chemistry and physics. In recent years, he became interested in heterogeneous catalysis, photoionization processes in organized media such as micelles and vesicles, and the solvation geometry of paramagnetic species.

Larry had an amazing ability to see the potential value for introducing a technique from one field, modifying it, and adapting

it to a new area of research. He is probably best known in the EPR community for developing methods for the analysis of electron spin echo envelope modulation and matrix ENDOR line shapes in disordered solids in terms of bond distances and angles in paramagnetic centers. He was the author of five books and more than 770 scientific papers and delivered more than 800 scientific lectures. He has served on the editorial boards of *Nukleonika*, *Journal of Chemical Physics, Journal of Physical Chemistry, Radiation Chemistry and Physics, Concepts in Magnetic Resonance, Applied Magnetic Resonance, Journal of the Chemical Society, Faraday Transactions, and Magnetic Resonance Reviews.*

Larry received the Silver Award in Chemistry of the International EPR/ESR Society at the International EPR Symposium in August 2000. During his successful career he received numerous awards including the Marie Curie Medal, Radiation Research Award, ACS Southwestern Award and a Guggenheim Fellowship. He was a Fellow of the American Physical Society, the Royal Society of Chemistry, and the AAAS. Larry spent numerous sabbaticals in other labs, including Russia, Japan and France.

[continued on page 24. See "Kevan"]

Professor Aleksandr Prokhorov

Our thanks to Prof. John Pilbrow for providing the photo. Prof Alexander Manenkov is the author of the obituary of Prof. Prokhorov which appeared in the last issue, Vol. 12 #3, of the EPR Newsletter.



Professor Aleksandr M. Prokhorov, world-renowned prominent physicist and a founder of quantum electronics, passed away on 8 January, 2002.

THE COMPUTER CORNER

Edited by Keith P. Madden, Reef (Philip D., II) Morse, Graeme Hanson, Dave Duling & Richard Cammack

The EPR Computer Corner is a regular feature of the EPR Newsletter. It is managed and edited by:

Reef (Philip. D., II) Morse	(reef@xenon.che.ilstu.edu)
Graeme Hanson	(graeme@cmr.uq.oz.au)
Keith Madden	(madden.1@nd.edu)
Dick Cammack ((richard.cammack@kcl.ac.uk)
Dave Duling	(sasdhd@unx.sas.com)

Items for this column may be sent to any of the above authors. Submissions may be edited for publication.

JCAMP-DX - a New Standard Format for EMR/EPR/ESR Spectroscopic Data.

A "lingua franca" for EPR spectroscopic data from different types of software, instruments, and simulation software has long been a dream for many of us in the community. If we had a standard format for all data, that anyone could use, we could:

- Rapidly exchange spectral data between laboratories, as easily as we transfer pictures or music as jpg or mp3 files.
- Create archives of spectra and spectra simulations. Most of us have valuable spectra recorded, that for various reasons are never published in the literature. These could be archived electronically for future use, if there was a reliable way of retrieving them.
- Prepare spectral data more easily, for publication in print and over the internet.
- Link EMR spectroscopic data to other chemical information such as spectroscopy and molecular structure.

Now an initiative from the spectroscopic community can help us. JCAMP-DX (named after the Joint Committee on Atomic and Molecular Physical Data - Data eXchange) is a set of industry-wide standard protocols for transfer of spectroscopic, and similar, data sets. It is sponsored by the International Union of Pure and Applied Chemistry (IUPAC) and other international scientific unions. The first JCAMP-DX protocol was developed for infrared spectroscopy, to overcome the problems posed by spectra in incompatible electronic formats, produced by different instruments. JCAMP-DX formats were subsequently developed for nuclear magnetic resonance, ion mobility and mass spectra, and have been widely accepted by users and instrument manufacturers. Information on these is provided on the web at <u>http://www.jcamp.org</u>. The JCAMP-DX format has many advantages. It is open-source, using standard terms, so that data from any instrument, or simulated data, can be freely exchanged. Nonproprietary software is available for conversion from other formats, file compression, internet transmission, and display on web browsers. The structure lends itself readily to conversion to web-compatible languages such as extended markup language (XML).

IUPAC has initiated a project to create the JCAMP-DX format for EMR spectra. The Limited Term Task Group comprises Richard Cammack, Yang Fann, Robert J. Lancashire, John P. Maher and Reef Morse. The general term "electron magnetic resonance" (EMR) was chosen by analogy with NMR. In this, we include all spectroscopic techniques based on the interaction of microwave or radio-frequency radiation with paramagnetic materials, usually in an applied magnetic field. It includes many types of experiments, which are described by the terms EPR, ESR, zero-field EPR, electron spin-echo and related spectroscopies.

Our aim is to provide a file structure that will accommodate a wide range of applications and users. In JCAMP-DX format, a spectrum, or block of spectra, is converted to a single file, in ASCII format, which is directly readable. The spectra are described by a set of numerical data points in a defined format. Other data in the same file are defined by labels to describe the type of spectroscopy, the sample, the instrument parameters, and the way in which the data have been manipulated. Some of the labels are required for all JCAMP-DX files, and derive from a generic core. Others are datatype-specific labels, agreed by consensus amongst users and instrument vendors. Other private labels can be created that are specific to the user's working environment.

