

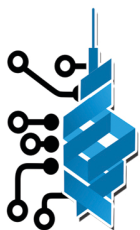
# PROCEEDING BOOK

**Volume 1, Issue 9**

**BCAT-SEP-2019**

**Venue: Mercure Hotel Amsterdam City**

**Date: September 28-29, 2019**



**Institute of  
Applied Sciences  
& Engineering Technology**

# **IAET International Conference on Bioinformatics, Industrial Engineering, Computer Software, Applied Sciences & Aviation Technology (BCAT)**

Conference organized by:



This conference is dedicated to educators all over the world and to the members of the Institute of Applied Sciences and Engineering Technology (IAET) whose passion for teaching, learning, research, and service are helping to transform the academy in many positive ways.

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Research & Innovation, Knowledge exploration and sharing, nurturing novel ideas, addressing challenges to Applied Sciences and Engineering Technology.

Lead the scholarly community through global communication and nurturing innovative ideas, developments and experiments in the field of Applied Sciences and Engineering Technology

We try to give our members a positive network/relation building experience by: 1) We have team building/socializing/gaming sessions where the members mix and talk and share with each other in an informal environment. 2) We arrange various customized events and capacity building activities for higher education institutions. 3) Dedicated and committed team to support individual and corporate members of our scholarly community.

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## IAET International Conference on Bioinformatics, Industrial Engineering, Computer Software, Applied Sciences & Aviation Technology

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## Welcome Message

The Institute of Applied Sciences and Engineering Technology (IAET) welcomes you to the IAET International Conference on Bioinformatics, Industrial Engineering, Computer Software, Applied Sciences & Aviation Technology. We are happy you decided to join your colleagues from around the world to explore innovative technologies, pioneering pedagogical strategies, and a sampling of international collaborations that are being used to engage and retain students, researchers and Scholars in the new millennium.

## Scientific Committee

Lobna Ali Al-Khalifa, National Authority for Qualifications & Quality Assurance of Education & Training (QQA), Bahrain  
Lothar Auchter, University of Applied Science, Kaiserslautern, Germany  
Louise van Scheers, Department of Marketing and Retail, University of South Africa  
Magorzata Magdalena Hybka, Pozna University of Economics and Business, Poland  
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Simon Best, Medgar Evers College, New York, USA  
Yongmei Bentley, University of Bedfordshire, UK

## Acknowledgements

The organizing committee would like to thank all those people who were involved in making the conference a success. A great amount of planning and organizing is required to hold a successful conference, so we are indebted to those who volunteered their time and energy.

We want to thank all the members of the Institute of Applied Sciences and Engineering Technology (IAET) who volunteered their time to help organize the conference.

## **ENGINEERING TECHNOLOGY**

Acoustical Engineering Aerospace Engineering, Agricultural Engineering Biological Engineering and Sciences, Biological Systems Engineering Biomedical Engineering, Bioprocess Engineering Biotechnology, Building Services Engineering Chemical Engineering, Industrial Engineering Information Engineering, Informational Technology Manufacturing Engineering and Technology, Materials Engineering Mechanical Engineering, Mechatronics Nanotechnology and Nanoengineering, Naval Engineering Nuclear Engineering, Technology for Cloud Computing Technology for Community, Technology for Digital Age Technology for Human Use, Technology for Learning Civil Engineering, Computer Engineering Current issues and challenges in Engineering, Electrical Engineering Electronic Engineering, Energy Engineering Environmental Engineering, Food Engineering Genetic Engineering, Geotechnical Engineering Ocean Engineering and Technology, Optical Engineering Petroleum Engineering, Power Engineering Process Engineering, Resource Engineering Sensing Technology, Structural Engineering Systems and Software Engineering, Technology for Big Data Textile Engineering, Thermal Engineering Transport Engineering, Web Engineering Vehicle Engineering.

