



Newsletter, December 1999

Upcoming Meetings

April 5-8, 2000, Washington, DC

78th General Session & Exhibition of the IADR

Held in conjunction with the American and Canadian Divisions

Deadline Dates:

January 3, 2000, Membership Dues Deadline (to register at member rates).

February 25, 2000, Pre-registration Deadline.

March 6, 2000, Hotel Reservation Deadline.

March 17, 2000, DMG Reception Deadline, \$35.00 fee includes hors d'oeuvres and drinks

April 9-12, 2000

16th International Conference on Oral Biology (ICOB)

"Saliva in Health and Disease"

Deadline Dates:

March 13, 2000, Hotel Reservation Deadline

Current Trends in Biomaterials Research and Education, Tuesday, April 4, 2000 4-6 PM, AADS Section on Biomaterials. A business meeting of the section will be held from 3:30-4 PM on this same day. The program is targeted towards scientists, researchers, clinicians, educators and students interested in biomaterials research and education. Presentations are:

Beyond Smoke and Mirrors, Dr. John O. Burgess, Chair, Department of Operative Dentistry and Biomaterials, Louisiana State University HealthScience Center.

Description: The goal of this talk is to present an overview of the many problems of dental biomaterials teaching due to the proliferation of many innovative dental materials introduced to the dental profession. The presentation will discuss criteria for the evaluation and selection of materials and to the acquaint participant with the recently developed

dental restorative materials. A blueprint for developing such a program is discussed.

The Changing Face of Dental Biomaterials Research and Education in the Millenium, Dr. David Kohn, Associate Professor, Departments of Biologic and Materials Sciences, School of Dentistry and Biomedical Engineering, College of Engineering, University of Michigan.

Description: This talk will provide a perspective of how dental biomaterials research and education can be adapted to include the rapidly changing technologies of materials science and cell/molecular biology. Using the paradigm that the goal of biomaterials is to replace lost tissue structure and function, a range of options from completely synthetic materials to completely biological treatment strategies may be incorporated into dental materials research and education. This approach gives students the ability to utilize the traditional materials of today, but also prepares them for the technological advances of tomorrow. Working examples will discuss some of the philosophical changes incorporated into the biomaterials research and educational programs at the University of Michigan.

Biomaterials for Dental Applications: A Training Program in Biomedical Engineering Department at the UAB, Dr. Linda C. Lucas, Chair, Department of Biomedical Engineering, University of Alabama Birmingham Implant Center.

Description: This presentation will provide an overview of educational and research programs for students interested in biomaterials for dental applications. Industrial fundings for the educational and research programs will also be discussed.

Biomaterials Research Programs at the National Institute of Dental and Craniofacial Research, Dr. Eleni Kousvelari, Chief, Biomaterials, Biomimetics & Tissue Engineering Branch, Division of Extramural Research, National Institute of Dental and Craniofacial Research. The presentation will include highlights of supported and encouraged research in

the area of biomaterials for the restoration and repair of oral, dental and craniofacial tissues that have been damaged or lost by diseases such, periodontal disease, caries and cancer as well as by other disorders. Training programs available to support research in the area of biomaterials will be discussed.

2nd International Conference on Scanning Probe Microscopy in Biomaterials Science, 23 June 2000
Holiday Inn Crowne Plaza Hotel, Bristol, England
Official website:

<http://www.dent.bris.ac.uk/biomaterials/spm2000/>

Although established as a tool in materials science and physics, scanning probe microscopy (SPM) is at the beginning of its application in biomaterials science. On 2 April 1998 the first workshop entitled "Scanning Probe Microscopy in Biomaterials Science, Dentistry and Medicine" was held in Bristol, UK. What was planned to be a small workshop evolved to be an international conference with high calibre delegates and speakers from all over the world. Encouraged by the success of the meeting and supported by international academics and industrial researchers we are organizing a second conference. Since the first conference in 1998, more researchers have applied atomic force microscopy and related SPM methods in biomaterials science. A definitive need for a broad scientific exchange between researchers involved in these studies exists. This is the purpose of The 2nd International Conference on Scanning Probe Microscopy in Biomaterials Science, which will be hosted by the University of Bristol and Veeco Instruments Limited.