Although the principles of measurement are different, the display of EMR spectra is not dissimilar from those for other types of spectroscopy. A typical continuous-wave spectrum can be described as bivariate (X,Y) data, like FTIR. The protocols for time-domain EPR follow those for pulsed NMR. Specific labels for the standard parameters have been proposed and examples are given in the table below. It should be straightforward to write conversion software to the JCAMP-DX protocol from other formats such as BES3T, indeed some of this software has already been written.

It is a requirement for IUPAC projects that the community is consulted widely. As they are produced, the draft proposals will be placed on the website, <u>http://www.jcamp.org/epr-index.html</u>. We look forward to receiving comments, to be sent to Prof Robert John Lancashire <<u>rjlanc@uwimona.edu.jm></u>.



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Email:		or visit our website:			
Phone (extension):		www.bruker-spin.com			

Computer Corner - continued from page 13

Further reading

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P. Lampen, J. Lambert, R. J. Lancashire, R. S. McDonald, P. S. McIntyre, D. N. Rutledge, T. Fröhlich, A. N. Davies. "An Extension to the JCAMP-DX Standard File Format, JCAMP-DX V.5.01 (IUPAC Recommendations 1999)", Pure Appl. Chem. 71, 1549 1556 (1999).

Table: Examples of parameters for EMR; there are over 50 in all.

Label	Allowable words	Comments		
##TITLE=		REQUIRED		
##DATA TYPE=	EMR MEASUREMENT, EMR SIMULATION	REQUIRED		
##DATA CLASS=	XYDATA, XYPOINTS, PEAK TABLE or ASSIGNMENTS	REQUIRED		
##OWNER=		REQUIRED		
##SPECTROMETER/ DATA SYSTEM=	FREE TEXT	REQUIRED		
##.DETECTION MODE=	CW, SPIN-ECHO, FID	REQUIRED		
##.METHOD=	DYNAMIC, ELDOR, ENDOR,ESEEM, GONIOMETER ANGLE, HYSCORE, KINETIC, SATURATION, SPECTRUM, TRIPLE	FREE TEXT		
##.RESONATOR		FREE TEXT		
##.MICROWAVE FREQUENCY=	TESLA	REQUIRED		
##.MICROWAVE POWER=	WATT	REQUIRED		

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 TO <u>http://ierc.scs.uiuc.edu/news.html</u> And to be sure that the EPR Newsletter Editor has your meeting information, send it to Dr. Laila Mosina, <u>mosina@dionis.kfti.knc.ru</u>.

EUSCHOOL "MODERNEPRSPECTROSCOPY: METHODOLOGY and APPLICATIONS IN PHYSICS, CHEMISTRY, AND BIOLOGY", Retie, Belgium, December 1-7, 2002 [RECENT]

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 cirdular is on the web:

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

This web site now includes all the registration details. <u>Organizing committee</u>:

- 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

INTERNATIONAL ELECTRON MAGNETIC RESONANCE WORKSHOP, EMR DEVELOPMENTS AND APPLICATIONS IN CHEMISTRY, BIOLOGY, AND MATERIALS SCIENCE, National High Magnetic Field Laboratory Tallahassee, Florida, December 13-14, 2002. [CURRENT]

International Electron Magnetic Resonance Workshop, EMR Developments and Applications in Chemistry, Biology, and Materials Science Sponsored by the Istituto per i Processi Chimico-Fisici, CNR Pisa, the National High Magnetic Field Laboratory, the Department of Chemistry and Biochemistry of Florida State University, and Bruker BioSpin takes place December 13-14, 2002.

EPR NEWSLETTER Publication of the International EPR(ESR) Society

Scope:

The workshop focus is applications and future developments of Multifrequency Electron Magnetic Resonance in the areas of Chemistry, Biology, and Materials Science. A great variety of topics will review the role of Electron Magnetic Resonance in current and future science, with an emphasis on multi- and high-frequency applications.

Sessions are planned for the following areas of interest: protein structure, photosynthesis, molecular and single-molecule magnets, protein dynamics and simulation, catalysis, low-dimensional magnetic materials, instrument development, and quantum computing.

Organizing committee:

L.C. Brunel, National High Magnetic Field Laboratory, M. Martinelli, Istituto per i Processi Chimico-Fisici, CNR Pisa, L. A. Pardi, Istituto per i Processi Chimico-Fisici, CNR Pisa, N. Dalal, Department of Chemistry and Biochemistry, Florida State University, P. Fajer, Department of Biological Sciences, Florida State University, J. Krzystek, National High Magnetic Field Laboratory, J. van Tol, National High Magnetic Field Laboratory

J. West, Florida A&M University Workshop Secretary: Lori Nixon (<u>lnixon@magnet.fsu.edu</u>,

850-644-1654)

For information see:

<u>http://www.magnet.fsu.edu/news/events/iemrw.html</u> or e-mail emr2002@magnet.fsu.edu

BRUKER TRAINING COURSES, Rheinstetten,

Germany, March 5-7 and 12-14, 2003. [New NOTICE] Bruker Germany has scheduled next year's training courses as follows:

•CW-EPR Training Course: March 2003, 5th to 7th

•FT-EPR Training Course: March 2003, 12th to 15th

•W-Band Training Course: in combination with the FT-EPR course.

