

ASIGURAREA CALITĂȚII – QUALITY ASSURANCE

CUPRINS – CONTENTS

- ❑ **The 12th International Conference on Quality and Dependability – CCF2010, an Outstanding Event in the Field** (2)
Dan G. Stoichițoiu, Ioan C. Bacivarov
- ❑ **Lessons from a Life Dedicated to Reliability. An Interview with Professor Emeritus Alessandro Birolini** (5)
Ioan C. Bacivarov
- ❑ **Quality Standards for Students Placement – Q-PlaNet Approach** (8)
Laura Teodora David, Doru Talabă
- ❑ **Vibration Effects on Systematic and Accidental Errors for MEMS-based Inertial Measurement Units** (14)
Mattia De Agostino, Giorgio De Pasquale
- ❑ **Reliability and Safety Issues of Telepresence and Teleoperated Robots** (25)
Virgil L.M. Ilian, Ioan C. Bacivarov
- ❑ **Utilizarea analizei defectărilor la construirea și evaluarea fiabilității componentelor și sistemelor electronice** (30)
Marius Băzu, Titu Băjenescu

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Quality Standards for Students Placement - Q-PlaNet Approach

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Abstract

Higher education is no longer a solely guarantee of a successful career. At least not in a narrow meaning. Universities are broadening their offer in order to increase the employability of the graduates. The collaboration between Universities and economic and social environment is becoming a compulsory need for Higher Education institutions. Scientific literature opened through theory and research toward understanding how learning may be supported in order to adjust formal education to work field requirements. Practical placement combines methods of learning that may enhance the preparation of students for a globalise work market. Even though the importance of practical placement is more and more acknowledged, there is still not enough coherence and efficacy in organizing and valorizing this activity. Q-PlaNet project's aim is to set a standard in measuring quality of trans-national placements for students. As a mean of making that possible there were established innovative structures named Quality Reference Centres (QRC) that have the task to check quality of placements and to label company that comply with the quality criteria as well as to support higher education-company cooperation. The QRC's function at a regional level and are responsible to check organizations from their region. Through of a network of QRC transnational students placement is maintain at quality standards. The standards include requirements for all parties involved: the University, the student and the host organization and include guidelines for resources, processes and procedures, quality control being in the center of partnership.

Keywords: Quality, standard, Quality Reference Centre, education, students placement

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Vibration Effects on Systematic and Accidental Errors for MEMS-based Inertial Measurement Units

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Abstract

The effects of environmental vibrations on the performances of a MEMS-based IMU are investigated; an innovative procedure is proposed to evaluate the sensing error variations with respect to its systematic and accidental components. The environmental vibration is simulated by means of the dynamic spectrum provided by standard normative for aeronautic applications. Results show that the vibration is able to modify the sensing performances of the IMU.

Keywords: MEMS, environmental vibrations, reliability, environmental parameters, simulation, performance.

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Reliability and Safety Issues of Telepresence and Teleoperated Robots

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Abstract

While telecommuting and teleconferencing started to take root at the end of the 20th century it has only recently started to become mainstream as VoIP solutions have become commonplace and easy to deploy by taking advantage of the ever-increasing bandwidth of users worldwide. Robotics has also enjoyed a similar development with industrial robotics blooming the late 20th century and personal robotics gaining a foothold in both the office and the home environment in recent years. The combination of these emergent technologies are the teleoperated and telepresence robots that are being developed at the moment. Applications range is very wide, from industrial (dam inspection, interventions in hazardous environments etc.), to architectural (inspection, construction), to healthcare (remote visiting) and home or office etc. Along with new technologies and applications come new issues of reliability and safety. Old standards may not be adequate for the new situations that arise not to mention completely new unforeseen challenges that are certain to manifest themselves. This paper analyses the current situation of the field of telepresence and teleoperated robots, highlights potential issues that need to be resolved and proposes possible solutions that can be implemented to assure a high quality and safe experience when using such system.

Keywords: Robot, Reliability, Safety, Desirability, Telepresence, Teleoperation.

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Utilizarea analizei defectărilor la construirea și evaluarea fiabilității componentelor și sistemelor electronice

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Abstract

Failure analysis (FA) is the process of determining the cause of failure, collecting and analysing data, and developing conclusions to eliminate the failure mechanism (FM) causing specific device or system failures. Why it is so important to use FA, i.e. to know the cause of product failure, this is what we intend to describe in this paper. Reliability analysis is not at all the only ‘customer’ of FA. Other fields, such as business management and military strategy are using this term. In order to offer to the reader a more complete picture, we identified the possible applications of FA in various fields (industry, research, etc.), which are detailed in the paper.

Keywords: failure analysis, reliability, failure mechanisms, physics of failure.

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