

WIND ENGINEERING INTERNATIONAL CONFERENCES AND ASSOCIATION

The complex process that transformed a set of distinct topics related to wind into the homogeneous and autonomous discipline of wind engineering ([purpose](#)) (Cermak, 1975), began with work on wind actions and the effect of wind on structures. In 1934 and 1935, Pagon published eight papers that provided a synthesis of the available knowledge on aerodynamics in the civil engineering field. In 1950, von Karman gave a lecture describing the applications and prospects of aerodynamics in the engineering sector. In 1961, the American Society of Civil Engineers collected six papers offering the first state-of-the-art description on wind actions and effects on structures. In this same year, Davenport published a paper where the basic concepts of meteorology, micrometeorology, climatology, aerodynamics, structural mechanics and probability theory were first integrated into a homogeneous model of the wind-excited behaviour of structures.

Two years later, in 1963, Kit Scruton and his group organised the 1st International Symposium on Wind Effects on Buildings and Structures in Teddington, U.K., under the auspices of the Aerodynamics Division of the National Physical Laboratory, in co-operation with the Building Research Station, the Institution of Civil Engineers and the Institution of Structural Engineers. At the close of this conference, an International Study Group on Wind Effects on Buildings and Structures was constituted, with four specific aims: (a) to produce a bibliography of wind effects on structures; (b) to keep a record of the research in progress; (c) to work for a standardization of symbols and of the nomenclature, and to bring together various “codes of practice”; and, (d) to ensure that a further international conference be held in three or four years’ time. This fourth aim led to the beginning of a long series of [international conferences](#).

The International Study Group promoted the organisation of the 2nd, 3rd and 4th International Conferences on Wind Effects on Buildings and Structures held in Ottawa (Canada, 1967), Tokyo (Japan, 1971) and London (U.K., 1975), respectively. Such conferences were held, respectively, in the American Region, the Asia-Pacific Region, and the European and African Region. This sequence still characterises the rotation of the venues of the international conferences on wind engineering among different regions of the world.

Discussions at the London conference gave rise to a number of fundamental decisions. In particular, the Steering Committee Meeting of the International Study Group decided: (a) that the International Association for Wind Engineering (IAWE) should be founded, with the aim of organising international meetings and of liaising with national and international organisations working in similar fields; (b) that the following meetings should be called International Conferences on Wind Engineering (ICWE); (c) that the IAWE Chairman should also be the Chairman of the next ICWE; and, (d) the official appointment, in the previous tradition, of three [Regional Secretaries](#) for the Europe-African, American and Asia-Pacific regions, respectively. This set of decisions was a major turning point and the discipline of wind engineering came to embrace a wider set of problems than simply wind effects on buildings ([purpose](#)).

The 5th International Conference of this series, held in Fort Collins (Colorado, 1979), was thus also the first of the ICWE’s. Besides the traditional papers on wind structure and climate, bluff-body aerodynamics, and wind actions and effects on structures, this conference introduced four innovative sections: “Social and economic impact of wind storms”, “Wind environment”, “Physical and

mathematical modeling”, and “Wind engineering applications”. Furthermore, during the IAWC Steering Committee Meeting, two new important motions were approved which established that the IAWC Chairman should (a) contact the Editor of the Journal of Industrial Aerodynamics with a view toward its addition of an appropriate masthead statement representing it as the official journal of the IAWC; and, (b) should prepare a draft of the IAWC by-laws for consideration at the next ICWE.

As a consequence of the first motion, in 1980, the Journal of Industrial Aerodynamics changed its name to the Journal of Wind Engineering and Industrial Aerodynamics (JWEIA), becoming the official Journal of the International Association for Wind Engineering. It was edited by Ian Harris (U.K.) up to 1999. Following the second resolution, the IAWC Chairman compiled the first draft of the IAWC by-laws, which was submitted to the IAWC Steering Committee Meeting at the 6th ICWE, held in Gold Coast and Auckland (Australia and New Zealand, 1983). This draft was officially approved four years later, with minor amendments, during the 7th ICWE held in Aachen (Germany, 1987).

The new IAWC by-laws stated that, “the association will be governed by a Steering Committee which will meet every four years at the venue of an International Conference”. “The Chairman of the Association is to be the Chairman of the Organising Committee for the next International Conference”, and administers the IAWC through the action of Regional or National Secretaries appointed at each Steering Committee Meeting. “There is no formal membership, and membership will be deemed to those who have registered for the International Conference”. This scheme remained in force during the 8th, 9th and 10th ICWE's, held in London (Ontario, 1991), New Delhi (India, 1995) and Copenhagen (Denmark, 1999).

