
Newsletter #3

November 9, 1998

Dear Council Member,

This is the third Newsletter to International Corrosion Council (ICC) Members, and I and the Members of the ICC Executive: Professor D. Landolt (1st Vice-Chairman), Professor J.H.W. de Wit (2nd Vice-Chairman), Professor G.C. Wood (Immediate Past Chairman) and Dr. R.J. Hussey (Secretary), wish to send their Seasons Greetings and Best Wishes for 1999 to all ICC Members.

The purpose of these Newsletters is to keep ICC Members aware of current ICC activities and to promote interaction between Members. The ICC Executive encourages the participation of ICC Members and welcomes contributions to the Newsletters, which will be produced at irregular intervals, when sufficient material has been received.

First Vice Chairman:	Prof. D. Landolt, Switzerland
Second Vice Chairman:	Prof. J.H.W. de Wit, Netherlands
Immediate Past Chairman:	Prof. G.C. Wood, Great Britain

If Members wish to submit material for inclusion would they please send it to either myself or to Dr. R.J. Hussey by mail, fax or email (mike.graham@nrc.ca or rex.hussey@nrc.ca).

The Executive Committee of the ICC ('ICC Executive') met on September 28, 1998 in Utrecht, Netherlands during the Eurocorr98 Meeting. There was a full Agenda to discuss and the Meeting lasted a little over two hours. The highlights of the Meeting will be presented in what follows in the order in which they were discussed.

- 1) **Progress with International Corrosion Congress in South Africa in 1999** - A revised version of the First Announcement and Call for Papers has been distributed by the South Africans and it is hoped that all ICC Members have received copies. It should be noted that the deadlines for Abstracts and for Acceptance of Abstracts have been extended to 31 October and 30 November, 1998, respectively. Copies of the Registration Forms for Accommodation and Tours should also have been received. Further information can be obtained by visiting the 14th ICC website at: <http://www.ee.up.ac.za/mmi/Open.html>. In brief, the 14th ICC will be held at the Cape Technikon in central Cape Town. Transport has been arranged between Cape Town International airport and the Congress hotels, and between these hotels and the Cape Technikon. The South Africans are planning for about 350 submitted papers and posters covering 15 technical sessions. In addition to the technical sessions there will be six workshops dealing with galvanizing systems, pipeline corrosion, risk assessment and corrosion prediction systems, environmental pressures and specifications, corrosion control in water supplies, and stainless steels. A trade exhibition is being held in conjunction with the Congress.

- 2) **Possible Bids for 15th ICC in 2002** - Dr. Jianhai Qiu (Singapore) has reconfirmed Singapore's intention to submit a proposal to host the 15th ICC. In addition Professor Erika Kálmán informed me recently that the Hungarian Corrosion Society wishes to submit a proposal to bid for the 15th ICC. Bids are also being anticipated from Spain and China. I would like to remind ICC Members that prospective bids must be sent to me by February 26, 1999.
- 3) **Financial Position** - The balance of the ICC account as of July 31, 1998 was £2598.38. Included in this amount was US\$100 generously donated by Professor Shams El Din (Egypt) as a personal contribution for two Past Chairman Award plaques. To this amount will be added the second annual contribution from NACE of US\$1000, plus an anticipated contribution of US\$500 from the Corrosion Coordination Group of the Institute of Materials and Institute of Corrosion, UK. This will bring the ICC account balance to about £3468, from which will be deducted travel expenses of about £600 for Professor Graham, Professor Wood and Dr. Hussey to assist attending the ICC Executive Meeting in Utrecht, Netherlands.
- 4) **Surveys** - The process of updating the ICC Survey of Corrosion Research Laboratories (so-called 4th Edition) is in progress. This edition will only be available on the Corrosion Information Server and will not exist as a hard copy. The task of updating has been split roughly 50/50 between Dr. Stuart Lyon, UMIST and Dr. Hussey. Dr. Lyon agreed to update files for European and African countries and Dr. Hussey agreed to update the rest. The response to questionnaires mailed to European and African countries, who participated in the last Survey, is believed to be fairly satisfactory. The response of the rest of the world, who participated in the last Survey, was about 79%, notable exceptions being the US, Mexico and Brazil. Responses by countries, who did not participate in the last Survey was very poor. Reminders will be sent out, but if there is no response, then all those who did not participate

in the last Survey will be dropped from the data bank. Requests to update the ICC Sources of Corrosion Information databank will be sent out later this year. At the ICC Executive Meeting I reported on the Corrosion Information Server Management Board Meeting held at UMIST, UK on September 18, 1998. With regard to the Information Server the Executive Committee agreed unanimously to continue with the joint activity at UMIST for a further year until November 1, 1999.

