



# BOOK OF ABSTRACTS

DEA-20



# CONFERENCE PROCEEDINGS

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## Review board

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- Prof. Dr. Clive: University of Exeter
- Dr. Misha Isupov: University of Exeter
- Dr. Nick Le Brun: University of East Anglia
- Dr. Andrew Hemmings: University of East Anglia
- Dr. Tom Clarke: University of East Anglia
- Dr. Richard Strange: University of Liverpool
- Mr. Mohd Azhar Bin Abdul Rahman: Urban Development Authority of Malaysia (UDA)
- Dr. Myles Cheesman: University of East Anglia
- Dr. David Leys: University of Manchester
- Prof. David Garner: University of Nottingham
- Prof. Chris Schofield: University of Oxford
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- Mr. Bright Lumor MENSAH: Jilin University, School of International and Public Affairs (SIPA), China
- Dr. Nicholas Harmer: University of Exeter
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- Dr. Nick Watmough: University of East Anglia
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- Prof. Vilmos Fulop: University of Warwick
- Dr. Svetlana Antonyuk: University of Liverpool
- Prof. Doc Sharifah Hayaati Syed Ismail: University of Malaya, Kuala Lumpur Malaysia

## **A Zero-One Integer Programming for Preventive Maintenance Scheduling for electricity Plants with Production**

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### **ABSTRACT**

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This paper describes a method developed to schedule the preventive maintenance tasks of the generation units in separate and linked electricity plants provided that all the necessary maintenance and production constraints are satisfied. The proposed methodology is used to generate preventing maintenance schedule for electricity. Zero-one Integer Programming (0-1-IP) was applied to solve this problem. The objective function of the model is to maximize availability number of operational units per plant. The performance as well as the effectiveness of the 0-1-IP in solving preventive maintenance scheduling were applied and tested on a real system of 21 units for electricity, over a time horizon of 52 weeks. Sensitivity analysis was applied in term of extend the maintenance duration time for all units, increasing the demand by 30%, and impose some conditions, where the model prove it robustness. The results obtained are optimal or very close to optimality.

### **KEYWORDS**

Preventive Maintenance, Scheduling, Optimization, Zero-One Integer Programming.

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## Improving Some Mechanical Properties of Concrete by Using Hyper-Plasticizer (HP-580) and Steel Fibers

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### ABSTRACT

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this research aims to study the effects of high performance superplasticizer or hyper superplasticizer on mechanical properties of concrete include compressive , tensile and flexural strength. Superplasticizers in general are a water reducer admixtures that give concrete high workability and higher strength , but the use of superplasticizers must done with care ,because higher dosages ratio lead to segregation and lower ratios not have significant effects ,so for these reasons this research include the use of different dosages of HP and studying the ratios effect on mechanical properties and taking the optimum ratio of HP that use with steel fibers mixes .study show 1liter for each 100 kg cement leads to give optimum mechanical properties of concrete . Steel fibers increase slightly compressive strength but flexural strength is highly increased by adding fibers , mixes with both HP super plasticizer and steel fibers give best results . compressive strength increased from 34.6MPa for reference mixes to 49.90 MPa for mixes with 2% steel fibers and HP with 1 liter for each 100 kg cement . flexural strength increase also from 2.3 to 13.28 MPa by using both steel fiber and HP-superplasticizer.

### KEYWORDS

Steel fiber, Superplasticizer, Compressive strength, Tensile strength, Flexural strength.

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## Laser-Induced Surface Modification of Contact Lenses for Measuring Intraocular Pressure for Glaucoma Patients

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### ABSTRACT

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The project highlights the final findings on the laser-induced modification of surface properties of contact lenses. Selective areas of the surface of commercial silicon-hydrogel contact lenses were patterned in array formats using different powers of the CO<sub>2</sub> laser. 1D arrays of different groove densities, channels, and 2D intersecting architecture were fabricated. Contact angle measurements were carried out to measure the surface hydrophilicity, and extent of hydration was linked with the surface profile properties and the space gap between the fabricated patterns, which were controlled by the beam exposure time, beam power, and scan speed. Laser treatment of contact lenses resulted in improved hydration proportional to the density of laser ablated segments on the surface. The hydration time of water droplets on different lens surfaces was also recorded all 2D patterned lenses showed faster hydration as water quickly diffused into the bulk of the lens due to the extended interfacial area between the contact lens and the water droplet as a consequence of larger areal modification in 2D as compared with 1D patterns. The best wettability properties were obtained with 0.3 mm space gap, 9 W power, and 200 mm s<sup>-1</sup> scan speed. Optical microscopy was used to image the 3D surface profiles of the modified lenses and the depth of the patterns and was correlated with the experimental observations. The maximum depth of 40 μm was observed with 0.3 mm space gap, 9 W, and 200 mm s<sup>-1</sup> scan speed. Optical transmittance of broadband white light was measured to assess the surface treatment effects on the contact lenses. A large exposure and dense patterning of contact lens resulted in decreased (down to a minimum of 45%) in the light transmittance, which dictates the practical usability of such patterning. Surface treatment of contact lenses can be utilized to deposit stable conducting connection for on-lens-LEDs, displays, and communication antennas as well as for stabilizing biosensing materials and drug dispensing applications.