WIND ENGINEERING AT THE END OF THE SECOND MILLENNIUM

Faced by the enormous development of wind engineering, during the 10th ICWE, the three Regional Secretaries submitted to the IAWC Steering Committee Meeting an analysis on the growth of the discipline since 1979, when the first draft of the IAWC by-laws was compiled, to 1999, when these by-laws were still in force with only marginal changes. Starting from this consideration, they made three points.

The first aspect concerned the growth in the number of the scholars working in wind engineering. This aspect was strengthened by the proliferation of wind engineering [books](#) and, even more, by the growing number of papers appearing in wind engineering journals. As an example, in 1981 and 1982, the JWEIA published 4 volumes (7-10) of less than 1500 pages; in that period, it was the only journal completely addressed to wind engineering. In 1997 and 1998, the JWEIA published 11 volumes (66-76) of over 4000 pages; in the meanwhile, many other [journals](#) were dedicated to this discipline.

The second aspect involved the wind engineering conferences. Besides the [ICWE](#)'s, few national, regional and international meetings were held up to 1983. This situation completely changed in 1985, when the 1st Asia-Pacific Symposium on Wind Engineering (APCWE) was held to create a forum of discussion for the wind engineering community of Asia and Oceania, in the intermediate year between two subsequent ICWEs. The same principle was further applied in the European and African Region where, in 1993, the first European and African Conference on Wind Engineering ([EACWE](#)) was

organised. The American Region has adopted this same format since 2001, when the [U.S. National Conference on Wind Engineering](#) became the American Conference on Wind Engineering ([ACWE](#)).

Meanwhile, two new series of conferences, began both in Japan: the Colloquium on Bluff Body Aerodynamics and its Applications ([BBAA](#)), first held in 1988, and the Symposium on Computational Wind Engineering ([CWE](#)), since 1992. Besides these events, several other conferences gradually assumed a fundamental role. Among these, the East-European Conferences on Wind Engineering ([EECWE](#)), held since 1994, gave the opportunity for co-operation between the West and East-European scholars and technicians in wind engineering. Also the national conferences on wind engineering became a focal point in the development of wind engineering within single countries. For example, the Japanese National Symposium on Wind Engineering (JNSWE) has been held in Japan since 1970 every two years, the Colloquium of the Windtechnologische Gesellschaft (WTG) has been held in Germany, Austria or Switzerland since 1989, the [Italian National Conference on Wind Engineering](#) (ANIV) has been held since 1990; the [U.K. Conference of the Wind Engineering Society](#) (WES) has been held since 1992, and the national conferences in AWES, China, India.

The third aspect concerned the participation in wind engineering of workers from a range of different countries. In the past it was limited to few leading countries. At the end of the second millenium, however, the number of scholars, scientists and technicians involved in this field rapidly grew in most countries, and the contributions to wind engineering and its conferences increasingly came from every part of the world. Just as an example, in 1983, the Sixth ICWE hosted delegates from 20 countries; in 1997, the Second EACWE was attended by participants coming from over 50 different countries.

Based upon these considerations, it was apparent that the IAWWE by-laws and organisation were conceived in a period in which the ICWE's were the only scientific and technical forum available for a small number of delegates, coming from a limited number of countries, to discuss a narrow band of topics. This situation justified the article of the by-laws in accordance with which the IAWWE "will be governed by a Steering Committee which will meet every four years at the venue of an International Conference".

Over the course of the years, however, the wind engineering calendar became full of meetings and initiatives which suggested the creation of a permanent co-ordinating authority. The scientific, technical and social impacts of wind engineering had expanded so much that improved liaisons with other scientific and technical communities had become desirable. A better coordination was necessary between the IAWWE chairman, the regional secretaries and the national delegates, to agree on decisions and spread the information more efficiently. Since wind engineering studies were appearing in several international journals, it was also time to reflect on the role of the official IAWWE Journal.

The IAWWE Steering Committee Meeting at the 10th ICWE acknowledged this framework and decided the following actions: (a) to introduce a series of small modifications into the by-laws, in order to put the IAWWE in the position of operating, more efficiently, during the four years between two subsequent ICWEs; (b) to appoint an international committee (G. Solari, Italy, chairman; A. Damsgaard, Denmark; J.D. Holmes, Australia, A. Kareem, U.S.; K.C. Mehta, U.S.; S. Murakami, Japan) aimed at opening a wide debate on the organisation of the Association, and formulating a modern and revised scheme of the IAWWE, to propose for consideration at the next Steering Committee Meeting.

