

The 15th International Conference in Quality and Dependability CCF 2016 – A Jubilee Edition

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Abstract

In the first part of the paper, the coordinators of the International Conference in Quality and Dependability CCF 2016 present the evolution of the CCF conferences, which became an important international forum for the dissemination of recent information and scientific results in quality and dependability (reliability, maintainability, safety/security). They conclude that CCF is now a well-established brand of excellence among the international scientific meetings in the inter-disciplinary field of quality and dependability. In the second part of the paper, they present the objectives and the topics of CCF 2016. The authors mention that several debates of CCF 2016 will be dedicated to the evolutions in the European quality on the European scene during these last years, to the revised ISO standards in quality and security management fields, as well as to the national evolutions and perspectives in quality and dependability.

Keywords: *Quality, Dependability, Reliability, Maintainability, Security, Conference, International Conference, CCF, CCF 2016, Quality Policy, Quality Management.*

The primary objective of the **15th International Conference on Quality and Dependability CCF 2016** – a jubilee edition – is to provide an international forum for the dissemination of recent information and scientific results in these modern domains.

As traditionally, **CCF 2016** is organised by the **Romanian Society for Quality Assurance (SRAC)**, under the aegis of several important international organisations in the field.

We are proud to mention that this edition of the conference has the scientific endorsement of the *Institute of Electrical and Electronics Engineers – IEEE* (Romanian section), the world's leading professional association for the advancement of technology, too.

The International Conference in Quality and Dependability – CCF is now a well established **brand of excellence** among the international scientific meetings in the inter-disciplinary field of **quality and dependability** (reliability, maintainability, safety & security).

It is interesting to mention that the **CCF** conference was listed as the 3rd longest running conference in the

quality and dependability field in the international specialized assessments.

The *International Conferences in Quality and Dependability – CCF* conferences have a long tradition among the specialists of the field. That's why, we consider useful to remember the main moments that marked the evolution of **CCF** – from a national scientific meeting to an important international conference in the field.

The first National Conference on Quality and Reliability – **CCF '87**, organised by the Central Reliability Group of MIET, took place at Poiana Brasov, in 1987. It was then decided that this conference should become a traditional national scientific event in the field. Therefore, the second edition of the Conference, **CCF '88** took place at the premises of 'Minerva', 'Diana' and 'Afrodita' hotels from Baile Herculane, in 1988.

After the political changes of 1989, **SRAC** took over this tradition, by organising the third edition of the Conference – **CCF '96** at the Hotel 'Roman' from

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Baile Herculane, in September 1996. The fourth edition of the conference – **CCF '97** was organised in Sinaia, while the fifth edition – **CCF '98** was organised in Sinaia too, at the 'Holiday Inn' hotel. **CCF '99**, the sixth edition of the conference took place at the Hotel 'Sport' from Poiana Brasov.

The seventh edition of the conference – **CCF 2000** was organised at the Hotel 'Palace' from Sinaia in the year 2000; it was a scientific meeting with a wide international participation and, as a consequence, it was decided that the further editions of **CCF** should be included in the circuit of the international conferences in quality and dependability and organised every two years. The national journal "**Calitatea – Acces la success**" and the international journal "**Qualite-Forum Scientifique**" were launched during **CCF 2000**, in the presence of the Editors-in-Chief of the two publications.

The next **CCF** scientific meetings, namely the eighth edition of the Conference – **CCF 2002**, organized at the Casino of Sinaia, as well as the ninth edition – **CCF 2004** – organized at Hotel Mara in Sinaia were unanimously considered as important international scientific events in the field of quality and dependability.

The 10th edition of the conference **CCF 2006** –organized at the Casino Conference Hall from Sinaia – was an anniversary one. More than 70 papers were presented by specialists in the field from 10 countries: Argentina, Australia, Belgium, France, Great Britain, Greece, Moldavia, the Netherlands, Switzerland and Romania, too. A special session of **CCF 2006** marked the centenary of the *International Electrotechnical Commission (IEC)*.