See the Web link for more information:

http://www.bruker-biospin.de/EPR/about/courses.html

10th INTERNATIONAL WORKSHOP on BIO-MEDICAL ESR SPECTROSCOPY and IMAGING, Fukuoka, Japan, April 1st to 3rd, 2003. [New Notice]

This will be cherry blossom time in Fukuoka, a city which has created a special atmosphere through harmonizing Japanese traditional culture with Far Eastern continental ones. To encourage open communication during this international event, all participants will lodge in the hotel together and discuss with each other from the morning to the night. This international workshop will cover a broad range of basic research, developments, and applications of in vivo, ex vivo, and in vitro ESR spectroscopy, ESR imaging and MRI. The extensive discussions in the workshop will focus on the rapidly expanding knowledge on bio-medical ESR, which will provide key information for designing therapeutic strategy targeting free radicals.

announcement, including the conference information and the call for abstracts. If you are interested in offering a presentation, please submit the abstract (s) to the secretariat: the deadline for abstracts is: January 31, 2003. **But please provide your title as soon as you can**.

We look forward to seeing you in Fukuoka.

Sincerely yours, Hideo Utsumi, Ph.D. Chair of The Organizing Committee Prof. of Bio-function Sciences, Graduate School of Pharmaceutical Sciences, Kyushu University Higashi-ku, Fukuoka, 812-8582, JAPAN e-mail: ESRworkshop@pch.phar.kyushu-u.ac.jp

36th ANNUAL INTERNATIONAL MEETING of the ELECTRON SPIN RESONANCE GROUP of the ROYAL SOCIETY OF CHEMISTRY "ADVANCED TECHNIQUES and APPLICATIONS of EPR" Chancellors Hotel & Conference Centre, The University of Manchester, UK, Sunday 6th - Wednesday 9th April 2003 to be held in Collaboration with The JOINT RSC/SCI COLLOID and SURFACE SCIENCE GROUP -"RESONANCE TECHNIQUES in COLLOID and POLYMER SCIENCE", same location, Thursday 10th -Friday 11th April 2003.

The scientific programme of the 36th annual meeting of the ESR Group of the RSC, 6th to 9th April 2003, will cover aspects of "Advanced Techniques and Applications of EPR" in all areas of science. The Conference will open with a reception and dinner on the Sunday evening and formally close with a Banquet on the Wednesday evening. Delgates will depart after breakfast on the Thursday morning. The organisers have pleasure in extending a cordial invitation to all persons interested in Electron Magnetic Resonance spectroscopy in Physics, Chemistry, Biology, Medicine and Materials Science to attend.

The Joint RSC/SCI Colloid and Surface Science Group will also hold a two day meeting in Chancellors Hotel & Conference Centre, at The University of Manchester, commencing Thursday 10th April - Friday 11th April 2003 on "Resonance Techniques in Colloid and Polymer Science". The meeting will cover all aspects of the applications of magnetic resonance techniques (including NMR, ESR, muon spin resonance & relaxation, neutron spin echo) to the study of structure and dynamics in polymeric and colloidal systems.

Further details about the conference, including general information, scope of the meeting and list of plenary speakers, can be found in the Web page:

http://www.cf.ac.uk/esr/manchester.html

Please do not hesitate to contact the local organisers or myself (<u>murphydm@cardiff.ac.uk</u>) for further information and registration forms. We look foward to seeing you in Manchester.

Please visit the symposium homepage (http://sympo.phar.kyushu-u.ac.jp/p03/) to see the first

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ESR SIMULATION WORKSHOP and SYMPOSIUM "NEW DEVELOPMENTS in ESR", ACERT NIH-NCRR National Biomedical Research Center, Cornell University, Ithaca, NY, USA, April 25-26th, 2003. [NEW NOTICE]

The ACERT NIH-NCRR National Biomedical Research Center main lectures: will host a Symposium in honor of Prof. Jack H. Freed, commemorating both his 40 years'' contributions to Electron Spin Resonance spectroscopy and his 65th birthday. The Symposium entitled "New Developments in ESR" will be held at Cornell University on April 26th, 2003. Lectures addressing advanced contemporary topics in the field of EPR spectroscopy will be presented on Saturday by distinguished internationallyrenowned speakers. The Symposium will be preceded on April 25th by a hands-on workshop session entitled "ESR

Simulation". The complete schedule for these events may be found on the following home page:

http://www.acert.cornell.edu/images/ESR_Brochure_.lt_screen_ res_2.pdf

Symposium attendees are invited to submit posters. You may register for these events on-line at this website: http://www.acert.cornell.edu. Please register by February 1st, 2003. Please mark the date on your calendar. We look forward to your attendance. For further details, contact Prof. Keith A. Earle, ACERT Associate Director: E-mail: earle@ccmr.cornell.edu

8th International Workshop on "ELECTRON

MAGNETIC RESONANCE OF DISORDERED SYSTEMS", Sofia, Bulgaria, June 7 - 16, 2003. [NEW NOTICE]

Dear colleagues,

You are cordially invited to participate to the 8th International Workshop on Electron Magnetic Resonance of Disordered Systems (EMARDIS) organized by the BULGARIAN EPR SOCIETY , which will have two consecutive sections - Fundamental and Applied.

Scientific Program

The general structure of the meeting include lectures given by the top specialists, selected applicants and round-table discussions.