### KEYWORDS

Laser-induced modification, Contact Lenses, Silicon-hydrogel, Wettability.

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## Use Of Indigenous Fibres For Household Articles: Implication On Vocational Education For Youth Entrepreneurship

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### ABSTRACT

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The contribution of entrepreneurship training and education on poverty reduction through Youth empowerment will be much significant If entrepreneurship skill acquisition is encouraged at all level. The study assessed the use of indigenous fibres for the production of household articles; identifying the implication on vocational education for youth entrepreneurship in South western, Nigeria. The population comprised of nine hundred(900) entrepreneurs(undergraduates) and two hundred and ten(210) home makers(female academic and non academic staff) randomly selected from three (3) Major states in the South West (Lagos, Oyo and Ogun). Structured questionnaires consisting of four likert scale was used to elicit information on acceptability and entrepreneurial values of the articles produced while data was analysed using mean scores. Findings revealed the acceptability of household articles produced using indigenous fibre (3.52) for aesthetic and functional purposes. The acquisition of skills exclusive to clothing and textiles in production of household articles using indigenous fibres include: creativity (3.82), innovative inclination (3.88) and skill demonstration (weaving) (3.362). Also export drive (3.88), source of income (3.82) and cultivation of indigenous fibres (3.11) are the entrepreneurial values identified. The study recommends that workshop and seminars be carried out by Government and Non Governmental Organisations to train entrepreneurs and trainers on the production of household articles using indigenous fibres. Also entrepreneurs, designers and companies should utilize the indigenous fibres to produce good and quality household articles to curb the menace craving for imported goods at the expense of indigenous products.

### KEYWORDS

Indigenous Fibres.

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## Mediating work-life balance through corporate travel management: An application of the Conservation of Resources Theory

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### ABSTRACT

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Achieving appropriate work-life balance for employees can be a tool for retaining existing staff, increasing productivity and attract new staff to work for firms. However, maintaining a stable workforce is no longer exclusively relied on transactional reward such as payment. Previous researchers have reviewed the perceptions of work-life balance amongst executives working in the hotel, hospitality, meetings/incentives/convention/exhibition or MICE and travel agency about conditions in their particular sector. However, no empirical study has targeted corporate travel management executives to find out their perceptions about work-life balance. This study identifies important factors for achieving work-life balance in the workplace as perceived by corporate travel management executives. In-depth interviews were conducted to understand the comprehensive view of the corporate travel management executives towards work-life balance. The respondents main job duties involve managing the corporate travel programs of their firms and ensuring travel policy compliance. The results of this study identified that three major categories work, balance and personal life can be grouped under two broad classifications: Intrinsic Factor and Extrinsic Factors. We found that their interrelationship affects individual perceptions about work-life balance. A state of equilibrium over work-life balance is maintained in the minds of respondents when the centre of gravity on the scale is in balance. When one set of the factors weighs more heavily, perceptions of work-life balance lose their state of stability. Finally, we took note of the views of corporate travel management executives towards work-life balance and proposed suggestions for human resources professionals about appropriate future possible research directions and practical applications in firms.

**Key Words:** Work-life balance, Bleisure, Corporate Travel Management.

## Stability and Trajectory of Public Debt in Croatia

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### ABSTRACT

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Croatia is one of the EU countries with the highest level of public debt. The main reason for such fiscal stance can be found in the extensive deficit financing, especially during recent economic crisis which lasted for six consecutive years (2009-14). Paper analyses public debt sustainability in Croatia and its effects on fiscal policy efficiency. To point out key challenges of fiscal sustainability, the public debt sustainability is analyzed using standard indicators of fiscal stability, accompanied with identification of regime changes approach in the public debt trajectory. Last quarter of 2008 can be seen as a (negative) turning point in the Croatian economy and dynamics of the economic and fiscal system were substantially changed. To formally test this assumption and to see whether the regime changes have an effect on the effectiveness of fiscal policy, a regime-switching regression approach is used. Analysis is conducted for the period from 2001 to 2018 using quarterly data. Results show huge vulnerability in recession period (2009-14), so key challenges in current fiscal policy and public debt management are recognized in maturity prolongation, interest rates trends, and credit ratings expectations. Regime-switching model recognizes two regimes, coinciding with the change in the mean of the dependent variable between 2001-2008 and 2009-2018. In the first regime the debt indicator had a negative and statistically significant effect on the growth figure. In the second regime the change in debt ratio remained statistically significant but its negative effect strengthened with the rise of instability. Paper suggests that despite the fact that the fiscal spending effectiveness rises in recessions, related increase of the debt unsustainability mitigates the effects of anti-cyclical fiscal policy.

### KEYWORDS

Fiscal Sustainability, Public Debt, Regime-Switching Model, Croatia.