- 5) **Marcel Pourbaix Award** - Names have been put forward for the Marcel Pourbaix Award and the Executive Committee will make known its selection in the next Newsletter. It is hoped that the Award will be presented at the banquet of the 14th ICC Congress.
- 6) **Past Chairman Award** - Ten blanks of the Award have been made and seven have been engraved. Past Chairman's Awards were sent out during the summer to: Edward Greco, Antoine Pourbaix on behalf of Marcel Pourbaix, Giordano Trabanelli, Jerome Kruger and Einar Mattsson. Replies were received from all recipients except Professor Pourbaix (please see Item 6a). Two others have been engraved for presentation at the Cape Town Meeting and there remain three blank plaques for subsequent Past Chairmen.
- 6a) **Marcel Pourbaix** - All ICC Members will be saddened to learn of the recent death of Professor Marcel Pourbaix on September 28, 1998. I have passed on my sincere condolences to his son, Antoine Pourbaix (Belgium), on behalf of both the Executive Committee and all ICC Members. Professor Pourbaix was an esteemed Past Chairman of ICC and an active participant in our organization. He will be sorely missed by his friends and colleagues, and by the whole corrosion community. A memorial tribute to Marcel Pourbaix will be made on November 27, 1998 at the Université Libre de Bruxelles ULB, Campus de la Plaine, Maison des Anciens Étudiants UAE, Boulevard du Triomphe, access 4, B-1050 Brussels. Professor

Wood will attend the occasion and say a few words of tribute on behalf of the ICC.

- 7) **Candidates for Vice Chairmen** - I appointed a Nominating Committee in September 1997 to propose candidates for the two Vice Chairman positions for the next three-year term starting after the Cape Town Congress. The Nominating Committee consisted of Dr. Erika Kálmán (Chair) (Hungary), Professor K. Hashimoto (Japan) and Professor J.M. Costa (Spain). The Nominating Committee has nominated Professor Hans De Wit (Netherlands), currently Second Vice-Chairman, Dr. Leonardo Uller (Brazil) and Ir. Antoine Pourbaix (Belgium). A brief biographical sketch for each of the candidates is attached to this Newsletter (Appendix 1). Each candidate has stated in writing that he will serve if elected. According to the Bye-laws Council Members have the right to make additional nominations by petition. A nomination by petition shall bear the signatures of not less than six Members of the Council. To be included in the ballot, a nomination by petition must be received by me not later than seven months before the start of the next Congress, in the present case not later than February 26, 1999.
- 8) **Secretary of ICC** - Dr. Hussey has indicated that he will be vacating the position of ICC Secretary at the Cape Town Meeting. The ICC Secretary ideally needs to be a co-worker or close colleague of the ICC Chairman. This has been possible in the present situation (Dr. Hussey and I) and in the past (Professors Wood and Procter), and has proved to be a very successful arrangement. In order to carry out the work of Secretary it is necessary to have the following in place: (1) access to Internet and computers, (2) adequate financial support to attend ICC Executive Meetings, (3) financial support to cover the costs of mailing, etc., (4) close proximity to ICC Chairman to facilitate ICC Executive activities and (5) access to support services available to ICC Chairman, e.g. office space. Dr. Hussey has discussed the Secretary's role with the upcoming Chairman, Professor Landolt, who will need to decide how to proceed during his term of office.

- 9) **Membership** - Professor Landolt has sent out the ICC Membership list for 1997 to all ICC Members requesting them to indicate any changes. He will send out a revised list prior to the 14th ICC Congress. With regard to Membership changes, Professor Landolt is still waiting for news of the replacement for the late Professor Kolotytkin. Professor Hashimoto will be stepping down as one of the ICC Members for Japan and Professor Tsuru of the Tokyo Institute of Technology will be his replacement. Professor George Thompson of UMIST, UK will be replacing Professor Wood after the 14th ICC Congress.
- 9a) **Paul Lacombe** - Information regarding the death of another former distinguished ICC Chairman, namely Professor Paul Lacombe, has been brought to my attention. Professor Gérard Béranger (France) has published a short memorial paper in the journal 'Revue de Métallurgie, Science et Génie des matériaux'. There will also be a ceremony at the French Academy of Sciences.
- 10) **Corrosion Activities in Uruguay** - Dr. Hussey indicated that he had been in recent communication with Dr. Susana Rivero (Uruguay) regarding publicizing corrosion activities in her country. Dr. Rivero submitted a brief synopsis, which is attached to this Newsletter (Appendix 2). Dr. Rivero would be very interested to have the views or experiences of other ICC Members. She believes that the ICC can help to improve the dissemination of knowledge by scientific and technological relationships based on coordinated activities.

