

**SHORT STATEMENTS FROM THE CANDIDATES  
FOR ELECTION TO THE 'ICF ExCo 2017-2021'**

**The elections will be held at the ICF Council Meeting at ICF14 (Rhodes, 2017)  
via voting by the National Delegations.**

**The voting papers will be sent to the known Team Leaders of accredited  
National Delegations prior to the ICF Council Meeting at ICF14 - and given to  
any other Team Leaders of accredited National Delegations who attend the ICF  
Council Meeting at ICF14.**

## **Candidates for President** **(One to be elected)**

**Professor Emmanuel Gdoutos, Greece:** I have attended all ICF quadrennials since ICF10 in 2001. I am Fellow of ICF, member of the Executive Committee for the last eight years and Senior Vice President for the last four years. I served as President of the European Structural Integrity Society (ESIS), the Society for Experimental Mechanics (SEM), and the European Society for Experimental Mechanics (EuraSEM). I have been working in fracture mechanics since 1970, and I have published more than 130 papers in journals and 180 in conference proceedings. My book “Fracture Mechanics – An Introduction” accompanied by “Solutions Manual” is used as a textbook by many universities worldwide.

As President of ICF, I plan to:

1. Establish technical divisions to organize special interquadrennial meetings and technical sessions for ICF quadrennials.
2. Make ICF financially healthy.
3. Establish student chapters with financial support from ICF.
4. Establish ties with the industry and provide technical expertise.
5. Publish an ICF Newsletter.
6. Integrate South America and North Africa into ICF.
7. Liaise ICF with sister societies, like ESIS, the Society for Experimental mechanics, ASTM, etc.
8. Edit an “Encyclopedia of Fracture” with chapters from experts in various areas of fracture mechanics.

**Professor Robert M. McMeeking, USA:** I would be greatly honored if I were to have the good fortune to be elected President of the International Congress on Fracture. I have been working on fracture since I was a graduate student, and, over the years, *inter alia*, I have been involved in crack-tip ductile fracture, creep fracture of metals, fracture of piezoelectrics and ferroelectrics, fracture and failure of high-temperature ceramic-matrix composite materials, polymer-matrix composite materials, fracture mechanics of elastomers, and, most recently, on the fracture and comminution of storage particles in lithium-ion batteries. ICF4 in Waterloo, Ontario, Canada in 1977 was the first major international conference I attended, and I have been at about half of the ICF meetings since then. I was briefly on the Board of Directors (2005-2009). In regard to organizing major meetings, I have experience within the International Union of Theoretical and Applied Mechanics, where I am Secretary of its Congress Committee (2012-2020), with oversight of the organization of the International Congress of Theoretical Applied Mechanics, most recently held successfully in Montréal in August 2016. In regard to my credentials, I received the Timoshenko Medal of ASME and the Prager Medal of SES, both in 2014. I am a Member of the US National Academy of Engineering, and a Fellow of the UK Royal Academy of Engineering & the Royal Society of Edinburgh.

My approach to the International Congress on Fracture would be to strive to focus it on retaining and enhancing its pre-eminence as the most important international meeting on fracture and its articulated research areas. This requires it to attract the best researchers in those fields to the Congress, and to highlight the best researchers and speakers in the plenaries, semi-plenaries and invited lectures at the meeting. It is also important to ensure that the organization of the conference is attractive to participants, and I will strive to ensure that best practices are followed in that regard. As a steady flow of brilliant early-career researchers is necessary to ensure both the health of the discipline and the high standing of the Congress, I will work to ensure that the organization and style of the Congress is attractive to such individuals and meets their needs. Mechanisms that can be used to achieve all of the above include the careful choice of plenary and semi-plenary speakers, the organization of timely and effective symposia within the Congress with stimulating invited talks, well-designed and organized poster sessions, and best paper/best poster competitions to attract and recognize the top researchers.

**Candidates for Treasurer (de facto CEO)**  
**(One to be elected)**

**Professor Leslie Banks-Sills, Israel:** I would be honoured to serve as the CEO/Treasurer of ICF. This is an esteemed organization in the field of fracture and fatigue which was established in 1965 by Professor Takeo Yokobori. Professor Taplin has outlined an interesting history of the development of ICF. I am a Professor Emerita at Tel Aviv University. After completing a Ph.D. at Harvard University and a Post-Doc at Brown University, I immigrated with my family to Israel and began my academic career at Tel Aviv University in March, 1979. In addition to publishing over 100 papers in international journals, I have guided over 50 graduate and post-graduate students in the fields of fracture, fatigue and composite failure. I spent sabbaticals at Wright Patterson Air Force Base, Cornell University, Lund University and Kyoto University, and in 2014 was awarded an Honorary Doctorate from Lund University. I am currently on the editorial boards of Engineering Fracture Mechanics, International Journal of Fracture and International Journal of Structural Integrity. Since 2010, I have been the President of the European Structural Integrity Society (ESIS) and together with an Executive Committee, have guided ESIS to important activities in the field of structural integrity. This year, 4 new technical committees were formed and another was revitalized one. You can see our web site at [www.structuralintegrity.eu](http://www.structuralintegrity.eu). I have been a participant at ICF conferences for many years, served on the Executive Committee and was honoured to become a Fellow of ICF in 2005.