EMARDIS - Fundamental

The aim of this section is to cover all, qualitative (structuralreactivity, kinetics, etc.) aspects of recent development in theory, experiment, methodology, instrumentation, etc. of EMR (EPR, ENDOR and ESE) spectroscopy of disordered systems (powders, glasses, liquids).

EMARDIS - Applied

The topics planed to be discussed are: Fundamental aspects of Quantitative EPR (standards, calibration, metrology and methodology of quantitative measurements, instrumentation new methods, advanced techniques, authomatization, etc.); EPR dosimetry (monitoring of high energy radiation, high energy radiation processing control in food preservation, pharmaceutical sterilization and material science, dating of

archeological and geological samples, etc.); EPR in biology, medicine (clinical and biomedical studies); EPR in life science; EPR in the environmental control; EPR in petrol industry; EPR and fossil fuels; EPR in polymer chemistry; etc.

To date, the following colleagues have agreed to deliver

EMARDIS - F: S. Allayarov (RUS), L. Bonoldi (I), M. Bowman (USA), G. Grampp (A), H. Levanon (IL), V. Livshitz (RUS), D. Lowe (UK), E. McInnes (UK), Y. Ohba (J), B. Rakvin (SLO), E. Reijerse (D), A. Rockenbauer (H), Z. Sojka (PL), J.-P. Telo (P), J. Telser (USA), H. Toftlund (DK), T. Watanabe (J).

EMARDIS - A: A. Blank (IL), L. Brunel (USA), F. Callens (B), M. Che (F), C. Chignell (USA), J.-M. Dolo (F), R. Eichel (D), D. Gourier (F), E. Hole (N), A. Jezierski (PL), M. Kadiiska (USA), A. Lund (S), E. Lund (S), P. Mattys (B), K. Nakagawa (J), L. Pulatova (RUS), J. Raffi (F), Ch. Rhodes (UK), E. Sagstuen (N), M. Sentjurc (SLO), U. Ulusoy (TR).

The organizers are also in contact with other colleagues whose names will be announced in the second circular.

Abstracts preparation:

One page abstract of every presentation will be published in the Proceedings of the meeting. Please send it as an attachment to your accompanying e-mail letter and Reply Form (see web site for First Circular for copy of the Reply form). Use Microsoft Word format, A-4 sheet, typing area 25 x 15 cm., Times New Roman font, size 14 for the title and 12 for the whole text. Leave one line space between the title and your personal contact information (incl. your e-mail address) as well as to the following text. Use super- or sub-script, italics, bold and underline where appropriate. Justify everything. Do not use extra returns. Keep the abstract in one paragraph. If literature citations are needed, insert them in parentheses and not as footnotes. Abstracts must be received before January 31, 2003!

Tentative frame program

The meeting will commence with welcome party on Saturday (June 7) and will finish Monday (June 16) after breakfast. Fundamental problems will be firstly discussed and next days will be devoted to the applications in all areas of EMR. The border day between the two parts (Wednesday, June 11 or Thursday, June 12, depending of the number of the lectures) will be free (excursion) day for those who will attend both sections or leaving/arrival day for those who wish to attend only one of them. Because the number of the participants for every one of the sections are limited please fill the attached Reply Form and return it by e-mail preferably before December 31, 2002.

Conference site

The whole meeting will be held in a hotel situated in Vitosha Mountain, ca. 10 km from Sofia downtown.

Social program

Welcome party, half-day sightseeing tour in Sofia and farewell dinner are traditionally planned. In addition an excursion to some places of regional historical and cultural interest will also be offered.

Accompanying members program

It will include accommodation, breakfasts and dinners, attendance of all social activities of the meeting in the conference site and everyday transportation to/from Sofia for individual free sightseeing. Lunches will be taken in the choice of the participants of this program.

Further information

will be distributed in the beginning of March, 2003. It will also be available, as is this one, in the web page of the European Federation of the EPR groups: http://www.cf.ac.uk/esr/fed.html Addresses for correspondence: E-mail: emardis@ic.bas.bg

N. D. Yordanov (Convenor), tel: (+359) 2-979-2546 or 979-2549 or K. Ranguelova (Sci. Secretary) or 724-917, Laboratory EPR, Institute of Catalysis, fax: (+359) 2-971-2967, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria.

2003 GORDON RESEARCH CONFERENCE on MAGNETIC RESONANCE AT Salve Regina University, Newport, Rhode Island, USA, June 15-20, 2003. The Chair of this meeting is Kurt W Zilm, and the Vice Chair is Michael Mehring. Please visit the Gordon Research Conferences home pages (<u>http://www.grc.org</u>) for information on the conference and the location. For Magnetic Resonance Conference information, see:

http://www.grc.org/programs/2003/magres.htm

26th INTERNATIONAL EPR SYMPOSIUM at the 45th **ROCKY MOUNTAIN CONFERENCE on** ANALYTICAL CHEMISTRY, Denver, Colorado, July 27-31, 2003. [New Notice]

The 26th EPR Symposium at the Rocky Mountain Conference will be July 27-31, 2003. On Sunday, July 27, there will be a Workshop on Distance Measurements by EPR. During and geological dating, and Reference, transfer and QA the Symposium, there will be a session on distance measurements by EPR, a session recognizing the contributions of Prof. Larry Kevan, and the 2nd Lawrence H. Piette Memorial Lecture. For further information please contact Prof. Sandra and Baffa at baffa@ffclrp.usp.br, or program chair Dr. Anne Gareth Eaton, Department of Chemistry and Biochemistry, University of Denver, Denver, CO 80208, seaton@du.edu.