During the 11th International Conference on Quality and Dependability – **CCF 2008** specialists from 13

countries, including Australia, Belgium, France, Great Britain, Italy, India, Maroc, Moldavia, the Netherlands, Portugal, Switzerland, Tunisia and Romania presented at Sinaia their points of view in more than 60 papers.

The special session "*A homage to Joseph M. Juran (1904-2008)*" organized at the beginning of the conference represented a tribute to the great "Guru" of quality of Romanian origin **Joseph M. Juran**, the "father" of the modern quality management who passed away at the beginning of 2008.



A special session marked the 15th anniversary of the **Romanian Society for Quality Assurance (SRAC)** – the main organiser of **CCF** conferences, too.

More than 50 papers authored by specialists from Australia, Belgium, Czech Republic, France, Great Britain, India, Maroc, the Netherlands, Switzerland, Tunisia and Romania were presented during the 12th International Conference on Quality and Dependability – **CCF 2010** organized at the Casino Conference Center from Sinaia.

The participants at **CCF 2010** had the special opportunity to meet Professor Emeritus **Alessandro Birolini**, a remarkable specialist in the field – considered as a Reliability Guru – who presented an invited conference. During **CCF 2010** was launched – *in world premiere* – the 6th edition in English of the monumental book of Prof. Birolini **Reliability Engineering: Theory And Practice** – published by Springer Publishing House and considered by the specialists in the field as a veritable "Bible of Reliability".

During the 13th International Conference on Quality and Dependability **CCF 2012** – organised for the first time in a beautiful area of the *Black Sea*, at **Neptun International Conference Center**, specialists



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from 13 countries, including Australia, Belgium, France, Great Britain, Italy, India, Maroc, Moldavia, the Netherlands, Portugal, Switzerland, Tunisia and Romania presented their points of view in more than 50 papers.

The special guest of the 13th International Conference on Quality and Dependability – **CCF 2012** was Mr. **Gianluca Mule**, Senior Manager of the well-known **European Foundation for Quality Management – EFQM** who presented the **EFQM Excellence Model**. The EFQM Excellence Model is the most popular quality tool in Europe, used by more than 30,000 organizations to improve their performances.

During the last day of the conference the evolutions and the perspectives regarding the management, engineering and certification of quality and dependability in Romania and abroad were analysed as a part of the special session **ISO 9000 Forum** – a session that marked the 25th anniversary of this famous international standard. This session celebrated the 20th anniversary of the **Romanian Society for Quality Assurance (SRAC)**, the main organiser of **CCF** conferences, too.

During the 14th International Conference on Quality and Dependability **CCF 2016** – organised at the Palace hotel from Sinaia, specialists from Belgium, France, Great Britain, India, Israel, the Netherlands, Serbia, Switzerland, Turkey and Romania, too presented about 60 papers.

The first day of the conference brought to the attention of the participants an event with an important international impact: **The EFQM Open Doors Day in Romania**, organized by **SRAC** and **EFQM** and with the participation of **Grundfos Romania** and the **Hungarian Association for Excellence**.

The **CCF 2014** conference was organized in a special year for quality: the anniversary of nine decades from the first *control chart*

introduced by the quality guru **Walter Shewhart** in 1924, which launched the statistical process control and the quality improvement. This moment, considered as the *birthday of the modern quality*, was the point of departure of an interesting **CCF** debate concerning the evolutions and the future of quality.

The previous conferences in quality, reliability and maintainability organised in Romania in the last three decades have contributed to the promotion in our country of new ideas and methods in quality and dependability.

We are sure that **CCF 2016** will constitute a new qualitative step in this process.

Quality and **dependability** have become today undeniable strengths contributing to the development of companies, small businesses or large multinational groups. Their application in different organisations must be the result of research and partnership among industry, academia and business. This conference can contribute to the dialogue between the main actors of the quality and dependability world.