I foresee ICF continuing in its excellent direction by having excellent conferences every four years which are rotated between the various regions of the world, namely: the Americas, Europe and Asia, including Australia and New Zealand. I would like to suggest that in the future, the Council be careful in choosing a venue for which the fees are lowered in order to provide opportunities to people who do not have sufficient funds to attend ICF. In addition, I would like to establish a fund to support needy engineers and scientists, as well as young people to attend ICF. To this end, support may be solicited from various engineering firms and start-ups which work in our field. As Treasurer, I would expect mandatory transparency of the treasury. Finally, as I have been working hard for ESIS, I would extend the same effort to ICF if elected. My web page is: <http://www.eng.tau.ac.il/~leslie/>

**Professor Krishnaswamy Ravi-Chandar, USA:** from the University of Texas, Austin, TX, [ravi@utexas.edu](mailto:ravi@utexas.edu) - I have been associated with ICF for more than two and a half decades, beginning with a key role in organizing the technical and logistical aspects of an extremely successful and innovative ICF-7 in Houston in 1989. I was then Co-Chair of ICF-10, a meeting organized jointly between the US and Japan and held under difficult circumstances following the events of September 11, 2001. I have also served as Director (1997-2001), Vice-President (2002-2005) and President (2005-2009) and ICF Council Member representing the USA (2009-present). During my tenure as President, I promoted successfully the organization of many Interquadrennial conferences in different continents. Having been involved in these numerous roles, I have a broad perspective of all aspects of the operations of the ICF. I have also served in many other national and International leadership roles and these have also helped shape my perspectives: President, American Academy of Mechanics (2011-2014); American Society of Mechanical Engineers (ASME) Applied Mechanics Division Executive Committee Member, (2003- 2008; Chair in 2008); member of six prestigious ASME Awards Committees (2003 – 2013; Chair in 2008); Member of the US National Committee on Theoretical and Applied Mechanics (2003-present; Vice-Chair, 2016-2018), Member of the Congress Committee of the International Union of Theoretical and Applied Mechanics (2010 – 2018); Editor-in-Chief of the International Journal of Fracture (2000– present). Based on this experience I am aware of the obligations, aspirations, traditions, activities, limitations, and organizational structures of international organizations in promoting science, engineering and technology.

As Treasurer/CEO, I would aim (i) to develop a diverse leadership structure designed for continuous rejuvenation by promoting young scientists and engineers into leadership at an early stage of their career. (ii) to establish robust suite of activities that complement the quadrennial Congresses, such as thematic workshops, interquadrennial conferences, etc. (iii) to promote the activities of all interest groups within the ICF that span from the basic sciences to applied engineering.

**Professor Ashok Saxena, USA:** from the University of Arkansas - I fully support and understand the culture of ICF, especially its international outreach in every aspect of its workings. I first became involved with ICF in 1977 in Waterloo, Canada; since then, I have attended every ICF and look forward to participating in ICF14 making it 11 ICF conferences in a row over a period of 40 years. I have organized sessions, edited proceedings, contributed papers, acted as session chairman and given invited Plenary and Keynote talks at various ICF conferences. I have also served as a Director (2001-2005 and 2013-2017), Awards Committee Chair (2005-2013) and Vice President (2009-2013) of ICF. Subject to ratification by the Council, I am scheduled to serve as the Chair of ICF15 in Atlanta, GA in June of 2021.

I am seeking the Treasurer's position for the 2017-2021 quadrennium to continue serving ICF and strengthening its impact through the foreseeable future. To continue to remain a vibrant organization, ICF needs a Treasurer with the ability to envision and execute plans that are strongly supported by its constituency. If elected, I plan to work collaboratively and synergistically with the ICF leadership to develop a set of guiding strategies/principles that will effectively serve the ICF community and enhance its world-wide impact while promoting its own brand. In the coming four years, I feel confident that I will have the support of the University of Arkansas to devote the necessary time to serve in the Treasurer's role for ICF.

## **Candidates for Vice-President** **(Three to be elected)**

**Dr. Mimoun Elboudjaini, Morocco and the USA:** ICF is a world class organization that serves society and the needs of professionals and others involved in the research, development and application of the science and technologies through its Quadrennial meeting in the global materials community (i.e.: Physical Metallurgy; Fundamentals of Fracture Mechanics; Composite Materials & Non-Metallics; Bio-Materials & Bio-Medical Applications; Geophysics & Earthquakes; and Nuclear, etc.) Since ICF11, we have created a precedent when inviting Beijing to organize ICF13 eight years in advance. I believe that there is much to be done between four years of waiting for the Quadrennial Conference & to wait for the ICF conference in eight years. In my view, the country organizing the ICF conference in 8-years, must have an “obligation” to organize ICF-IQ for the following reason: ICF is composed of several technical fields/sections, representing the technical diversity of the materials science, and materials community.