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. It will be in 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 as well as new techniques, instrumentation developments, and theory.

The official language of the conference will be English.

Key dates:

Abstracts should be received by 7 June, 2003. Early registration deadline (reduced fee): 31 July, 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

Second circular of the EMARDIS meeting with more details 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 Av. Rovisco Pais P-1049-001 Lisboa PORTUGAL tel: (351) 21 8417878 ; fax: (351) 21 8417122 e-mail: jptelo@popsrv.ist.utl.pt

6th INTERNATIONAL SYMPOSIUM on ESR **DOSIMETRY and APPLICATIONS", Campos do** Jordao, Sao Paulo, Brazil, 12-16 October 2003 [NEW NOTICE

This series began in Japan in 1986 under the guidance of Dr. Motoji Ikeya, and the most recent session was held in Russia in 1998. The main topics to be covered are ESR fundamentals, Instrumental developments including imaging and in situ dosimetry, ESR retrospective dosimetery, ESR dosimetry in medicine and biology, ESR effects in new materials, Food irradiation and other processing applications, Archaeological dosimetry.

Interested persons should contact co-Chairmen Prof. Shigueo Watanabe via email at watanabe@if.usp.br, or Oswaldo Skinner, anne.r.skinner@williams.edu, indicating whether they wish simply to attend or whether they additionally plan to submit an abstract. A web page is currently under construction. A second announcement will be sent out early in 2003.

10th INTERNATIONAL SYMPOSIUM on **MAGNETIC RESONANCE in COLLOID and INTERFACE SCIENCE (X-ISMRCIS), Hangzhou,** China, organized by Zhejiang University, June 16~20, 2004. [NEW NOTICE]

Dear Colleagues,

On behalf of the Sponsors, the Local Organizing Committee (LOC) extends a cordial invitation to participate in the 10th International Symposium on Magnetic Resonance in Colloid and Interface Science (X-ISMRCIS) which would be held on June 16~20, 2004 in Hangzhou China and organized by Zhejiang University.

EPR NEWSLETTER Publication of the International EPR(ESR) Society

If you want further information about this Symposium, (please visit <u>http://www.zju.edu.cn/~ismrcis</u>. or contact me

directly without any hesitation.

E-mail: <u>ismrcis@mail.hz.zj.cn</u> or ismrcis04@hotmail.com

Professor Yuanzhi XU
Chairman of LOC of X-ISMRCIS
Department of Chemistry,
Faculty of Science,
Zhejiang University,
38# Zheda Rd,
Yuquan 310027 Hangzhou,
CHINA. **2**: (86)571-87984095; (86)571-87951352; (86)571-85960395
Fax: (86)571-87984095; (86)571-87951895

POSITIONS AVAILABLE & WANTED

POSTDOCTORAL POSITION

A postdoctoral positions are presently available in the physics department of the University of Dortmund for the study of metalloproteins with optically detected EPR techniques. In this project, we use advanced optical / microwave double resonance techniques to investigate the electronic structure of the metal ion and its ligands.

The successful candidate should have experience in EPR spectroscopy and / or laser spectroscopy. He / she is expected to further develop the existing instrumental basis as well as the methodology and apply them to the investigation of biologically relevant samples.

The University of Dortmund is an equal opportunity employer. Preference will be given to women and candidates with disabilities. For additional information contact:

Dieter Suter, Fachbereich Physik, Universitaet Dortmund, D-44221 Dortmund, Germany, e-mail:

Dieter.Suter@physik.uni-dortmund.de,

POSTDOCTORAL POSITION: PULSED EPR of METALLOPROTEINS at UNIVERSITY of ILLINOIS

An NIH-funded postdoctoral position is available in the Illinois EPR Research Center at the University of Illinois (Urbana, USA) for research work in pulsed EPR and ENDOR spectroscopy of metalloproteins. There is a focus on ESEEM theory and and on structure-function relationships in Rieske and related proteins.

Expected education: PhD or equivalent in a discipline such as chemistry, biochemistry, molecular and cellular biology, physics, or biophysics. Background should include (1) experimental and /or theoretical magnetic resonance

(preferably pulsed) and/or (2) experience with protein preparations and analysis.

Interested individuals should contact <u>Prof. R. L. Belford</u> (<u>rbelford@uiuc.edu</u>). The successful candidate will report directly to Dr. S. I. Dikanov (<u>dikanov@uiuc.edu</u>) and may collaborate with other faculty groups Salary will be comparable to the usual NIH postdoctoral scale. The University of Illinois is an equal-opportunity employer.