Such decisions did not represent, however, the only actions undertaken by the IAWWE at the 10th ICWE. Four networks were created or consolidated on [Bridge Aerodynamics](#), [Cable Aerodynamics](#), [Storm Shelter](#), and [International Codification](#). Another important committee was later appointed during the 3rd European-African Conference on Wind Engineering (Eindhoven, The Netherlands, 2001), to promote Wind Engineering liaisons and initiatives in Africa. The continuous publication of new wind engineering [books](#) and [journals](#) further testified to the vitality of this discipline.

IAWWE AT THE BEGINNING OF THE THIRD MILLENNIUM

It is important to stress that the activity of the committee opened a wide debate on the future of the IAWWE that was carried out between the end of the second millennium and the beginning of the third one. The committee (with M. Matsumoto, Japan, on behalf of S. Murakami; A. Larsen, Denmark, on behalf of A. Damsgaard; and N.P. Jones, U.S., invited guest as the new Editor of the JWEIA since 1999) worked for four years, and came to the 11th ICWE, held in Lubbock (Texas, 2003), with a refined proposal for a new draft of the IAWWE [by-laws](#) and a new scheme for its organisation.

Among several innovatory aspects, two points of the new by-laws are worthy of mention.

Firstly, IAWWE members (Art. 4), in the past individuals, are national associations or societies of wind engineering accepted into membership; individual members of affiliated organisations are IAWWE individual members; individuals, private firms and other organisations may become IAWWE supporting members. Neither an entrance fee nor an annual subscription is due to the association (Art. 5); however, member organisations and supporting members are asked to give, whenever this is possible, voluntary contributions to the Association.

Secondly, the Steering Committee is replaced by a General Assembly, with a formal constitution (Art. 13), that meets on the occasion of the ICWE's to govern the IAWWE; it is supported by an Executive Board (Art.12), appointed to direct the IAWWE, between two subsequent ICWEs. This Board is composed of the IAWWE President (Art. 8), the immediate past President, the Chair of the next ICWE (Art. 7), the three Regional Co-ordinators (Arts. 6 and 9), three Regional Representatives (Art. 10), the Secretary General (Art. 11), and Consultative Members co-opted by the President.

This proposal was unanimously approved by the Steering Committee Meeting that, after less than thirty years since its constitution, opened a new era for wind engineering and its Association. Following formal elections, the first [Executive Board](#) of the IAWWE was constituted. It consists of G. Solari (Italy, IAWWE president), K.C. Mehta (U.S., immediate past president), J. Cheung (Australia, 12th ICWE chairman), A. Kareem (U.S.) and J.D. Holmes (Australia) (former co-ordinators of the American and Asia-Pacific regions, respectively), T. Stathopoulos (Canada), M. Matsumoto (Japan) and C. Baker (U.K.) (representatives for the American, Asia-Pacific and Europe-African regions, respectively). The charge of European-African co-ordinator remained initially vacant due to the appointment of G. Solari as IAWWE President.

Further to these decisions, G. Piccardo (Italy) was appointed as the Secretary General. M. Levitan (U.S., 10th ACWE chairman), C.K. Choi (South Korea, 6th APCWE chairman), J. Naprstek (Czech Republic, 4th EACWE chairman) and N.P. Jones (U.S., JWEIA Editor) were invited to join the IAWWE Executive Board as consultative members. It was also decided that the election of the European-African co-

ordinator should be delayed to the 4th EACWE, in 2005, and, in this period, C. Baker should undertake the functions of this post. In addition, the IAWWE [Secretariat](#) was established.

Once these preliminary tasks had been carried out, a new phase of activities opened. First, the IAWWE was formally established by means of a [deed](#) through which the IAWWE was officially registered at the Italian Finance Ministry and stamped books were prepared with reference to: a) the minutes of the General and Regional Assemblies; b) the minutes of the Meetings of the Executive Board; c) the list of Members. Third, a [IAWWE bank account](#) was opened. As a consequence of these operations, the IAWWE recently received several generous voluntary contributions from the JWEIA, wind engineering organisations and research groups, putting the Association in the condition of carrying out, through its Executive Board, a new series of institutional activities.