I would suggest that among the ICF members and committee is established a program of activities in response to its member’s interests. The main purpose of the sections is to create forums for the sharing of ideas or the analysis of problems. Representatives of each section would then be responsible for the organization of technical meetings and symposia to deal with current issues in their area of expertise. These events must be channelled and organized during ICF-IQ in the country organizing ICF conference eight years in advance. No doubt that the ICF members are the best in their field and the demand to have courses/workshops is enormous. The organization of short courses, workshops, seminars, symposia or special publication projects could be considered by the sections that collaborate with the ICF-IQ organizers in order to achieve their goals:

- Focusing on industry needs;
- Gap in diversity training. There is a misalignment between what ICF is bringing to society and its lack for transfer in organizing workshops/courses to students and industry;
- Preconference workshops are a tool that creates a relationship between science and practice and maximizes leverage;
- Students in fracture mechanics and engineers will be more attracted to participate & in addition increase the attendees/registration and income to ICF;
- Attract more members to ICF;
- Forged partnerships oriented around mutually interesting and beneficial research “academia/industry”.

ICF must create solid links by organizing courses and also specific workshops for the needs of the industry. By so doing, the income will help to invite key scientists and talented students for attending the ICF conference. The purpose of the “ICF Bridge” is to provide an additional channel, building upon ICF’s current efforts, for connecting science and practice. ICF should create strong links by organizing courses and also very specific workshops for the needs of the industry and to accomplish this by publishing in the form of a Newsletter various types of short article content on the subject of science and practice integration; for example, case studies of effective practice; discussions between scientists and practitioners on a relevant topic, reviews of the key scientific and practical implications of a topic area; summaries of latest research findings and their implications for practice; summaries of key practice issues and their implications for needed research; and/or, calls for research to help practitioners overcome challenges associated with effective practice. Despite our best intentions to stay informed, all of us (ICF members) are often too busy doing our jobs. These articles in Newsletter fulfill these best intentions by distilling some of the most important findings of recent years on trending topics in ICF & highlight some examples of research/benchmarks that represent the state of the science (led by ICF members) and provide some commentary on how robust the research is on these topics.

**Professor Francesco Iacoviello, Italy:** He was born in 1966 in Rome; in 1989 he obtained the Laurea degree “cum laude” in Nuclear Engineering at the University of Rome “La Sapienza”. In 1997 he obtained the PhD degree in “Corrosion-Metallurgy” at Ecole Centrale Paris (France). Associated Professor from 2000 to 2005, since 2005 he is full professor of Metallurgy at the Faculty of Engineering of the University of Cassino. Since 1997, he is the director of the Solids and Structure Mechanics Laboratory and from 2006 and 2009 he was the director of the PhD School of Engineering at University of Cassino. Since 2012, he is the responsible of the pedagogical activities of the Industrial Engineering courses at the University of Cassino. He is author of more than 200 papers published in international journals, conferences proceedings and books chapters and 1 patent. He is member of the editorial board of the journals “Scienza e Ricerche”, “Integritet i vek konstrukcija – Structural Integrity and Life”, “Theoretical and Applied Fracture Mechanics”, “Fatigue & Fracture of Engineering Materials & Structures”. He is co-founder and Editor in Chief of “Frattura ed Integrità Strutturale” (since 2007), President of the Italian Group of Fracture (since 2009), ICF Director (since 2013), ESIS Vice-President (since 2014), and co-founder and editorial responsible of “Procedia Structural Integrity” (since 2016).

Ideas on the future of ICF:

My ideas for a future development of ICF can be summarized as follows:

- Activate a stronger connection between the ICF events participants and the ICF association (maybe with a quadrennial fee; the participation to the ICF event could imply the ICF membership for four years);
- Improvement of the cooperation with supranational (e.g., ESIS, ASTM etc) and with national associations. For example, ICF could offer a platform in its website (e.g., based on the Open Conference System, OCS) for the emerging countries, in order to publish on line the proceedings of the events they organize (the ICF website can guarantee a wider audience, if compared to a national website);
- Improvement of the ICF website and of the “social” activities (FB, twitter, etc), in order to spread the events organized by the supranational and national organization and to offer a unified events calendar (this could be really helpful to reduce the risk of events superposition); the ICF website improvement could be paid with the hypothetical quadrennial fees and/or offering some sort of “advertising” services in the ICF website.