## **APPLIED SCIENCES**

Artificial Intelligence, Architecture, Astronomy, Biological Sciences, Botany, Chemistry, Design, Earth Science, Ecology, Marine Science, Physics, Space Sciences, Life sciences, Computer Sciences, Logic, Mathematics, Statistics, Systems Science, Electrical Engineering, Information, Technology, Industrial Engineering, Mechanical Engineering, Applied Physics, Health Sciences and Medicine, Ceramic Engineering, Computing Technology, Electronics, Energy, Environmental Engineering Sciences, Engineering physics, Environmental Technology, Fisheries Science, Forestry Science, Materials Engineering Micro technology, Nanotechnology, Nuclear, Technology, Optics, Zoology Transportation

## Conference Schedule

### IAET International Conference on Bioinformatics, Industrial Engineering, Computer Software, Applied Sciences & Aviation Technology

Mercure Hotel Amsterdam City  
September 28-29, 2019

BCAT-2019

Saturday, September 28, 2019

#### Day-at-a-Glance

08:00 - 08:30 am	Arrivals, Doorstep and Handshake
08:30 am - 08:45 am	Introduction of Participants
08:45 am - 09:00 am	Inauguration and Opening address (Mr Bashar)
09:00 am 09:30 am	Tea - Grand Networking Session/ Group Photo



## Session 01

09: 30 am 11:00 am

### Track 01: Business Economic, Management, Social Sciences & Humanities Session Chair: Associate professor Minea Marius

Reform of Oil and Gas Industry Governance in Indonesia

*Speaker: Haris Ismail — Cost Control & Tax Accounting, JOB Pertamina Medco E&P Tomori Sulawesi*

International Relation in Oil Industry Perspective

*Speaker: Nurina Rahmadini Oliy — External & Government Relations Analyst, JOB Pertamina Medco E&P Tomori Sulawesi*

Economic Growth in Southeast Asia, Singapore Case

*Speaker: Anton Sunarto—General Services, JOB Pertamina Medco E&P Tomori Sulawesi*

Human Resources Management Strategies in Oil & Gas Industry Related To Emerging Market Trends

*Speaker: Narendra Prabhawa Mukti—Learning & Development Analysts, Joint Operating Body Pertamina Medco E&P Tomori Sulawesi*

Upstream Oil & Gas Industries in Indonesia

*Speaker: I Wayan Yuda Mahendra—Reservoir Engineer, JOB Tomori, Jakarta Indonesia*

## Session 02: 11:00 am - 12:00 pm

### Track 02: Engineering Technology & Applied Sciences

A Data Analysis platform for High Altitude Biomonitoring using DEVOPS Principles and Time Series Machine Learning

*Speaker: Felix-Constantin Adochiei — Faculty of Electrical Engineering, University Politehnica of Bucharest, Romania*

Configuring the Assembly Line to Increase Production Capacity

*Speaker: Enache Ioana Catalina — The Faculty of Aerospace Engineering, University Politehnica of Bucharest, Romania*

Integration of Technology Enriched Games with Classical Teaching Instruments for the Development of Technical Communication Competencies

*Speaker: Ioan Cristian Mustaa — Department of Engineering in Foreign Languages University POLITEHNICA of Bucharest, Romania*

**Lunch Time (12:00 pm - 01:00 pm)**

**Track 02: Engineering Technology & Applied Sciences**

Call-Center Virtual Assistant Using Natural Language Processing and Speech Recognition

*Speaker: Vasileanu Andrei — Department of Engineering in Foreign Languages, University Politehnica of Bucharest, Romania*

Web Application for Self-Diagnosis and Drug Recommendation Based on User Symptoms

*Speaker: Nicolae Goga — Department of Engineering in Foreign Languages, University POLITEHNICA of Bucharest, Romania*

Case Study: Competencies and Requirements for the Curriculum Development in Technical Communication and Media Management at Master Level at the University POLITEHNICA of Bucharest

*Speaker: Ioan Cristian Mustaa — Department of Engineering in Foreign Languages University POLITEHNICA of Bucharest Romania*

A Benchmark Based on the Automatic Generation of Ontology between the Psychological and Theological Domains

*Speaker: Nicolae Goga — Doctoral School of Automatic Control and Computers, University Politehnica of Bucharest, Bucharest, Romania*

Practical Approach of Environmental Awareness to Broadening Community Participation: a Case Study of Pindad (Persero) Bandung, Indonesia

*Speaker: Trianto Sutrisno — PT. Pindad (Persero),Indonesia*

## Session 04

02: 00 pm 03:00 pm

### Track 01: Business Economic, Management, Social Sciences & Humanities Session Chair: Associate professor Minea Marius

Monetary Policy Independence in a Managed Floating Regime: An ARDL Approach

*Speaker: Aiswarya Thomas — Institute for Financial Management and Research, Chennai, India*

Feasibility of Monetary Union In The East African Community: The GPPP Approach

*Speaker: Ephrem Habtemichael Redda — North-West University, South Africa*

Love or Money? How does the Rewards Affecting Audience Motivation and Relationship between Broad-caster and Audience

*Speaker: Chien-Huang Lin — National Central University, Taiwan*

The Construction of Integrative Theoretical Tools to Read Gender Discursive Subjectivities

*Speaker: Yamilet Angulo Noguera — Universidad Distrital Francisco Jose de Caldas Bogota, Colombia*

**Closing Ceremony (03:00 pm - 03:30 pm)**

## Conference Attendees

The following scholars/practitioners/educationist who don't have any paper presentation, however they will attend the conference as delegates & observers.