The first activity consisted in creating the conditions to accept into membership as many member organisations as possible. With this aim, a wide investigation of wind engineering activities was carried out and a database was created which contained almost 200 reference [contacts](#) distributed in almost 100 countries. All the reference persons were contacted, inviting the existing wind engineering organisations to apply for IAWWE membership. Moreover, countries without any established organisation were recommended to formalise wind engineering activities into associations or societies that could become IAWWE members.

The results of these actions were reported at the first IAWWE Executive Board meeting held on July 12th, in Ottawa, Canada, during the 5th Colloquium on Bluff-Body Aerodynamics and its Applications. In particular, waiting to ratify such decisions at the next General Assembly in Cairns, Australia, 2007, the IAWWE Executive Board accepted into membership seven organisations: the Czech Society for Mechanics, Wind Engineering Group; the Indian Society for Wind Engineering; the Japan Association for Wind Engineering; the Associazione Nazionale per l'Ingegneria del Vento, Italy; the Wind Engineering Institute of Korea; the Taiwan Association for Wind Engineering; and, the Asociacion Nacional de Ingenieria del Viento, Spain. While waiting to apply more refined criteria, it was also decided that each member organisation will be represented at the next Regional and General Assemblies by a number of delegates depending on the registered individual members, i.e.: 1 delegate for associations with 1-50 members; 2 delegates for associations with 51-200 members; 3 delegates for Associations with more than 200 members.

Several other decisions were taken, but two deserve special mention.

The first concerns the selection of the next venue for the International Symposia on Computational Wind Engineering (CWE2006). Since 1992 to 2000 this symposium was joined with the BBAA Colloquium. However, on passing the time and growing the interest towards these initiatives, it became increasingly apparent that organising jointly the BBAA and the CWE is very difficult. This is the reason why, in 2002, only the BBAA was organised, while the CWE was delayed to a future date. Further to this decision, M. Matsumoto, S. Murakami and Y. Tamura expressed their interest to organise the next CWE, in 2006, under the auspices of the COE-TPU (Centre Of Excellence on the Wind effects on buildings and urban areas, Tokyo Polytechnic University, Japan). This proposal was unanimously accepted by the IAWWE Executive Board, that fixed the next venue for the CWE in Japan. This decision is very important, not

only because it solves an important problem with an excellent choice, but, even more, because it creates a perfect time distribution of the most important conferences in the calendar of wind engineering.

Year	Conference
K	International Conference on Wind Engineering (ICWE)
K+1	International Colloquium on Bluff-Body Aerodynamics and its Applications (BBAA)
K+2	Regional Conferences on Wind Engineering (ACWE, APCWE, EACWE)
K+3	International Symposium on Computational Wind Engineering (CWE)
K+4	International Conference on Wind Engineering (ICWE)

The second concerns the application of suitable strategies to assure the visibility of the association and the distribution of the information through the wind engineering community. These aims will be pursued by means of two tools: the IAWC web site and [newsletters](#). It is expected that the newsletters, now under examination, could be distributed from the middle of 2005. It is planned that the joint action of the IAWC journal, the IAWC web site and the IAWC newsletters can offer a complete and up-to-date framework of the association and its many activities, interests and initiatives.

All these initiatives were introduced to the international community at the three [Regional Conferences on Wind Engineering](#), in 2005, [the 4th International Symposium on Computational Wind Engineering](#), in 2006, and [the 12th International Conference on Wind Engineering](#), in 2007. Further important moments to check the progress of the plans and open new projects and initiatives were represented by the meetings of the IAWC Executive Board, at the 4th EACWE (2005) and 4th CWE (2006), and, above all, of the General Assembly, at the 12th ICWE (2007).

Y. Tamura (Japan) was elected to be the new IAWC President at the IAWC General Assembly in Cairns in 2007. The new IAWC Executive Board consisted of Y. Tamura (Japan, IAWC President), G. Solari (Italy, past IAWC President), C. Geurts (13ICWE Chairman), A. Kareem (U.S.), K. Kwok (Hong Kong, China) and C. Baker (U.K.) (Co-ordinators of the American, Asia-Pacific and Europe-African regions respectively), T. Stathopoulos (Canada), C. Letchford (Australia) and C. Borri (Representatives for the American, Asia-Pacific and Europe-African regions, respectively), and A. Huber (CWE Chairman). Besides, C.M. Cheng (Taiwan, 7th APCWE Chairman), H. Cruzado (11th ACWE) and A. Kane (WWEA President) were invited to join the IAWC Executive Board as consultative members. S. Cao (Japan) was appointed as the Secretary General.