R. Linn Belford, Professor
Illinois EPR Research Center
Department of Chemistry, University of Illinois
Box 18-6 CLSL, 600 S. Mathewa
Urbana, IL 61801 USA
217-333-2553 Fax: 217-244-3186

POSTDOCTORAL POSITION in PRION RESEARCH at UC SANTA CRUZ

Recent results suggest that the prion protein's normal function is related to its ability to bind copper. Through a widely collaborative effort, the Millhauser lab has determined the features of the copper sites and is now moving on to examine potential function and how function may be lost in prion diseases. Current work has made extensive use of EPR, protein expression and protein synthesis. Although EPR, both CW and pulsed, will be key for continued work, the research will expand by moving into cellular assays, proteomics and perhaps transgenic experiments. The Millhauser lab is looking for an enthusiastic, recent PhD who is comfortable with EPR and interested in learning new biophysical and biological techniques. Please contact Prof. Glenn Millhauser (glennm@hydrogen.ucsc.edu) for further information.

Glenn L. Millhauser, Professor Department of Chemistry & Biochemistry UC Santa Cruz Santa Cruz, CA 95064 **2**: 831 459 2176; 831 459 2935 fax http://chemistry.ucsc.edu/millhauser_g.html

JUNIOR NMR SPECTROSCOPIST NEEDED--USAMRICD

A junior NMR spectroscopist is needed at the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD), Aberdeen Proving Ground, MD. Position is only open to U.S. citizens. Qualified candidate must have a strong background in NMR spectroscopy. The successful candidate will provide guidance on the operation of a Varian 600 MHz INOVA NMR and will obtain liquid and solid-state NMR spectra to aid Principal Investigators in studying chemical warfare(CW) agents and pharmacological countermeasures for CW agents. As NMR administrator for the Institute, the candidate will be responsible for maintaining and troubleshooting the instrument, user training, and managing the instrument in areas of biochemistry, organic, inorganic, and protein chemistry.

Contact: Dr. Carmen M. Arroyo, USAMRICD, 3100 Ricketts Point Rd, APG, MD 21010. 2010. 2010-436-4454 E-mail: carmen.arroyo@amedd.army.mil.

GRADUATE STUDENT OR POSTDOC POSITION AVAILABLE at NIJMEGEN FOR PHYSICIST or PHYSICAL CHEMIST FOR A PROJECT ON SOLID-STATE NMR USING MICRO COILS

The Nijmegen SON Research (NSR) center and the Research Institute for Materials (RIM) are research schools based at the Univ. of Nijmegen, The Netherlands. The aim is to design and synthesize new functional materials and study their structure and properties. NMR plays an important role in this research. The Physical Chemistry department & HF-NMR facility has 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 collaboration with Philips Research Labs and the MESA Institute of the University of Twenty, 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, these detectors will be tried at magnetic fields up to 30 T. A significant increase in the sensitivity and applicability should result. 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.

The NMR center has excellent solid-state NMR facilities, including Chemagnetics CMX Infinity 300, 400 and 600 MHz spectrometers and a home-built 180 MHz spectrometer (www-solmr.sci.kun.nl/solmr/home.html). Access to a Varian Inova 800 will be realized in the course of this year. Furthermore there will be access to the magnets of the high magnet field laboratory.

Requirements: 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.

Contact: Prof. Dr. A..P.M. Kentgens by **e-mail** <u>arno@solidmr.kun.nl</u> or ☎ +31-24-3652078. Direct written applications with CV, summary of research interest and experience to: Prof. Dr. A.P.M. Kentgens,

Dept. of Physical Chemistry /solid-state NMR, NSR Center, Toernooiveld 1, 6525 ED Nijmegen, The Netherlands

POSTDOCTORAL POSITION WANTED

Chemist at National Research Council, Italy seeks postdoctoral position in US or UK using EPR to study defects. Several years' experience with Prof. Elio Giamello (University of Torino). Current work includes Raman, FT-IR, XRD, SEM-EDX. Especially interested in EPR to study catalytic systems and CVD diamond films (also SiC etc.). **Contact** Lorenzo Dall'Acqua, Ph.D. CNR - Consiglio Nazionale delle Ricerche; ISTEC -

Istituto di Scienza e Tecnologia dei Materiali Ceramici Strada delle Cacce 73, 10043 Torino - ITALY ☎+39-011-3977.357; fax. +39-011-3487030 I.dall'acqua@to.istec.cnr.it

MAGNETIC RESONANCE POSTDOCTORAL POSITIONS AVAILABLE IN EUROPEAN UNION

For information on postdoctoral research opportunities in projects funded by European Union organizations, try these websites:

<u>http://www.uio.no/~kkan/EUTMR.htm</u> and <u>http://improving-rtn.sti.jrc.it/default/</u>.

POSTDOCTORAL POSITIONS IN EPR AVAILABLE IN NORTH CAROLINA, USA

One or two postdoctoral research positions are available in the EPR Laboratories of the North Carolina State University Chemistry Department (Raleigh, North Carolina, USA).

Research areas include:

(1) <u>EPR instrumentation and, particularly, High</u> <u>Field/High Frequency time-domain EPR</u>. A doctoral degree or equivalent in a relevant science or engineering field along with a strong interest and some experience in working with instrumentation related to EPR is desirable.

(2) <u>Biophysical EPR, including site-directed mutagenesis</u> and <u>EPR spin labeling</u>. A doctoral degree or equivalent in a relevant science or field such as chemistry, biochemistry, biophysics, or molecular biology with experience in biomolecular engineering and use of physical methods in biology is desirable.

Each applicant should furnish a complete Curriculum Vitae and have at least two letters of recommendation sent.