Participant Name: Munteanu Mariana - Gabriela

Affiliation: The Faculty of Biotechnical Systems Engineering, University Politehnica of Bucharest, Romania

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Participant Name: Niculescu Florentina

Affiliation: The Faculty of Material Science and Engineering, University Politehnica of Bucharest, Romania

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Participant Name: Patru George - Cristian

Affiliation: The Faculty of Automatic Control and Computer Science, University Politehnica of Bucharest, Romania

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Participant Name: Radovici Alexandru

Affiliation: The Faculty of Automatic Control and Computer Science, University Politehnica of Bucharest, Romania

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Participant Name: Simion Petronela - Cristina

Affiliation: The Faculty of Entrepreneurship, Business Engineering and Management, University Politehnica of Bucharest, Romania

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Participant Name: Slesar Vladimir - Claudiu

Affiliation: The Faculty of Applied Sciences, University Politehnica of Bucharest, Romania

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Participant Name: Tanasiev Vladimir

Affiliation: The Faculty of Power Engineering, University Politehnica of Bucharest, Romania

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Participant Name: Tomas tefan Theodor

Affiliation: The Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest, Romania

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Participant Name: Zabava Bianca - tefania

Affiliation: The Faculty of Biotechnical Systems Engineering, University Politehnica of Bucharest, Romania

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Participant Name: Bercia Romeo

Affiliation: The Faculty of Applied Sciences, University Politehnica of Bucharest, Romania

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Participant Name: Bildea Costin Sorin

Affiliation: The Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest, Romania

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Participant Name: Culic Ioana - Maria

Affiliation: The Faculty of Automatic Control and Computer Science, University Politehnica of Bucharest, Romania

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Participant Name: Fuiorescu Dinu

Affiliation: The Faculty of Mechanical Engineering and Mechatronics, University Politehnica of Bucharest, Romania

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Participant Name: Gheorghe Cristina - Mihaela

Affiliation: The Faculty of Electrical Engineering, University Politehnica of Bucharest, Romania

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Participant Name: Minea Marius

Affiliation: The Faculty of Transports, University Politehnica of Bucharest, Romania

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Participant Name: Nur Ali Ritaudin

Affiliation: PT. Pindad (Persero), Indonesia

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**IAET International Conference on Bioinformatics, Industrial Engineering,  
Computer Software, Applied Sciences & Aviation Technology**

**BCAT-2019**

**Sunday, September 29, 2019**

Conference second day is reserved for participants own tourism activities.

## **Conference Abstracts**

**Track 1: Business Economic, Management, Social Sciences & Humanities**

# Monetary Policy Independence in a Managed Floating Regime: An ARDL Approach

Aiswarya Thomas <sup>1\*</sup>

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Though a highly debated and contested idea, the open economy trilemma started to gain significant attention recently after Reys argument that; in an open economy setting there is no trilemma but only a dilemma between two choices: capital mobility and independent monetary policy. In other words, Rey concludes that exchange rate regimes do not play any role in deciding between capital mobility and independent monetary policy. Further, a lot of studies have come up which largely discuss about the monetary policy independence in countries that allow free mobility of capital flows, by making comparisons between countries with fixed exchange rate regime and floating exchange rate regime. However, the studies on monetary policy independence of countries with managed floating exchange rate regimes are very scant. Given this context, it becomes quite imperative to undertake a study on the monetary policy independence in India for the fact that India is a unique case in itself with not complete free mobility of capital and a managed float exchange rate regime.