The next Newsletter will probably be produced in the late spring of next year and will include updates on the upcoming 14th ICC Meeting. As a final reminder please contact me or Dr. Hussey, if you have any comments on this Newsletter or have other matters to report, such as regional or national activities.

With my best personal wishes and those of the Executive Committee,

Yours sincerely,

Mike Graham

M.J. Graham, Chairman

Appendix 1

Biographical Sketches of the Candidates for Vice Chairmen

CURRICULUM VITAE J.H.W. de Wit. (1946)

EDUCATION: drs. Chem. Rijksuniversiteit Utrecht 1970
Dr. Math/Phys. sci. Rijksuniversiteit Utrecht 1975

Functions:

- 1970 University graduation at Utrecht University, The Netherlands.
Main subjects: Heterogeneous Catalysis, and Solid State Chemistry.
- 1975-1985 Graduate student at the University of Utrecht from 1-1-1971 till 1-2-1975.
- 1975 D.Phil. at University of Utrecht in 1975. Subject thesis:
Non-stoichiometry of In_2O_3 .
- 1975-1985 From 1-2-1975 till 1-3-1985 lecturer at the University of Utrecht, with tenure. Teaching duties in Inorganic Chemistry.
Research field: Solid state Chemistry and Electrochemistry.
Subjects: Solid state fast ionic conductors, Oxygen evolution electrodes, high T corrosion.
- 1985-1996 From 1-3-1985 till 1-9-1996: Full professor in corrosion technology and electrochemistry at Delft University of Technology.
- 1995-1996 From 1994 till 1-9-1996 also :Scientific Director of the Materials Institute Delft , Eindhoven ,Groningen (MIDEG), with 14 research groups in metals, polymers and ceramics. (200 persons)
- 1996.. from 1-9-1996 part time professor in corrosion technology at Delft University of Technology
- 1996.. from 1-9-1996 managing director of Hoogovens R&D at Ijmuiden
- 1998.. from 1-10-1998 senior director Knowledge and Information management Royal Hoogovens

Also:

Supervisor of 25 Ph.D Theses till 1998.

240 publications in scientific journals/books.

Editor of two Books: " Case Studies in Manufacturing with Advanced Materials"
Volume I, 1992/Volume II, 1995.

Member of the Chemistry Management Group of the Royal Dutch Chemical Society

Chairman Industrial Platform Metals

Member of the Technology Commission of the Dutch Society of Employers (major industries)

Member European Industrial Research Management Association

Member Advisory Board Universityfund of Delft University of Technology

Member Advisory Board Studium Generale of Delft University of Technology

Member Program Committee IOP Heavy Metals

Member Board NCC, Dutch Corrosion Centre

Member Program Advisory Board Dutch Energy Research Centre

Second Vice-Chairman International Corrosion Council

Chairman of the Workingparty Physical Chemical Measuring Methods European Federation of Corrosion

Member Board of Administrators European Federation of Corrosion

Member National Association of Corrosion Engineers USA

Member Electrochemical Society

Member International Advisory Board Journal "Werkstoffe und Korrosion"

Member Scientific Review Board of Max-Planck-Institut für Eisenforschung
Düsseldorf

Member of the Dutch Panel for Technology and Science

Member Advisory Board Studium Generale TU Delft

President-elect of the Royal Dutch Chemical Society (KNCV)

LEONARDO ULLER

Date of Birth: 15 October 1950

Nationality: Brazilian

EDUCATION:

1973 B.Sc. - Chemistry – Federal University of Rio de Janeiro, Brazil
1974 M.Sc. - Metallurgical and Materials Engineering, Rio de Janeiro, Brazil
1980 Dr.Ing. - Doctor in Chemical Engineering (applied to Corrosion), University of Paris, France