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

Prof. Alex I. Smirnov, <u>Alex Smirnov@ncsu.edu</u> Prof. Tatyana I. Smirnova, <u>Tatyana_Smirnova@ncsu.edu</u>

GRADUATE SCHOLARSHIPS IN CHEMISTRY AVAILABLE AT THE UNIVERSITY OF ILLINOIS IN URBANA-CHAMPAIGN.

Predoctoral Graduate Scholarships are available for highly qualified new applicants to the PhD program in the University of Illinois Department of Chemistry. Specialty areas in this department are Physical, Analytical, Organic, and Inorganic Chemistry as well as Materials Chemistry, Chemical Biology, and Chemical Physics. Magnetic resonance is one of the traditional strengths of our department.

These Scholarships carry excellent full-year stipends and exemption from tuition and most fees. Graduate Scholars are guaranteed continued financial support until completion of the PhD degree as long as satisfactory progress toward the degree is maintained.

Applicants whose native language is not English should take the TSE as well as TOEFL and GRE tests. I can provide information and application forms if you send me an e-mail at **rbelford@uiuc.edu**.

> R. Linn Belford, Prof. Department of Chemistry, Univ. Of Illinois, 600 S. Mathews, Urbana, IL 61801 USA

EPR NEWSLETTER

Publication of the International EPR(ESR) Society

EQUIPMENT & SUPPLIES EXCHANGE

CAVITY NEEDED

We need urgently an X-band TE-102 cavity for use with Varian E112 EPR equipment, either free or for a reasonable modest price.

Contact Professor P.T.Manoharan, RSIC, Indian Institute of Technology, Chennai 600 036. India;

Email: ptm@rsic.iitm.ernet.in

Fax: 91 44 2350509 (or 2352545)

AVAILABLE: NITROXIDE RADICALS

A small collection of fairly well-preserved unique nitroxide radicals synthesized by Dr. L.A. Myshkina in the 1980's is now being made available:

•2,6-bis(N-oxylo-tetramethyltetrahydropyrid-4-yl) thyophene.

•5-(N-oxylo-tetramethyltetrahydropyrid-4-yl) thyophene-2-al.

•2,6-dimethylenecyclohexanone substituted by 6-(N-oxylotetramethyltetrahydropyrid-4-yl) thyen-2-yl residues at both alpha-carbon atoms.

•4-chloro-4-nitro-TMP-N-oxyl.

Small quantities of the following also available:

•4-bromo-4-nitro-TMP-N-oxyl and

•1,4-di-TMP-butaine-bis-N-oxyl.

For information about obtaining any of the above compounds, contact A.E. Myshkin, Inst. Biochem. Phys. Russian Acad. Sci., Kosygin St. 4, 117977 Moscow V-344, Russia; NEW E-mail: <u>Myshkin@photonics.ru</u>

AVAILABLE: ISOTOPE-CONTAINING SPIN PROBES

A wide assortment of special ¹⁵N- and/or ²Hcontaining spin probes is available at moderate prices. For a catalog and price list of available compounds, contact: Prof. Igor Grigor'ev, Inst. of Organic Chemistry, Novosibirsk 630090 Russia; E-mail: maxx@nioch.nsc.ru. In the US, contact Dr. Sergei Dikanov

E-mail: dikanov@uiuc.edu

FOR SALE - NMR MAGNETOMETER

Sentec Model 1001, including 3 standard probes covering the range of 1 to 10 kG. In good working order, this 1981 model (uses NIM bin!) includes 7-digit display, 0.01 Gauss resolution, accuracy: 10-6 relative, 10-5 absolute, has automatic peak search feature, BCD output, etc. Can be bought with or without NIM bin and CRT display. Make an offer!

> Prof. E. J. Knystautas, Physics Dept., Univ. Laval, Quebec City (Quebec) G1K 7P4 **2**: 1-418-656-5569, FAX: 1-418-656-2040 E-mail: ejknyst@phy.ulaval.ca

WANTED: TERMINAL/MONITOR

We need a terminal/monitor for a Bruker ECS 106 spectrometer. Contact: Lon B. Knight, Jr. Furman University, Department of Chemistry Greenville, SC 29613, USA ☎: 1-864-294-3372; FAX: 1-864-294-3559 E-mail:lon.knight@furman.edu.

FOR SALE: VARIAN EQUIPMENT

Resonance Instruments has available:

1) replacement Klystrons for Varian EPR Bridges (at reduced prices) and other klystrons

2) VARIAN V4500-41A low/high power microwave bridge with new klystron-excellent condition For more information on these units contact:

Clarence Arnow, President, Resonance Instruments.

☎: 1-847-583-1000; FAX: 1-847-583-1021

E-mail: rii1@earthlink.net

WANTED: VARIAN E-4 OR E-9 EPR (X-BAND) SYSTEM

In good working (or easily repairable) condition with low temperature accessories (cavity, heater and temperature controller). Please contact

> Dr. Richard Weiss or Dr. Veeradej Chynwat, Department of Chemistry, Georgetown University, Washington, DC 20057-1227.

☎: (202) 687-6013.

Email: weissr@georgetown.edu or chynwatv@georgetown.edu.

DO YOU NEED HELP in DESIGN and CONSTRUCTION of EPR ELECTRONICS?