**Professor Ares Rosakis, USA:** received his B.A. and M.A. degrees from Oxford University and his ScM and PhD degrees from Brown University. He joined the California Institute of Technology as an assistant professor in 1982. In 2004, was named the *Theodore von Kármán Professor of Aeronautics and Mechanical Engineering*. 2004-2009, he served as the 5th Director of the historic Graduate Aerospace Laboratories (GALCIT) formerly, known as Guggenheim Aeronautical Laboratories. From 2009 to 2015, he served as the *Chair (Dean) of the Division of Engineering & Applied Science*, and held the *F. Otis Booth Leadership Chair*, 2013-2015. Member of the National Academy of Sciences, the National Academy of Engineering, and a Fellow of the American Academy of Arts and Sciences. Member of the European Academy of Sciences and Arts (*Academia Scientiarum et Artium Europaea*) and of the *Academia Europaea*. He is a Foreign Fellow of the Indian National Academy of Engineering, Corresponding Member of the Academy of Athens and was made *Commandeur dans l'Ordre des Palmes Académiques* by the French Republic. Rosakis holds multiple awards and medals from the Society of Experimental Mechanics (SEM), the American Society of Mechanical Engineers (ASME), the Society of Engineering Science (SES), and the American Society of Civil Engineers (ASCE). He is an expert in static and dynamic failure mechanics of solid materials at all length and time scales. Earlier work includes the study of dynamic, failure (cracking, debonding, and adiabatic localization) of structural metals and brittle materials, as well as the shear rupture of bonded heterogeneous solids and composites, by using high speed photography and infrared thermography. In 1999, Rosakis introduced the concept of "*Laboratory Earthquakes*" and developed a unique, highly instrumented, laboratory facility, which reproduces the physics governing rupture dynamics of crustal earthquakes. His additional *experimental* discovery of "*super-shear*", frictional rupture speeds has revolutionized the way earthquake events are interpreted, validating inferences of super-shear growth in many sufficiently large earthquakes, which resulted in improved understanding of zones of intense ground motion damage. His laboratory discoveries and modeling have also helped resolve a number of additional cutting-edge problems in earthquake source physics, including the directionality of rupture growth in heterogeneous faults, the mechanism of creation of off-fault damage and the selection between "pulse-like" or "crack-like" modes in earthquake slip. Additional research interests include the reliability of thin-films and in-situ wafer metrology, as well as hypervelocity impact phenomena for the study of micrometeorite threats on space structures.

Ideas on the future of ICF:

- Create incentives for graduate students, postdoctoral fellows and early career professorial faculty to submit papers and participate in ICF events and conferences. Early career awards and monetary travel fellowships for the above categories should be established. Also, provide research seed-funds for young faculty members working on fracture all around the world.
- Strong efforts should be made to endow existing medals and prizes (and create new ones) with the funds necessary to generate large enough yearly pay-outs in support of these prizes. A good model for this is the ASME Applied Mechanics Division (AMD) which administers a large endowment in support of the Timoshenko, Drucker, Koiter, Caughey, Hughes-Young Investigator, and Belytschko medals. All of which come with a substantial cash award. The President should engage in International fundraising for the above purposes.
- The new ICF president and leadership should foster connections with international Academies (e.g. NAS, NAE, Royal Society, AAA&S, France Academy of Sciences, AE, Chinese Academy of Sciences, Indian Academy of Sciences, etc.) and encourage these bodies to co-sponsor ICF led events in an attempt to highlight the entire field of fracture and failure mechanics and its fundamental importance to society.
- Fracture and failure mechanics has been outside the limelight of scientific news despite its societal impact on safety and natural hazard migration. ICF should establish a continuously active communications and outreach effort to educate the international public of the crucial role that our field plays in their everyday life, safety and security.
- Involve a few academically young researchers in our governing bodies (create slots for young and energetic people).

**Professor Chun Wang, Australia:** is currently the Head of the School of Mechanical and Manufacturing Engineering at the University of New South Wales, Sydney, Australia. His most recent past appointments include the Director of the Sir Lawrence Wackett Aerospace Research Centre at RMIT University between 2009 and 2016, and the Head of Advanced Composites Technologies at the Defence Science and Technology Organisation between 1995 and 2009.

His main research interests include fatigue growth modelling and life prediction, smart materials and structures, adhesive bonding and repairs, and advanced fibre composites. He has published over 280 journal and conference papers that have been cited over 5000 times. He received his PhD from the University of Sheffield in 1991, and Bachelor degree from Huazhong University Science and Technology in 1985.

He has organised and co-organised a number of international conferences, including the 11<sup>th</sup> International Fatigue Congress held in Melbourne, Australia in 2014.