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## Monitoring and Evaluating of Excellence Scholarship Program Performance among Thai Scholars in Public Sector

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### ABSTRACT

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The purposes of this study were to monitoring and evaluation of excellence scholarship program performance in humanities and social sciences of Thailand. The collected data from opinions and behaviors related to the program questionnaires consists of 114 items with Cronbachs alpha reliability between .956-.996. The CIPP model design conducted by cross sectional survey with 208 scholars in public sector who were Thai government scholarship recipients during fiscal year of 2007-2018. The findings shown 1) Scholarship recipients ability to accomplish goals were 605 scholarship recipients from total of 1,160 which can quantify with descriptive statistics at 52.16%, from fiscal year of 2007-2014. 2) Factors related to program outcome and impact found the significant relationship between program context, input, process, and outcome with high correlation coefficient (r) at .579, .522, .459 and .779 respectively. 3) Suggestion for increasing program performance: 3.1) Budget dimension includes allocate funds relevance to current cost of living in each countries. 3.2) Time dimension includes estimate time relevance to study timetable in each country. 3.3) Network dimension includes sharing experience between current students and alumni of the program. 3.4) Affiliated universities dimension includes continuous monitoring and following up with scholarship recipients.3.5) Scholarship recipients dimension includes provide psychiatrists for counseling. 3.6) National policies dimension includes short-term and long-term planning for national development. 3.7) Post graduate work dimension includes notify job description responsibilities and expectation. In addition, the leftover budget should utilize for program extension and funding allocation for research, training and career development of scholarship recipients after graduation.

### KEYWORDS

Monitoring and Evaluation, Excellence Scholarship, Program Performance, Humanities and Social Sciences, Scholarship Recipients, CIPP model.

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## **The African Union Security Architecture: Operational Mandate and Challenges for Actualisation of the Responsibility to Protect**

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### **ABSTRACT**

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The objectives of this study were to examine the African Union security architecture within the purview of its operational mandate and challenges for the actualisation of the Responsibility to Protect in Africa. The scope of this study was also based on the AU institutional mechanisms in resolving African conflicts since its inception, in 2002. This studies further examines the rationales behind the transformation of the OAU into the AU, and how the AU has been responsive to the various internecine conflicts on the continent of Africa after the entrenchment of the Principle of the Responsibility to Protect by the United Nations Security in its Charter, in 2005. It also investigates the power of the Peace and Security Council of the AU to intervene militarily in African conflicts under Article 4(h). The main method of data collection for this paper has been through the secondary data. This paper draws on the AU-led peacekeeping missions in Burundi (2008) and Darfur (2004), as well as the recent political impasse in Sudan. The secondary data include information derived from journal articles, books, the African Union and the United Nations sources. The findings of this study reveal that, since the creation of the AU, the AU has remained an effective continental body, in resolving African deadly conflicts, although with some challenges, including the AU financial constraints, the size of the AU force and its inability to enforce binding decisions on warring parties.

### **KEYWORDS**

African Union, African Union Constitutive Act, Protection, Responsibility to Protect.

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## Incident Reporting Behaviors Among Health Care Workers A Cross Sectional Study

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### ABSTRACT

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**BACKGROUND:** Adverse events, near misses and errors continue to occur in hospitals several years after the landmark report To Err is human which put the spotlight on the high incidence of medical errors was published in 1999. According to a study of Medicare patients completed by the Office of the Inspector General (OIG) in 2010, 13.5% of patients experience harm while hospitalized, and about half of those events can be prevented. Voluntary adverse event reporting has been shown to be a good strategy to detect safety events, quality problems and devise ways to prevent such events from recurring, but six out of seven adverse events in hospitals still go unreported.

**OBJECTIVE:** The aim of the study is to assess awareness of adverse events, use of the current incident reporting system and identify factors inhibiting reporting of incidents among health care workers in Waterbury hospital, Connecticut, USA.

**METHODS:** A cross sectional study was conducted in April to May 2019 at Waterbury hospital - a teaching hospital for the Yale Waterbury Internal medicine residency program and also surgical residency. Simple random sampling was used to select the participants. A questionnaire based on 13 questions related to specialty, duration of employment, knowledge, attitude and barriers to adverse event reporting was distributed randomly to 73 healthcare workers. The study subjects included attending physicians, nurses, medical and surgical resident doctors. Data were coded and analyzed with the jmp software.

**RESULTS:** The workers surveyed do not appear to be engaging in the incident reporting. 70% of those surveyed have never filed a report, although 85% of them have witnessed an incident that should be reported. Nurses are more aware, know how to access the system and report more incidents when compared to doctors. Most (72%) of the respondents would report obvious errors that caused harm to the patients and also those that could have caused harm (near misses ). It is interesting to note that less than 50% of residents feel that falls should be reported. Another interesting finding is that less than 50% of the respondents believe that hospital acquired infections should be reported. Major barrier to incident reporting from the survey is that it takes too long and the lack of feedback. **Conclusion:** The incident reporting process is one that is still not embraced by many health care workers despite its benefits in helping to reduce adverse events in the hospital. From this study, simplifying the process, making it less time consuming, providing feedback and training are some of the ways to improve reporting.

### KEYWORDS

Incident; Error ; Reporting ; Healthcare.

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