Contributions should cover, but are not limited to, the following areas: Imaging of biomaterials surfaces (polymers, metals ceramics etc.); interfaces between biomaterials and biological materials (e.g. protein-biomaterial interfaces); investigation of local properties of biomaterials (mechanical, chemical etc.); structural change of biomaterials; aspects of medicine and dentistry relevant for SPM (e.g. SPM on mineralised tissues or DNA); instrumental developments in SPM and combination with other methods in the investigations of biomaterials.

Deadlines and dates

1 January 2000 Registration starts

1 April 2000 Deadline for abstract submission

1 June 2000 registration closes, late registration (at an increased fee rate) possible until the date of the conference.

For further information contact:

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IADR ANZ Divisional meeting Perth Australia
July 2-5 2000, Annual Meeting, IADR Australia/New Zealand Division, Perth, Western Australia, Australia. The dead line for abstracts has been set at April 1st 2000. The program will consist of invited keynote speakers and with planned sessions in Dental Ceramics, Dental Composites, Glass Ionomer Cements, Endodontics, Public Health, Oral Med./Oral Pathology, Periodontics and Oral Surgery/Orthodontics and sessions of original research. For more precise timetabling information please see the web page.

<http://www.dentistry.uwa.edu.au/IADR2000>

Speakers include:

T Arendorf (Oral Medicine/Periodontics)

P Abbott (Endodontics)

J Ferracane (Materials)

B Lawn (Dental Ceramics)

H Ngo (Glass Ionomers Cements (GIC))

B Erickson (Composites)

S Tosaki (GIC)

J Berg (GIC/Composites)

M Tyas

For further details contact, Phillip M. Chantler, School of Oral Health Sciences, The University of Western Australia, 179 Wellington Street, Perth, W.A. Australia 6000. Phone (61 8 9220 5800). Fax (61 8 9221 3829).

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or iadr2000@uwa.edu.au

October 25-28, 2000, **Academy of Dental Materials 2000 Annual Meeting**, Dental Implant Treatment: Issues Beyond Ten Years *In Vivo*. Contact Dr. Jack Lemons, University of Alabama at Birmingham at 205-934-9206 for more information.

The 13th International Symposium on Ceramics in Medicine will be held in Bologna, Italy, from the 22nd to the 26th of November, 2000. Abstract deadline is March 31, 1999. Information at www.ior.it/bioceramics13.htm

Helpful web sites:

1. Web page for journal name abbreviation, ISSN number etc.:

<http://www.bioscience.org/atlas/jourabbr/list.htm>

2. Web page for Impact factor of all journals:

<http://www.elte.hu/phd/ifa97.txt>

3. Web page for Impact factor of all dental journals only:

<http://solarsnet.snu.ac.kr/dentlib/sci.htm>

Position Available

MEDICAL COLLEGE OF GEORGIA-
Biocompatibility- Tissue Engineer/Bioengineer. The Medical College of Georgia is seeking an individual with experience in tissue/bioengineering to participate in expanding a multidisciplinary program in biomaterials/biocompatibility. This full-time, tenure track position primarily involves research and teaching graduate students. Position available immediately. Applications will be considered until the position is filled. PhD preferred. Rank and salary commensurate with experience. Send Curriculum Vitae and names of 3 references to:

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DMG Chapter - America News

In Memoriam

Carl W. Fairhurst, Ph.D.
(1926 - 1999)

Dental research and, in particular, dental materials research has lost one its pioneers. On April 4, 1999, Dr. Carl W. Fairhurst passed away at his retirement home in Parrish, Florida. He will be missed very much.