Ideas for future of ICF:

- Improve international collaboration through the establishment of a social network on fracture.
  - Increase the impact of fracture-related research by expanding partnerships between ICF and standards organisations
  - Introduce awards and scholarships to encourage participation of young researcher (postgraduate students).
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***(Please note: The Senior Vice-President (SVP) is designated from the elected Vice-Presidents by the incoming President. The SVP's only role as the SVP is to act for the President when he is absent - e.g. Chair Committee Meetings.)***

**Candidate for Secretary-General**  
**(One to be elected)**

**Professor Toshimitsu Yokobori (Japan)**

**Candidates for the Directors Nominated by the Current ExCo**  
**(Five to be elected)**

**Professor Xi-Qiao Feng, China:** is a Chang Jiang Chair Professor and the head of Department of Engineering Mechanics, Tsinghua University. He earned a Ph.D. degree in Solid Mechanics in 1995 at Tsinghua University. From 1997 to 1999, he worked as an Alexander von Humboldt research fellow in Technical University of Darmstadt and Delft University of Technology. He rejoined Tsinghua University as an associate professor in 1999 and was promoted to a full professor in 2001. Selected Feng's honors include the Award of Science and Technology for Young Scientists of China (2007), Distinguished Young Scholars Award of NSFC (2005), Young Scientist Award of Fok Ying Tong Education Foundation (2004), Award for Best Doctoral Theses of China (1999), etc. He also serves as a member of editorial board of more than 10 journals, e.g., Engineering Fracture Mechanics, Applied Physics Letters, Journal of Applied Physics, and Archives of Applied Mechanics. In addition, he was the secretary-general and treasurer of Chinese Society of Theoretical and Applied Mechanics (CSTAM) during 2010–2014. His research interests include damage and fracture mechanics, molecular and cellular biomechanics, mechanics of biomaterials and soft matter. He has authored and co-authored three books and more than 300 international journal papers. Since 2010, he has been serving as the secretary-general of Beijing International Center of Theoretical and Applied Mechanics (BICTAM), one IUTAM Affiliated Organization. In the past five years, he has organized about 50 symposiums, workshops, and summer schools in BICTAM, many of which are in the field of fracture mechanics.

During the service period in ICF, he will make much effort directed toward promoting the advancements of fracture research and education, establishing close relations between ICF and BICTAM, and creating a platform of academic exchange between fracture research and related industries. More symposiums, workshops, and summer schools will be organized on fracture and related fields, within the framework of ICF.

**Professor Peter E.J. Flewitt, UK:** D.Sc. (Lond), DUniv (Surrey) Hon.Causa, FREng, is in the School of Physics, University of Bristol. Following a period as the Senior Research Fellow at the University of Sheffield, I moved to the Central Electricity Generating Board Research Department. I became a senior technical manager with Magnox North Ltd (Berkeley Centre, UK) and its predecessor companies following the privatisation of the CEGB. I am a member of the Interface Analysis Centre, the South West Nuclear Hub and the Bristol-Oxford Nuclear Research Centre. I am a founder member and Director of the UK Forum for Engineering Structural Integrity. My current research is focussed on the deformation and fracture of metals and alloys and non-metallic materials across temperature, environment and length-scale ranges, more recently addressing nano polycrystalline materials and commercial graphites.

My aim for ICF is to (i) represent the views of the UK members , (ii) ensure that this conference series retains the preeminent position it occupies and (iii ) continue to embrace emergent areas of testing, modelling and mechanistic understanding of deformation and fracture for current and newly developed materials across the nano to component length scale.

**Professor Rhys Jones, Australia:** Chair of Mechanical Engineering, Monash University: With over 400 publications and several books and book Chapters Rhys has made significant contributions to the fields of: fracture mechanics; fatigue, composite structures, failure assessment and repair technology; experimental stress analysis. Rhys works across the disciplines of Aerospace Structures and Railway Engineering. He is internationally recognised as being, together with Dr. Alan Baker, the pioneer of composite repair technology for metal airframes and also of the use of additive metal technology to ensure continued airworthiness. Indeed, *their 1988 text "Bonded repair of aircraft structure" is cited more than 550 times*. The significance and innovative nature of his research is further illustrated by the fact that in September 2008 his seminal paper, co-authored with Albert Wong and James Sparrow in the Journal of the Physics and Chemistry of Solids, on thermo-elasticity was chosen by the Chief Defence Scientist as one of the Ten Best Defence Science Publications in the period 1907-2007. Professor Jones' work on cracking in the RAAF Mirage fleet resulted in an Engineering Excellence Award. His work on cracking in the F-111 fleet led to a Rolls-Royce/Qantas Commendation. He is currently working closely with the RAAF, DST Group, Navair, Airbus Group Australia Pacific (AGAP) and RUAG Australia on aspects of aircraft sustainment, additive metal technology and composite and bonded structures and OneSteel and IRPlastics on a range of railway engineering problems. In this context he has co-authored numerous papers with Defence staff on cracking under operational aircraft flight spectra. These papers now form part of the basis of methodology used by the RAAF to assess cracking in the Australian F/A-18, P3C (Orion) and PC9 (Pilatus Porter) fleets.

Rhys is interested in building closer links between ICF, ESIS, SAMPE and the ASTM with (possibly) joint specialist meetings on selected fields. He is also interested in developing materials that can be used to educate and train young engineers and scientists as well as material for continued professional development. Rhys is particularly interested in ensuring that ICF encourages and captures the emerging disciplines of: additive manufacturing and additive metal technology; the durability of composite and bonded structures; structures fabricated using recycled plastics.