EMPLOYMENT HISTORY :

1972-1975 - Researcher – Metallurgical and Materials Dept. , Corrosion and Electrochemistry Lab. / FEDERAL UNIVERSITY OF RIO DE JANEIRO, Brazil.
1975-1976 - Technical Adviser for Technological Transfer involving Corrosion Protection / Secretariat of Industrial Technology / MINISTRY OF INDUSTRY AND COMMERCE.
1975-1977 - Research Specialist – CEA - ATOMIC ENERGY COMMISSION OF FRANCE – Fontenay-aux-Roses Research Centre / Corrosion Division / France and NATIONAL COUNCIL OF TECHNOLOGICAL AND SCIENTIFIC DEVELOPMENT, Brazil.
1980-1983 - Head of the Corrosion Laboratory / Head of the Materials Eng. Dept and Head of the Metallic Materials Division – FOUNDATION FOR INDUSTRIAL TECHNOLOGY, Rio de Janeiro, Brazil.
1983-1988 - Head of the Unit of Programs on Materials Technology and also of the Corrosion Laboratory, NATIONAL INSTITUTE OF TECHNOLOGY – MINISTRY OF SCIENCE AND TECHNOLOGY, Rio de Janeiro, Brazil.
1988- to this date - President - CORRTEC TECNOLOGIA E EQUIPAMENTOS LTDA - Corrosion Consulting, Projects Services and Representations, Rio de Janeiro, Brazil.
- Consultant / Development Management, BUREAU VERITAS BRASIL, Rio de Janeiro.

TECHNICAL AND BACKGROUND EXPERIENCE :

Since 1971 works in the field of corrosion engineering having published more than 90 technical communications in Brazil and other countries with the presentation of more than 40 Lectures on different subjects related to: Materials oxidation at High temperatures; Materials Engineering and Corrosion with emphasis to the protection Methods with Metallic and Organic Coatings, Cathodic Protection; Thermal Spray; On line Corrosion Monitoring; Failure Analysis; Corrosion by Fuels; Corrosion Wear in Sugar and Alcohol Plants; Underground Storage Tanks and Pipes Leak Detection ; Management of Technological Development, International Coordination of Science & Technology Programs.

ACTIVITIES IN INTERNATIONAL ORGANIZATIONS AND PROGRAMS RELATED TO CORROSION:

- INTERNATIONAL CORROSION COUNCIL (ICC) : Brazil representative from 1987 to this date.
- BRAZILIAN CORROSION ASSOC. (ABRACO) : President (1985) - 1989 President of the Council : (1989-1991).
- IBERO AMERICAN CORROSION AND PROTECTION ASSOCIATION (AICOP) : President (1992-1998).
- NACE INTERNATIONAL : NACE Brazil Section Founder (1994), Chairman (1994-1996) and Trustee (1994-1999), NACE Latin American Region : Vice Chairman (1994-1996) Chairman and Trustee (1996-1998). Participant of the Long Range Strategic Plan for NACE (1996-1997)
- CYTED PROGRAM (IBERO AMERICAN PROGRAM OF SCIENCE & TECHNOLOGY FOR DEVELOPMENT) : In 1988 was nominated the International Co-ordinator of the Corrosion Subprogram by the Institute for Ibero American Cooperation (Madrid) and the Research Councils of the 21 Ibero American countries, of CYTED Program (Ibero American Program of Science & Technology for Development). After 10 years as coordinator, has established different Projects and Networks of Research involving 15 countries on : Atmospheric Corrosion, MIC, Corrosion of Rebars, Technical Information on Corrosion, Corrosion of Ibero American Cultural Heritage and other activities as the 1st Meeting of Atmospheric Researchers from those 15 countries in Antartida (Argentinean Base of Marambio) to discuss the results of our researches in that climate.

OTHER ACTIVITIES:

Have been in the organisation of a great number of events as Congress, Workshops and other Corrosion Meetings at International level. Author of 4 books and 2 Patents.

LANGUAGES:

Portuguese, English and Spanish.

ANTOINE POURBAIX

Short biography

Born in Belgium 1939. Graduated from the Université Libre de Bruxelles in 1961 (Electrical and mechanical engineering).

Additional education : course on Electrochemical corrosion (1964)

Worked at CEBELCOR (Belgian Centre for Corrosion Study) in Brussels, as research engineer (1963), then chief engineer (1964), associated-director (1974) then director (1979) and currently Managing Director.