After military service during World War II, Fairhurst trained at Ohio State University as a dental technician. In 1952, he went to work for Marquette University, where he became involved in dental research under the guidance of Professor Gunnar Ryge. His early research included work on porosity in dental castings and on the bond between porcelain and alloys. With Ryge's encouragement, Fairhurst enrolled in the graduate school at Marquette and in 1959 obtained a Master of Science degree in Dental Materials. He then enrolled in Northwestern University's doctoral program in Materials Science

where his mentor was x-ray crystallographer Professor J.B. Cohen. With Ryge, Fairhurst published a series of landmark papers during the early 1960s on the crystal structure of dental amalgam. He obtained his doctorate from Northwestern in 1966; his dissertation described the crystal structure and phase stability of the silver-mercury matrix phase of dental amalgam.

During the mid-1960s, Fairhurst served as Assistant Professor and Chair of the Department of Dental Materials at Marquette University. He worked in industry between 1967 and 1973 as manager of research and development for the S.S. White Dental Products Division of Penwalt Corporation.

In 1973, Fairhurst was appointed Professor and Division Director of Dental Physical Sciences at the School of Dentistry of the Medical College of Georgia (MCG). During Fairhurst's years at MCG, he resumed his research on the conditions that promote bonding between porcelain and dental alloys. He assembled a team of researchers that had, and continue to have, a major impact on research on dental ceramics and porcelain-fused-to-metal restorations. This team received continuous funding from NIH between 1974 and Fairhurst's retirement 20 years later. NIH recognized this continuous achievement by awarding Fairhurst its prestigious MERIT Award.

While at MCG, Fairhurst built a strong dental materials science group by recruiting researchers who could use basic science techniques to address the real-world problems of clinical biomaterials. His ceramics work is but one example of this. The MCG group also established productive research programs on dental amalgam, resin composites, and sealants. He collaborated with his wife, dentist-scientist Professor Eva Mertz-Fairhurst, on her important research on the use of dental sealants including a landmark study on sealing cavitated caries lesions. Fairhurst was a uniquely successful mentor. He instilled a strong commitment to high quality science in those with whom he worked. These researchers continue to have a major impact on dental materials research.

It is significant that Carl Fairhurst's achievements have been recognized by three groups: scientists, clinicians, and educators. In 1977, the Dental Materials Group, IADR, recognized him with its Souder Award, the highest award that is given for dental materials research. The Academy of Operative Dentistry presented Fairhurst with its Hollenback Award for lifetime achievement in Operative Dentistry. In 1979, the University of Georgia system awarded Fairhurst the title of Regents Professor. When he retired in 1994, the University

awarded Fairhurst the title of Regents Professor Emeritus. In retirement, he continued his lifelong interests in saltwater fishing, gourmet cooking, and bird watching.

Professor Carl Fairhurst's legacy is the memory of those who shared his love of science and life. Through this man's work and through those who continue his work, dental science has been and will be enriched.

With loving memory from his colleagues and co-workers,

Submitted by:

Kenneth A. Anusavice, Michael B. Butts, Janet W. Egle, P. E. Lockwood, J. Rodway Mackert, Jr., Richard J. Mitchell, Robert Morena, Debbie Nunley, Toru Okabe, E. E. Parry, Robert D. Ringle, Frederick A. Rueggeberg, Warren Twiggs.

Eva J. Mertz-Fairhurst, D.D.S.

(1935- 1999)

The dental profession has lost one of its pioneers in sealant research. On July 26, 1999, Dr. Eva Mertz-Fairhurst passed away at her home in Parrish, Florida. Her death followed the passing away of her husband Carl Fairhurst on April 4, 1999. After graduating from Rutgers University in 1957, Mertz-Fairhurst received her D.D.S degree from the University of Pennsylvania School of Dentistry in 1961. She practiced dentistry for one year in Pennsylvania before becoming a medical writer for Medical Literature, Inc between 1962 and 1965 and for the U.S. Food and Drug Administration from 1965 to 1970. She then served as Assistant Director of the Dental Clinical Research Department at Johnson and Johnson Dental Products Co, East Windsor, NJ from 1970 to 1975. From 1975 to 1976, she served as a staff dentist at the Children and Youth Clinic, operated by the Community Dentistry Department at the Medical College of Georgia School of Dentistry. Through an NIH/NRS Fellowship Award, Mertz-Fairhurst conducted caries research at the Medical College of Georgia (MCG) from 1976 to 1979. She then served as an Assistant Professor in the Departments of Community Dentistry and Oral Biology from 1979 to 1981. She subsequently was promoted to Associate Professor and Professor in the Department of Restorative Dentistry in 1983 and 1988, respectively. In 1992 she was promoted to the rank of Professor in the Department of Oral Rehabilitation. While at MCG she taught cariology and presented lectures in operative dentistry, occlusion and dental hygiene courses.