The points of view of well-known specialists in the field from Romania and several other countries will allow to establish a realistic image of the national and international evolutions and of the perspectives of these modern fields.



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The dynamic political and economic evolutions in Europe during the last decades increased the importance of **quality**, now considered as a strategic tool and a determining factor for the development and enhancement of Europe's global competitiveness.

The new EU's *Framework Programme for Research and Technological Development* –FP7 and the forthcoming one- FP8, can be considered as a major tools to support the creation of the **European Research Area (ERA)**. The main topics of FP7 and FP8 and some representative projects, especially those in quality and safety/security fields will be analysed in the frame of this conference.

The international scientific meetings, such as **CCF 2016** is, could be a contribution to this objective, by reviewing the state of the art, experiences, and new trends in the relevant scientific areas.

Several presentation of **CCF 2016** will be dedicated to the evolutions in the European quality on the European scene during these last years, as well as to the national evolutions in this field. The **real** integration of Romanian economy in the unified European structures is an impossible endeavour unless the severe requirements on quality based on the EU's standards are meet.

Several *organisational, research and educational programs* and initiatives in the **quality and dependability** (esp. safety/ security) field were developed in Romania in the last years, and they will be certainly analysed in the framework of this conference.

Under the conditions of the actual *world economic crisis*, the debates of **CCF 2016** will try to give an answer to the following question: could be the *optimal managerial and technical strategies based on quality and dependability an advantage for companies in their effort to overcome this economic crisis?*

We are honoured by the participation in the *15th International Conference on Quality and Dependability* – **CCF 2016** of well-known specialists in the field – academics, managers, practitioners and researchers from **France, Israel, Serbia, Switzerland, U.S.A., and Romania**, too. Their points of view, presented in about 50 papers will be of great interest to the participants at **CCF 2016**.

Among the topics proposed to the specialists by the International Scientific Committee during the *15th International Conference in Quality and Dependability CCF 2016*, we could mention the following ones:

- ❑ Systems of Management: developments, evolution, standardisation (ISO 9000, ISO 14000, ISO2200, ISO 27000, OHSAS 18001 a.o.);
- ❑ Quality management – the new standard ISO 9001:2015: perspectives, requirements and implications;
- ❑ New approaches: social accountability management (SA8000) and ethics management;



- ❑ Integrated Systems of Management;
- ❑ Service quality management (education, health care, tourism, banking system, etc.) and evaluation of customer satisfaction;
- ❑ Business Continuity Management (BCM)
- ❑ Accreditation (certification bodies, laboratories, personnel) and certification (quality systems, products and services);
- ❑ Voluntary product certification;
- ❑ Total Quality Management, Six Sigma, quality management tools;
- ❑ Modern control and conformity assessment techniques;
- ❑ Conformity assessment in the mandatory area;
- ❑ Modern approaches in dependability, resilience and evolvability;
- ❑ Reliability (mathematical tools; design; predictive, experimental and operational reliability; reliability of human factor);
- ❑ Maintainability (maintenance management, preventive and corrective maintenance techniques, RCM)
- ❑ Education and training in quality and dependability.
- ❑ Computer-aided study in quality and dependability
- ❑ Quality, reliability and security in the IT&C industry
- ❑ Legislation and standardization in quality and dependability
- ❑ Social, juridical and economical implications of quality and dependability.

The special guests of the *15th International Conference in Quality and Dependability CCF 2016* will be important international experts in the field, namely:

- ❑ Prof. Emeritus Dr. **Alessandro Birolini** from Polytechnic Institute (ETH) Zurich, Switzerland, a famous European “Guru” in Reliability, author of the best-seller *Reliability Engineering*, a true “Reliability bible” – printed in 10 editions; the Chinese edition of this book, which will be published in 2017 will be introduced in the frame of this conference;

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- Dr. **Isaac Sheps** – Convener of ISO/TC 176/SC2/WG25 (working group for revision of the ISO 9004);
- Prof. Dr. **Vidosav D. Majstorovic** from University of Belgrad, well-known Serbian expert in quality management;
- Dr. **Steli Loznen**, Israel – Convener of IEC/TC 62/SC 62A/MT29 & WG14 (working group for preparing the international standards for medical electrical equipment used in medical practice).