There were some changes of members of the IAWC Executive board during 2007-2011. Y.J. Ge (China) joined the Executive Board in 2008 as the Chair of BBAA VII. Heinke Schlunzen (Germany) joined the Board as the Chair of CWE2014. L.S. Cochran (USA) and R. Hoeffler (Germany) joined the Executive Board as the new Coordinators of the Americas and Europe-Africa regions respectively. K. Kwok (Australia) continued to serve as the Coordinator of the Asia-Pacific Region and as an Executive Board member. M. Sterling (UK) joined as the Chair of 6EACWE, N.R. Iyer (India) joined as the Chair of 8APCWE and Dorothy A. Reed (USA) joined as the Chair of 12ACWE. A. Kareem was invited to remain at the Advisory Board as the Chair of the IAWC Award Committee.

There were several important conferences in the wind engineering community during 2007-2011. The 6th International Colloquium on Bluff Bodies Aerodynamics and Applications ([BBAA VI](#)), chaired by G. Diana was held in 2008 in Italy. The regional wind engineering conferences, [7th APCWE](#), [5th EACWE](#) and [11th ACWE](#), were held in Taiwan, Florence and Puerto Rico respectively in 2009. The [5th CWE](#) symposium was held in the USA in 2010. The most important events of IAWC, [13ICWE](#) and General Assembly, were held in Amsterdam in 2011. At the General Assembly during ICWE13, after bids from the USA, Canada and Brazil, Brazil was selected as the host country for ICWE14 to be held in 2015 under the leadership of Acir Mércio Loredo-Souza. Also at ICWE13, IAWC awarded four senior awards (Giovanni Solari, Masaru Matsumoto, John Holmes and Barry Vickery) and four junior awards (Tracy Kijewski-Correa, Maria Pia Repetto, Atsushi Yamaguchi and Claudio Mannini).

One of the most important achievements during 2007-2011 was the establishment of an International Group (IG) to work on Wind-Related Disaster Risk Reduction. IAWC initiated this project together with UN/ISDR (United Nations / International Strategy for Disaster Reduction) and other UN organizations and NGOs. Despite the recognition of the critical need for cooperative actions in Wind-Related Disaster Risk Reduction (WRDRR) activities among various professional organizations, there have been no notable collaborative efforts among the various groups. While wind-related organizations like the IAWC have been effectively working to develop technologies, codes and standards for wind hazard mitigation, there have been a dearth of coordinated activities with other international groups such as the UN and NGOs to bring these technologies to work for less fortunate communities in low-lying areas, which are often struck by devastating wind storms such as hurricanes/typhoons with attendant escalating loss of life and associated perils they bring to the region. During CADRR (Cooperative Actions for Disaster Risk Reduction) held in Tokyo in March 2009, the representatives from IAWC, IAEE, UN-ISDR, ADRC, WMO, NOAA and others reached a consensus that there was a critical need to establish an International Group (IG) to work on Wind-Related DRR (IG-WRR). The main task of this group would be to establish linkages and to coordinate various communities, e.g., IAWC, to serve as inter-agency coordinators with a charter to work with international organizations involving agencies of the UN and involved NGOs, and to empower them with the responsibility to serve as a bridge between policy makers and agencies responsible for actually carrying out the DRR at the local community level.

Yukio Tamura was re-elected as the IAWC President at the General Assembly in 2011 during ICWE13. The Executive Board members are: Y. Tamura (Japan, IAWC President), G. Solari (Italy, past IAWC President), Acir Mércio Loredo-Souza (Brazil, ICWE14 Chair), K. Kwok (Australia, Asia-Oceania Region Coordinator), L.S. Cochran (USA, Americas Region Coordinator), R. Hoeffler (Germany, Europe-Africa Region Coordinator), H. Yamada (Japan, Asia-Oceania Region Representative), C. Borri (Europe-Africa Region Representative), G. Kopp (Canada, Americas Region Representative), H. Schlunzen (Germany, ICWE2014 Chair) and Y.J. Ge (China, BBAA7 Chair). Besides, N.R. Iyer (India, 8APCWE Chair), D. A. Reed (USA, 12ACWE Chair), M. Sterling (UK, 8EACWE), A. Kareem (USA, IAWC Award Committee Chair), T. Stathopoulos (Canada, JWEIA editor), C. Geurts (Netherlands, 13ICWE Chairman) and A. Kane (WWEA President) were invited to join the IAWC Executive Board as consultative members. S. Cao (China) was re-appointed as the Secretary General.

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