**Index Terms:** Managed Floating, Policy, ARDL Approach

# Feasibility of Monetary Union In The East African Community: The GPPP Approach

Ephrem Habtemichael Redda (PhD)\*  
North-West University, South Africa  
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The Association of African Central Bank Governors, in 2003, announced that it would work for a single currency and common central bank for Africa by 2021. Many regional trading blocs and economic communities are working towards this grand objective. The focus of this paper is on the East African Community (EAC) which comprises Burundi, South Sudan, Rwanda, Kenya, Uganda and Tanzania. The study utilises the generalised purchasing power parity (GPPP) to assess the feasibility of a monetary union in the EAC region. The key question addressed in this study is: Does the GPPP hold in the EAC region? Econometric techniques such as unit root test, Johanson's and Pedron's cointegration test were used to answer this pertinent research question. The presence of cointegrating vector(s) in the Johanson's constegration test is supportive of an optimum currency area (OCA), and it can be interpreted as similarities of fundamental macroeconomic factors that derive real exchange rate in the EAC region. In other words, the GPPP does in deed hold in the EAC region. The Pedron's cointegration test also provided supportive evidence of the existence of long-run relationship between the tested variables, namely real exchange rate, nominal exchange rate and consumer price index (CPI) providing further support the feasibility of monetary union in the region. The results of the vector error correction model (VECM) indicated some differences in the size of the coefficients of the normalised long-run cointegration equation. This suggests that any change/shock/disequilibrium of real exchange rate in the region may cause unintended currency flow from one country to the other in the short-run constraining the possibility of an effective and efficient monetary union. Therefore, it is recommended that member countries should harmonise monetary and fiscal policies well ahead of the implementation of the monetary union the region.

**Index Terms:** East African Community (EAC), EAMU, Generalised Purchasing Power Parity, Optimum Currency Area



# Love or Money? How does the Rewards Affecting Audience Motivation and Relationship between Broadcaster and Audience

Chien-Huang Lin <sup>1\*</sup>, Yidan Huang <sup>2</sup>

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Live video streaming such as YouTube Live and Twitch and their user have been founded and demonstrated unprecedented growth across the world. Yet, platforms usually recommended the broadcaster to the audience based on the number of subscriptions, without taking into account the rewards the broadcaster give to audience and researchers have paid insufficient attention to understanding the relationship between broadcaster and audience. SEM (Structural equation modeling) were adopted for analyses. A total of 650 questionnaires was distributed, and 516 valid questionnaires (including Taiwan and China) were retrieved. This study provided three major contributions: (a) Compared with physical rewards, the amount of psychological incentives given by broadcaster has less impact on the audience motivation and broadcaster relationship with audience. (b) For audience with extrinsic motivation, the amount of physical rewards given by broadcaster will affect the formation of emotional relationship between them. (c) For audiences with intrinsic motivation, the amount of physical rewards given by broadcasters will affect the formation of the mixed and emotional relationship between them. (d) However, the amount of psychological reward only affects the formation of instrumental relationship between audiences with extrinsic motivation and broadcasters. Live video streaming such as YouTube Live and Twitch and their user have been founded and demonstrated unprecedented growth across the world. Yet, platforms usually recommended the broadcaster to the audience based on the number of subscriptions, without taking into account the rewards the broadcaster give to audience and researchers have paid insufficient attention to understanding the relationship between broadcaster and audience. SEM (Structural equation modeling) were adopted for analyses. A total of 650 questionnaires was distributed, and 516 valid questionnaires (including Taiwan and China) were retrieved. This study provided three major contributions: (a) Compared with physical rewards, the amount of psychological incentives given by broadcaster has less impact on the audience motivation and broadcaster relationship with audience. (b) For audience with extrinsic motivation, the amount of physical rewards given by broadcaster will affect the formation of emotional relationship between them. (c) For audiences with intrinsic motivation, the amount of physical rewards given by broadcasters will affect the formation of the mixed and emotional relationship between them. (d) However, the amount of psychological reward only affects the formation of instrumental relationship between audiences with extrinsic motivation and broadcasters.

**Index Terms:** Psychology and Physical Rewards, External and Internal Motivation, Audience-Broadcast Relationship, Computer Mediated Communication

# Emerging Market Trends in Economics, International Relation, Business Management & Social Science Research

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The oil and gas industry in Indonesia has an important role in national economic development. This can be seen from the structure of Indonesia's fiscal economy, where revenue from the State Budget (APBN) is still dominated by the oil and gas sector. The flow of the upstream oil and gas industry in Indonesia began with exploration activities and continued with field planning and development activities, the production & commercial phase as well as the abandonment & restoration phase. Exploration Activities: A series of activities aimed at finding oil and gas sources. Exploration activities include : Geological Mapping, Seismic Acquisition & Interpretation, Wild Cat Drilling, Delineation Drilling. Field Planning and Development Activities : At this stage a field planning is carried out covering the optimal field development strategy, determining the optimal number of development wells and the construction of effective and efficient production facilities. Operations & Production Activities : In production operations activities are operational activities producing oil and gas from below the surface to the production facilities on the surface and sent to the point of sale and purchase. Site & Restoration Abandonment Activities : This stage is the last stage where the field is deemed to have no economic value anymore, so it needs to be closed and site restoration done. At present the oil and gas industry in Indonesia has experienced major changes, namely changes in the production sharing contract scheme between the government and the contractor. History records that the profit sharing scheme used so far has used PSC Cost recovery, but now it has been changed using the Gross split PSC scheme. This scheme change is inseparable from the government's desire to advance the oil and gas industry in Indonesia.