Special emphasis will be given during **CCF 2016** to the problems of *Quality, Security and Risk Management and Analysis, Dependability Modelling and Evaluation, Environmental Management and Quality Assurance in Education*. Sessions with these topics are included in the program of the conference.

A special attention will be given in the frame of **CCF 2016** to the requirements and implementation of the revised standard **ISO 9001:2015**. As a result of an intensive work of the ISO TC 176, the revised standard ISO 9001:2015 was released in September 2015. This moment was considered by several experts in the field as „beginning of a new era development of quality management systems”. If expectations concerning the revised standard ISO 9001 came true – one year after its launch – and the problems it poses for companies implementing this standard will be major issues to be addressed in the frame of CCF 2016.

Companies’ management must provide the necessary resources and are required to prove the competence of their quality specialist staff. The revisions of ISO 9001 and ISO 14001 as well as the new occupa-

tional health and safety standard ISO 45001, introduced a range of new features. Therefore organizations should start dealing with these topics right now. These issues will be discussed in several papers presented at the conference, as well as in the roundtable on the “*Economic impacts of certification*”.

A wide selection of papers presented in the frame of **CCF 2016** will be included in the *Proceedings* of the conference, entitled “**Quality and Dependability**”.

Some representative papers presented during **CCF 2016** are included in this special issue of the journal “**Asigurarea Calitatii – Quality Assurance**” dedicated to the *15th International Conference in Quality and Dependability*, too.

Finally, we would like to thank all the authors who submitted their work, the members of the organising committee, and all those who contributed to the Conference with their efforts and support. Special thanks to the members of the *International Scientific Committee of CCF 2016*, prestigious personalities in the field, who made up an equilibrated and high-level scientific program for **CCF 2016** and reviewed the submitted papers under severe time constraints; their names are mentioned in Table 1.

We hope that the *15th International Conference in Quality and Dependability – CCF 2016*, organised in a beautiful area of the Carpathians Mountains, at **Sinaia**, will be a both stimulating and enjoyable forum in which to share current results and trends in quality and dependability.

Table 1.
The members of the International Scientific Committee of the 15th International Conference in Quality and Dependability – CCF 2016

Ioan C. BACIVAROV	Professor at University Politehnica of Bucharest, Romania – <i>Chairman</i>
Alessandro BIROLINI	Professor Emeritus at ETH Zurich, Switzerland – <i>Honorary Chairman</i>
Vidosav D. MAJSTOROVIC	Professor at University of Belgrad, Serbia – <i>Vice-Chairman</i>
Marius BAZU	Scientific researcher, National Institute for Micro-technologies, Bucharest
Bruno-Marie BECHARD	Professor at the University of Sherbrooke, Canada
Allan BROWN	Professor at the University of Perth, Australia
Angelica BACIVAROV	Professor at ETTI- University Politehnica of Bucharest, Romania
Michele CANO	Professor at University of West of Scotland, UK
Remy GAUTIER	Professor at ENSAM, Paris, France
Fabrice GUERIN	Professor at the University of Angers, France
Amilcar GONCALVEZ	Professor at the University of Lisbon, Portugal
Socrates KAPLANIS	Professor at the University of Patras, Greece
Noriaki KANO	Professor at the University of Tokyo, Japan
Liviu MĂȘALAR	Professor Emeritus at the University of Liege, Belgium
Christian ROBLÉDO	Professor and President at the University of Angers, France
Dan STOICHITOIU	President of SRAC, Bucharest
Alexandru STAMATIU	Professor Emeritus at University of Civil Engineering Bucharest, Romania
Ajit K. VERMA	Professor at the Indian Institute of Technology Mumbai, India
Ton van der WIELE	Professor at the Erasmus University from Rotterdam, Holland