Is associated with the Université Libre de Bruxelles (Industrial Associate) and with the Faculté Polytechnique de Mons(Belgium) (Scientific Associate).

His work includes fundamental and applied and development research on corrosion and corrosion protection, industrial consulting, corrosion testing, surveys and education (conferences, courses, publication, training, support for thesis).

Special assignments were or are:

Consultant at the Research Center of Union Oil Company of California (1970)

Visiting Assistant Professor at Georgia Institute of Technology (1970-1971)

Consultant for UNIDO « Development of a national technology in the corrosion field in Brazil » (Brazil, 1976)

Consultant for the European Community EEC « ASEAN-EEC Scientific and Technological Cooperation Programme in the Philippines » (Philippines, 1985 and 1987)

President of the Committee « Cathodic Protection », National Institute of Standards, Belgium (1986)

Belgian Delegate of the International Corrosion Council (since 1993)

Member of the Board of the European Federation of Corrosion (since 1995)

Member of NACE International

Member of ASM

Current research topics include :

Disposal of high activity nuclear wastes

Moderate cathodic protection of CRAs in the Oil and Gas industry

Advanced cathodic protection monitoring

AC induced corrosion

Corrosion in concrete

Mechanisms of localized corrosion in chloride environments and in hydrogen sulphide environments

Chemical and electrochemical equilibria at high temperature

Authored or coauthored 65 papers on corrosion and corrosion prevention.

Appendix 2

Corrosion Activities in Uruguay - submitted by Professor Susana Rivero (Uruguay)

Uruguay has the following statistics: 3.2 million inhabitants occupying an area of 175016 km²; the capital city of Montevideo has 2475 inhabitants/km² spread over 530 km², while the population density in the rest of the country is only 9 inhabitants/km²; Gross National Product (GNP) is \$18,000M (28% of that of developed countries such as Canada, USA, Germany and Japan); 27% of inhabitants have higher education; 2.8 and 0.6% of GNP government investment in total and university education, respectively, in the last 10 years.

Although corrosion problems, such as those related to costs, expenditure of non-renewable natural resources and catastrophic failures, are well-known worldwide, such topics were only introduced in universities in Uruguay in the 90's as an applied subject in research, advisory and teaching areas. This introduction was closely related to the CYTED program (subprogram XV, MICAT, (Iberoamerican Atmospheric Corrosiveness Map) project), which allowed selected university staff (having potential resources) in engineering faculties and in the National Meteorological Service to take part in a concentrated network of 71 atmospheric corrosivity stations in the Iberoamerican region (South and Central America, Spain and Portugal), which have a broad range of climate and unique atmospheric factors.

Our starting situation was unusual, because we had no previous atmospheric corrosion activity or formalised human resources. From 1990 to 1994, however, we became involved in 3 CYTED projects, namely, atmospheric corrosion, reinforced concrete corrosion and microbiologically-induced corrosion as national applied research activities. Most importantly integrated teams were established, mainly from fundamental electrochemistry, experimental physics, chemical and mechanical engineering, and environmental science areas as well as laboratory and field facilities related to corrosion, permanent advisory facilities to industry and the public, and permanent teaching assignments (toward graduate and postgraduate degrees).

None of these actions were produced by magic. Several specific and particular factors were brought together, such as:

- (1) Development of an initial strategy
 - (i) interdisciplinary relationships (the integration of human resources belonging to a single science and engineering faculty, the only one in the country)
 - (ii) interinstitutional relationships (between the university and other national services)
- (2) Government investment in science and technology in 1992 (\$50M BID loan with 10% engineering faculty participation in specific projects)
- (3) University priority plan (special funds given to those academic proposals which qualified as "excellent", integrating basic and applied fields, and transferring knowledge to industry)
- (4) Creation of special salary schemes, so-called "compensated regime" (differential salaries for those researchers, which are supported by industry in their advisory and technological research activities)

In summary Uruguay is rapidly developing a proficiency in the corrosion field with particular reference to national requirements and circumstances plus taking advantage of the CYTED program's synergistic action and international connections through the ICC. We think that horizontal scientific and technological relationships based on coordinated activities improve the dissemination of knowledge. In this regard a quotation of the late Professor Rafael Laguardia, mathematician at the Republic of Uruguay University, is appropriate, "Talent is the human property most democratically and widely distributed in the world".