**Index Terms:** Emerging Market, Industry, International Relation

# Reform Of Oil And Gas Industry Governance In Indonesia

Haris Ismail \*

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Indonesia is very dependent on oil and gas for the continuity of a growing national economy and industry, Oil & Gas industry is very strategic for Indonesia, many policies and regulation have been change by government to increase production and proven reserves of oil and gas which are not only for energy security but also to increase state revenue. From 1970 to 1990 the oil and gas sector contributed 62.8% to state revenue or 20.66 billion US dollars so that Indonesia became a oil & Gas exporter country, but the reality today has been very different where since 2003 Indonesia had to become importer country, due to production oil is falling and demand of Oil is increasing, and made worse by no discovery of large oil and gas reserves to close the gap. finding new oil and gas reserves is important for the government of Indonesia, for this problem the government has been change many times policies and regulations on oil and gas governance in Indonesia. Since 1965 Indonesian production sharing contracts have been implemented under the Cost Recovery scheme and now has been evolved into a Gross Split Production Sharing Contract (PSC). Cost Recovery is the operating costs requested for reimbursement consisting of exploration costs, production costs (including depreciation), and administrative costs (including interest recovery). Cost Recovery is a way in which a contractor requests a return on development and operating costs from production revenue. the Indonesian government controls the cost recovery through SKK Migas. The fact is that the time required by the contractor/Oil Company from the discovery process to production is longer compared to other countries and the process to recover costs is very difficult for oil contractor, especially in the case of bureaucracy, so that investors are not interested in investing in this industry especially in Indonesia. Regarding this problem, the government changed the profit sharing contract system from the cost recovery scheme to a gross split scheme. The Gross Split Scheme is a scheme where the calculation of revenue sharing for the management of oil and gas working areas between the Government and the Oil and Gas Contractor is calculated upfront. Through the Gross Split scheme, the State will get oil and gas revenue sharing and taxes from exploration and exploitation activities, It is different from the cost recovery scheme, where the government gets the production sharing after calculated with the production and exploration costs by contractors share. Gross split calculation is different for each work area. Basic calculations are in the percentage of Base Split. For oil split base, 57% is regulated into the State and 43% becomes the Contractor's share. Meanwhile for natural gas, the State's share is 52% and the Contractor's share is 48%. In addition to the percentage base split, both the State and the Contractor may get a larger share with the addition of the calculation of 10 Variable Components and 2 other Progressive Components. This makes the Gross Split scheme attractive for investors to manage oil and gas working areas, including non-conventional work areas that have greater challenges. With this gross split scheme the contractor is more effective and efficient in conducting exploration and production activities in order to generate profits for exploration and production operations.

**Index Terms:** Gas Industry, Investors, Progressive Components

## International Relation in Oil Industry Perspective

Nurina Rahmadini Oliy \*

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International relations are relations between countries, between groups or between individuals from different countries in certain fields whose purpose is to meet the interests of both parties. International relations can be established in several ways, one of them with international cooperation. International cooperation is cooperation that is generally carried out by several countries that are mutually beneficial, especially in the economic fields of these countries, the purpose of such cooperation is to be able to get an advantage and meet the interests of each country itself.

International cooperation relations between countries usually begin because of the limited ability of a country to meet the needs of the country itself, especially the need for petroleum energy which is mostly needed to drive the transportation of a country which will have a direct impact on the country's economic activities.

Petroleum or crude oil is the raw material for fuel oil, gasoline and many chemical products is an important source of energy because oil has a significant percentage in meeting world energy consumption. Although many countries are currently exploring the potential for renewable energy, the importance of the benefits and dependence on oil in the world cannot be denied, nor ignored. The large dependence of the state on petroleum energy create the need for a sense of security over the availability of petroleum energy itself. The feeling of security of energy availability is related to several factors, such as international trade, supply, and price. To fulfill the sense of security over the availability of petroleum energy, a partnership with other countries which has large reserves of petroleum energy is formed.

**Index Terms:** International Relations, International Cooperation, International Cooperation Relations, Petroleum Energy.