Professor Mertz-Fairhurst conducted research on the efficacy of pit and fissure sealants at MCG from

1981 through her retirement in 1993. One of her most outstanding contributions to preservative dentistry was her classic research on the use of composite and sealant to seal teeth with cavitated occlusal lesions. None of the carious dentine was removed from these teeth. Only the enamel was beveled and etched prior to placement of bonding agent and Miradapt composite. After etching the enamel again, the occlusal surface and restoration were sealed with Delton Sealant. The treated teeth were monitored through radiography for 10 years. At the end of this period, none of the lesions in teeth with intact sealant was found to progress. This important finding supports the hypothesis that the subsurface region of the sealed teeth do not support bacterial growth and that secondary caries is unlikely to develop beneath sealed margins.

Those of us who worked with this clinical scientist at MCG dedicate our current research efforts in her memory. She has enriched our lives and our dental careers through her inspirational and pioneering efforts in clinical research. Dr. Mertz-Fairhurst was a gentle and caring person whose spirit will long be remembered by those who have been fortunate to have known and loved her.

Submitted by:

Kenneth J. Anusavice, J. Rodway Mackert, Richard J. Mitchell, Toru Okabe

President's Message

Dear colleagues:

At the last IADR meeting in Vancouver, the Executive Committees of DMG and DMG-CA discussed ways of enhancing communication among members about studies published as abstracts. DMG formerly required submission of a paper for each abstract and these were assembled and distributed on microfilm to subscribers. For various reasons, this is no longer feasible. Other means of distribution, including electronic publishing, were examined and the DMG membership was surveyed. The survey results indicated a lack of support for continuing the submission of manuscripts. Some alternative means of sharing information is highly desirable. It is proposed that the corresponding author include an email address at the end of the abstract, and be ready to provide further information or a manuscript to interested scientists. Often, another scientist may simply wish to have a question answered. Since email is becoming universal in the scientific community, and it is not likely to disappear in the near future, this would greatly facilitate communication. The DMG and DMG-CA Executive committees have recommended that our membership begin voluntarily placing their email address at the end of the body of

the abstract. A recommendation was made to the IADR to include this suggestion in the abstract instructions, and perhaps, to set aside a special place on the form for the corresponding author's email address.

Other issues are under discussion in DMG. Assisting researchers from countries which are new participants in IADR to prepare abstracts that will have a greater chance of acceptance and the recruitment of recent graduates to materials research, or any area of dental research are of keen interest. We would certainly welcome everyone's input on these issues. Please contact me or the other officers if you have any good ideas along these lines. I wish everyone a happy holiday season. See you in Washington, DC!

Mike Staninec
DMG-CA President
stanin@itsa.ucsf.edu

Dr. Toru Okabe, Professor and Chairman of Biomaterials Science at Baylor College of Dentistry, Texas A&M University System Health Science Center, was awarded the **Regents Professor Service Award** on September 23, 1999, by the Board of Regents, Texas A&M University System (TAMUS). This award is presented to outstanding professors in the university system who have displayed exemplary service nationally and internationally in teaching, research, and service throughout their careers. He will retain the Regents Professor title through the duration of his service to the Texas A&M University System.

Call for Data - The Biomaterials Physical Properties Database, online since 1994 (http://www.lib.umich.edu/libhome/Dentistry.lib/Dental_tables/intro.html), is requesting your additional published data on natural and synthetic biomaterials. Many people like the convenience of this database, but it will only work if we all participate in contributing data. Please send copy of your publications with the data you wish to contribute highlighted to:

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Do you want more DMG information? Visit the DMG home page at:

<http://www.dent.unc.edu/bayne/dmg/hp-dmg.htm>

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