**Professor Sylvie Pommier, France:** She is a specialist of fracture mechanics and works in the field of defect tolerance design methods in non-linear conditions (inelastic material behaviour, non-isothermal loading conditions, mixed mode crack growth in non-linear conditions, contact mechanics and fretting-fatigue) for aerospace, energy and naval applications. She is currently developing approaches based on principal components analysis and the thermodynamics of irreversible processes. This method allows to model crack growth, as it is done for the modeling of the non-linear behavior of the materials, but with a formalism based on non-local state variables tailored for characterizing the non-linear behavior of the material around moving singularities such as crack fronts or contact fronts with the minimum possible independent degrees of freedom. From 2009 to 2012 she was the director of the doctoral School of ENS Cachan (now know as ENS Paris-Saclay). From 2012 to 2014 she was vice-president of ENS Cachan in charge of research and doctoral training. From sept. 2014 she was the project leader for the development of the doctoral education of Université Paris-Saclay and she is the dean of doctoral education of Université Paris-Saclay since march 2016. Université Paris-Saclay is a union of 18 member institutions (including ENS Cachan, Université Paris-Sud, Ecole Polytechnique ...) which is now accredited for delivering the doctorate degree award. Sylvie Pommier is coordinating the activity of 20 doctoral schools, organizing the recruitment, follow up, training and assessment of 5300 PhD students in various fields, from maths and computer sciences, to social sciences and finance, including life sciences and engineering sciences. Sylvie Pommier graduated from Ecole Centrale de Lyon, France (ECL - 1992) and from Ecole Centrale Paris, France (Phd 1995). She joined first Ecole Centrale Paris as a faculty member (1995-2003) and then Ecole normale supérieure de Cachan as a Professor in Mechanical Engineering in 2003. She is the author of 42 international journal papers, 3 books, 4 book chapters, 2 patents and gave more than 100 national or international conferences. She was the supervisor or co-supervisor of 25 PhD students. More : <https://www.linkedin.com/in/sylvie-pommier-0046a050>

**Mission statement:**

The International Congress on Fracture is recognized as the key international organization for promoting the cooperation between scientists and engineers concerned with the mechanics and mechanisms of fracture, fatigue and strength of solids and for building bridges between disciplines involved in such research. I would be honored to play a role in the life of this Congress and proud to be using my skills to support it. Since I am involved in a major restructuration of the French higher education and research system (Université Paris-Saclay), I have been made very much aware of the importance of new challenges such as the data / digital challenge and the relations between science and society. I would be happy to help the cross-fertilization between disciplines and to impulse actions to reinforce the role ICF is playing as a forum and to grow the awareness of the public of the importance of having a dynamic research on fracture problems.

**Dr. Bill Tyson, Canada:** Scientist Emeritus, has been the principal authority on fracture mechanics at the Materials Technology Laboratories of the Department of Natural Resources Canada in Ottawa since 1972. He graduated in Engineering Physics at the University of Toronto in 1961 and completed his doctorate in Metallurgy at the University of Cambridge in 1965. He taught physics at Trent University during its early years from 1967 to 1973, when he joined CANMET. He is the author of over 300 papers on mechanical properties of materials, concentrating on steels and on fracture mechanics. He is very active in research on fracture control in pipelines, and contributes to the pipeline materials subcommittee of the Canadian Standards Association. His current research focuses on low-constraint toughness testing and ductile crack arrest. Tyson is a Fellow of ASM International, and has received the Dofasco Award for Materials Engineering from CIM and the Canadian Metal Physics Medal.

## **Candidates for the other Directors** **(Five to be elected)**

**Professor Leslie Banks-Sills, Israel:** Will stand if not elected as Treasurer (*de facto* CEO) - see page 4 for details.

**Professor Paulo M. S. T. de Castro, Portugal:** born in Porto, in 1950, obtained his Mech. Eng. degree of the Univ. Porto (UP) in 1973, an MSc of Imperial College in 1975, and a PhD of Cranfield University in 1980. Currently he is a professor of the Depart. of Mech. Eng. of UP. His research interests are mainly in the field of fracture and fatigue. Through several European Union projects, part of his work in the past years is concerned with aeronautics, particularly riveted and integral structures, namely those manufactured using FSW. Professor de Castro has been involved in several international and national scientific and professional organizations such as ASME where he was a member of the Board on Professional Practice and Ethics, and others as SEFI, TWI, IOM3, European Group on Fracture, Sociedade Portuguesa de Materiais (SPM), Ordem dos Engenheiros, etc.. He is a correspondent member of the Lisbon Academy of Sciences, and a member of the editorial board of the journals *Fatigue and Fracture of Engineering Materials and Structures* and *International Journal of Structural Integrity*, among others. He spent sabbaticals as Fulbright Scholar at Univ. California Berkeley and visiting scholar at Lehigh Univ. and presented invited lectures at Imperial College, Lehigh Univ., UC Berkeley and Univs. Federal do Rio de Janeiro, Lille, Napoli, Salerno among others. He is one of the subscribers of the current ICF-WASI and SPM MoU, and was the organizer of an ICF interquadrennial conf. (IJSI-2012) in Porto, whose minutes can be found in the ICF site: [http://www.icfweb.org/docs/documents/ijsi/IJSI2012\\_Booklet\\_c.pdf](http://www.icfweb.org/docs/documents/ijsi/IJSI2012_Booklet_c.pdf).