The University of Denver can supply electronic design and construction services for EPR applications. Lownoise pulse amplifiers, low-noise 100 KHz preamplifiers, boxcar integrators, and pulse timing systems are available.

We also supply a conversion kit to convert Varian field control units to voltage-controlled scan operation.

A 6 digit 1 ppm frequency counter is available in X-band, C-band, S-band, L-band, or Megahertz versions.

Complete microwave/RF bridges from 150 MHz to L-band, S-band, or C-band are available from designs previously built and tested at the University of Denver.

Contact

Richard W. Quine, a: 1-303-871-2419 E-mail: rquine@du.edu. Page 24 EPR NEWSLETTER Volume 12, Number 4 Published at the Illinois EPR Research Center (IERC), Urbana, IL 61801, USA

AVAILABLE: USED VARIAN EPR EQUIPMENT

1) Two Varian E-3's are now being refurbished. They will meet factory specifications and will come complete with a one-year warranty. The units may also include some upgrades.

2) Varian ENDOR accessory, with Varian ENDOR cavity.

3) Varian TM cavity with flat cell holders and flat cells.

4) Varian E-257 variable temperature controller with heater sensor and insert holder.

5) Varian E-272B field/frequency lock accessory.

Contact: James Anderson,

Research Specialties, 1030 S. Main St., Cedar Grove, WI 53013, USA; Stat: 1-920-668-9905.

E-mail: james anderson <janderson36@wi.rr.com>

FOR SALE: BRUKER ESP-300 RADIO-SPECTROMETER

The instrument is intended for investigation of materials by means of electronic paramagnetic resonance (EPR). It was purchased from Bruker Analytische Messtechnik GMBH by St. Petersburg quartz-glass factory "Stekvar" in 1989. It was installed in 1990 and was tested in April, 1990. But it was never used at all, because this research activity was later stopped at "Stekvar." The instrument has not been moved and now is working completely, so it is like new!

This ESP-300 has maximum specifications (for example, there is a helium low-temperature additional device provided by Oxford Instruments) and is outfitted for double and triple resonance. There are some spare parts. System # is ZD 698. The instrument's technical details are: 1) it works in X-band (frequency: 9.79 GHz); 2) it has three spare cavities: ER 4111VT, ER 4114 HT, ER 4105 DR; 3) there is an NMR magnetometer, an ER 035 M with ESR in cavity probe; 4) the microwave bridge is model ER 044 MRDH; 5) sample temperature range is from 3.5 K (Oxford Instruments helium low temperature unit); 6) it is outfitted for double & triple resonance.

Contact information:

Prof. Roman Eismont
6 Shafirovsky Avenue,
St. Petersburg 195273 Russia.
E-mail: <u>empire@peterlink.ru;</u> **a**: 7-812-249-02-95; FAX: 7-812-249-51-14.

WANTED: MONITOR FOR a BRUKER ESP 380E SPECTROMETER

We need a new or used Monitor for our ESP 380E ESR spectrometer. The compatible models are: Mitsubishi model FA3415ETKL and EIZO model 9060S.

Please contact Prof. Turro:

Prof. Nicholas J. Turro: 3000 Broadway, Mail Code 3119 Columbia University, New York, New York 10027. FAX: 212-932-1289 ©: 212-854-2175. E-mail: <u>njt3@columbia.edu</u>

WANTED: EPR ELECTROMAGNET, POWER SUPPLY AND FIELD CONTROLLER

Preferably, this magnet system should be capable of fields up to 13 kG. Also, we need a Q-band microwave bridge.

Contact

David Tierney, Dept. of Chemistry, University of New Mexico, ☎: (505) 277-2505, E-mail: <u>dtierney@unm.edu.</u>

Larry Kevan obituary - continued from page 12

The impact of Larry's work is magnified by the large number of students, post-doctoral fellows, and visiting scientists who were attracted to his laboratory from around the globe and with whom he kept in close touch and continuously offered his support and friendship. Many of his former associates continue to use the tools that Larry developed and to apply them to important problems in various scientific fields. He inspired everyone with his stamina and the intensity he brought to activities he loved: science, competitive sailing, travel, the fine arts, wine and food.

Larry lived life to the absolute fullest, doing the things he loved to do. He will be sorely missed, but remembered with joy.

> "You can shed tears that he is gone or you can smile because he has lived..."

> > Michael Bowman Daniella Goldfarb Shulamith Schlick

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Prof. Yu D. Tsvetkov Russian Acad. Sci., Inst. Chem. Kinet. & Combust. Institutskaya St.3, Novosibirsk, RUSSIA, 630090 ☎: 7-38-32-35-41-20 Fax: 7-38-32-35-23-50 tsvetkov@kinetics.nsc.ru

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Dr. Shirley A. Fairhurst John Innis Center, Biological Chem. Dept. Colney, Norwich Res. Pk Norwich, UK NR4 7UH \mathbf{z} : 44-1603-450713 Fax: 44-1603-450018 shirley.fairhurst@bbsrc.ac.uk

TREASURER

Dr. Chris Felix Medical College of Wisconsin National Biomedical ESR Center 8701 Watertown Plank Road, Milwaukee, WI 53226 USA ☎: 1-414-456-4008, Fax: 1-414-456-6512 E-mail: cfelix@mcw.edu

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