As the only nominee from the Iberian countries (Portugal and Spain), he will promote ties among researchers interested in fracture and fatigue in the lines of the Iberian conf. he organized (CIFIE 2010, Porto). He will work for the promotion of further ties among ICF and all the int. organizations active in the fields of fracture and fatigue.

**Professor Raj Das, New Zealand:** I am the group leader of the 'Structural and Multifunctional Materials' group and hold a joint appointment with the University of Auckland and RMIT University. My current areas of interest include failure analysis of metal and composite structures focusing on impact response and dynamic fracture, numerical modelling and multi-scale analysis using finite element and mesh-less methods, damage tolerance based structural optimisation, and design of new durable, architected metamaterials for protective structures. I have a PhD from Monash University, Australia in the field of Structural Optimisation and Failure Analysis. I have completed BE from Jadavpur University, India with distinction and university rank. I have previously worked in CSIRO (Australia) and in the University of Manchester, UK. I was also an 'Adjunct Professeur Associé' of the University of Quebec. In terms of my scholastic and professional achievements, I have over 200 peer-reviewed publications and received various awards and fellowships, such as the 'Jim & Hazel D. Lord Emerging Faculty Fellowship', 'CONICYT award' from the Government of Chile, 'UQAC Visiting Fellowship' from the University of Quebec, and 'Certificate of Merit Award' from the International Association of Engineers, Hong Kong. I am on the editorial board of several journals and have served in the organising committees of over 80 international conferences. I am a very strong supporter of ICF and highly motivated to contribute to its growth by promoting fracture mechanics research and developing a critical mass within the Australasian region.

I am an executive committee member of the Australian Fracture Group (AFG) and Deputy Chair of the National Committee of Applied Mechanics. I have been actively organising the well-known 'Structural Integrity and Failure (SIF)' conference series in Australia and New Zealand. In relation to this, I am leading the bid, along with a few colleagues, to organise ICF in 2025 in Melbourne, Australia. Overall, I strongly believe continual growth of ICF can be sustained in the future via the promotion of ICF mission and activities within our vast local network of fracture mechanics communities (e.g., AFG in the Australasian region), unification of them under the global umbrella of ICF, and regular organisation of conferences, symposiums and workshops (e.g., SIF series in Australia) aligned with the contemporary themes in fracture mechanics.

**Professor Abdel-Monem El-Batahgy, Egypt:** I have the honour to stand for election as an ICF Director on ExCo 2017-2021. Currently, I am a Research Professor at Central Metallurgical Research & Development Institute (CMRDI), Ministry of Scientific Research, Cairo, Egypt. In 1990 I gained my PhD from the Metallurgical Department at Tokyo Institute of Technology on "Creep Damage of Ni-base Superalloys". At CMRDI I lead research in the field of fracture/structural integrity/weldability of ferrous and non-ferrous alloys using arc, resistance, laser-beam and friction stir welding processes. I also work as a Principal Investigator in an international research project with Fraunhofer IPK and BAM Germany on "Laser Beam Welding of Ni-Steel for Construction of LNG Facilities". Previously I worked on a similar project with Penn State University, USA in the field of "Fusion Welding of Titanium Alloys". Based on research results, I provide technical support including failure analysis and trouble shooting and consulting services for various industrial sectors in Egypt as well as training and qualification courses for welding personnel from Egypt, Arab and Africa countries. As for ICF activities, Egypt hosted under my Chairmanship with Dr Elboudjaini the first ICF-IQ in Middle East and Africa, in 2011 which was a great success not too long after the Egypt Revolution where Egyptian Group of Fracture-EGF was founded. EGF organized its first International Workshop entitled "Fitness for Purpose in Chemical Industries", 2012 Aswan, in cooperation with ICF. Then, EGF organized an International Conference entitled "Welding and Failure analysis of Engineering Materials", in Luxor 2015 in cooperation with IIW.

My idea on the future of ICF is to develop and increase the frequency of the Inter-Quadrennials for wider opportunity for all nations including Africa and Middle East. A major Inter-Quadrennials Programme should be developed and launched for 2017-2021 building on the work of Dr Elboudjaini 2009-2017. ICF also needs to address Africa and Middle East and another major Inter-Quadrennial in perhaps Egypt in the future - even a Quadrennial. I am committed to serving ICF to the best of my professional ability if elected by ICF Council as an ICF Director 2017-2021 at ICF14 and representing especially Africa.

**Professor Krishnaswamy Ravi-Chandar, USA:** Will stand if not elected as Treasurer (*de facto* CEO) - see page 5 for details.

**Professor Robert O. Ritchie, USA:** I have been associated with ICF since I gave my first important presentation at ICF-3 in Munich some 45 years ago. Since that time, I have attended virtually every quadrennial ICF conference and served on the ICF Executive and the Nomination Committees. I was elected ICF Vice-President and then ICF President and served in the latter capacity from 1997-2003. My involvement in ICF in the future is to strive to maintain its central role as the premier forum for the study, application and dissemination of fracture research (defined broadly). To this end, I will continue to work to encourage the most prominent and active individuals in the field throughout the world to remain/become actively involved in ICF, I will strongly support to moves over the past decades to support Third World participation within ICF in all forms, and finally to encourage the engagement of the younger generation, and particularly women, into the field of fracture, especially within the context of ICF. He is the H.T. & Jessie Chua Distinguished Professor of Engineering in the Departments of Materials Science & Engineering and Mechanical Engineering at the University of California in Berkeley; he is also Senior Materials Scientist at the Lawrence Berkeley National Laboratory. He received M.A., Ph.D. and Sc.D. degrees in materials science all from Cambridge University. Prior to joining the faculty at Berkeley in 1981, he was Associate Professor of Mechanical Engineering at M.I.T. He is well known for his research into the mechanics and mechanisms of fracture and fatigue of a broad range of structural and biological materials (his "h-index" on Google Scholar is 101). His current interests are focused on advanced metallic alloys (high-entropy alloys and bulk-metallic glasses), the structural integrity of bone, the development of bio-inspired structural materials, and the *in situ* fracture of ceramic-matrix composites at ultrahigh temperatures. He has won numerous awards, most recently the Turnbull Award from MRS (2013), the *Acta Materialia* Gold Medal (2014), and the Morris Cohen Award from TMS (2017); he was also the inaugural winner of the Sir Alan Cottrell Gold Medal from ICF in 2009. He is a member of the National Academy of Engineering, the U.K. Royal Academy of Engineering, the Russian Academy of Sciences, and the Royal Swedish Academy of Engineering Sciences. He was President of ICF from 1997-2001, Vice President from 1993-97, and on the Nominating Committee from 1989-93, 2001-05, and 2013-2017.



**Professor Tong-Yi Zhang, Hong Kong:** earned Master degree in 1982 and PhD in 1985, majoring in materials physics, from University of Science and Technology Beijing, China. From 1993 to 2015, he worked at Hong Kong University of Science and Technology, as Lecturer, Associate Professor, Professor, Chair Professor, and Fang Professor of Engineering. He full-time works now at Shanghai University, as the founding dean of the Materials Genome Institute, Shanghai University, and the founding dean of the Shanghai Materials Genome Institute. He has rich research experience and strong background in Fracture Mechanics, Micro/Nanomechanics, and Materials Science and Engineering; and now his research interest is in high-throughput computation, high-throughput experiment, and database and informatics. He is a vice president of the International Congress on Fracture (ICF) 2013-2017 and was a vice president of The Far East and Oceanic Fracture Society 2001-2016. He was a recipient of the Second Prize of 2007 State Natural Science Award, China, the Second Prize of 1987 State Natural Science Award, China, and the 1988 National Award for Young Scientists, China. He became ICF Fellow in 2013, Fellow of the Hong Kong Academy of Engineering Sciences in 2012, member of Chinese Academy of Sciences in 2011, Senior Research Fellow of Croucher Foundation, Hong Kong, in 2003, Fellow of ASM International, USA, in 2001. He is Associate Editor-in-Chief of Science China Technological Sciences (2013 – present) and the Fracture and Continuum Mechanics Subject-Editor of the journal, Theoretical and Applied Fracture Mechanics (2013 – present).

**Professor Wei Zhou, Singapore:** is a tenured professor with Nanyang Technological University, Singapore, Chairman of National Mirror Committee to ISO/TC 44 Welding and Allied Processes, and Liaison Officer to ISO/TC 164 Mechanical Testing of Metals. He studied micromechanisms of fracture under the supervision of Prof John Knott, FRS and obtained PhD from Cambridge University in 1991. He was a Guest Scientist in Fraunhofer Institute for Mechanics of Materials between 1991 and 1992, Visiting Scholar in Harvard University in 2002, and Visiting By-Fellow at Churchill College, Cambridge University in 2014. He attended ICF7 as far back as 1989 and ICF13 as recently as 2013.

The human beings always desire for safety and security. Those in ICF community are fortunate to work for safer materials and structures to satisfy the human needs. The future of ICF will be bright if it contributes more to development of new materials (e.g., ODS steels for nuclear fusion reactor) and new manufacturing processes (e.g., additive manufacturing and remanufacturing). In addition, ICF should contribute more to development of international standards for structural integrity (which are better than BS 7910).