## Economic Growth in Southeast Asia, Singapore Case

Anton Sunarto\*

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Economic growth is a variable that determines the level of welfare of a country. The higher the economic growth per capital society in a country, the higher the level of welfare and the country may change its position from a country that had almost collapsed into a developing country or a semi-developed country. Several countries in Southeast Asia, one of which is Indonesia, is currently experiencing economic growth as a developing country. In contrast to Singapore which already bears developed countries. Malaysia is one level higher than Indonesia, where per capita income, economic growth rates, living standards, and the potential of the people are higher than Indonesia. Thailand, which was a buffer zone in Southeast Asia during the world war, now focuses on the tourism sector as a step in boosting domestic economic growth. In contrast to the Philippines which supports its human resource potential and spreads the diaspora as a way to enhance its domestic economic growth. Each country in Southeast Asia has a different way with the characteristics and capabilities of the country or even the potential of society to increase economic growth. Indonesia as one of the countries in Southeast Asia with the largest population utilizes e-commerce activities and people's purchasing power as a determinant variable for prosperity and economic growth

**Index Terms:** Economic Growth, Potential, Southeast Asia

# Human Resources Management Strategies In Oil & Gas Industry Related To Emerging Market Trends

Narendra Prabhawa Mukti \*

Learning & Development Analysts, Joint Operating Body Pertamina Medco E&P Tomori Sulawesi, Jakarta, Indonesia

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Most business managers need to be aware of the prevailing direction of the economic trend for the product markets and countries in which they operate in order to make more accurate and effective plans for their company. The Indonesian government under the leadership of Joko Widodo (who was inaugurated as Indonesia's seventh president in October 2014) has implemented several structural reforms that aim at long-term growth but cause some short-term pain. For example, the majority of fuel subsidies have been scrapped successfully, a remarkable accomplishment (as fuel subsidy cuts have always caused outrage among the population) aided by the globe's low crude oil prices. Moreover, the government places high priority on infrastructure development (evidenced by the sharply rising government infrastructure budget) and on investment (evidenced by deregulation and fiscal incentives that are offered to private investors). Indonesia has several strengths that explain structural macroeconomic growth, such as: Abundant and diverse natural resources, Young, large and burgeoning population (rapidly expanding middle class), Political stability (relatively), Prudent fiscal management since the late 1990s, Strategic location in relation to the giant economies of China and India, Low labour costs. In the years 2015-2016 we see two separate - and worrying - trends. While direct investment continued to grow, investment in the oil and gas sector continued to decline. In 2015 total direct investment grew to IDR 574.7 trillion, while investment in the oil and gas sector fell to IDR 206.6 trillion. One year later, this trend persists: in 2016 direct investment grew to IDR 607.3 trillion, while investment in the upstream oil and gas sector fell to IDR 151.2 trillion.[1] Declining investment in oil and gas is a problem because with limited exploration Indonesia will not be able to boost its oil output significantly. Lack of oil and gas exploration is usually attributed to Indonesia's weak public management, bureaucracy, the unclear regulatory framework and legal uncertainty. Moreover, the low oil price has also made it unattractive for companies to invest in costly exploration in Indonesia over the past two years. However, this cannot be used as an excuse any longer because on the global level investment in the upstream oil and gas sector is projected to rise. Oil and gas reserves in Indonesia are known to be still very large and there are still many that have not been explored. After experiencing a slowdown from 2015 to 2017, the national oil and gas industry began to show an increase in 2018. We as an upstream oil & Gas company, should be aware of the emerging market trends in global economics, international relations, business management & social science research. So we could find and implement several strategies to stay on the winning side of these emerging market trends.

**Index Terms:** Strategies, Human Resources, Oil & Gas Industry

# The Construction of Integrative Theoretical Tools to Read Gender Discursive Subjectivities

Yamilet Angulo Noguera \*

Universidad Distrital Francisco Jose de Caldas, Bogota, Colombia

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This presentation explores some of the ways in which the theoretical dialogue based on linguistics, contributes to the understanding of the relationship between language and gender. We use the category gender discursive subjectivities, a category that has its origin in the theory of enunciation, which also crosses perspectives such as socioconstructivism and semiology. This category covers the connection found in notions like social context, discourse, enunciation and, in particular, the power relationships present in the use of language. We begin with a discussion about the concepts as subject of discourse, enunciation and sexual difference. These concepts are very complex by themselves, however, when they are put in dialogue from the eyes of authors such as Benveniste, Bourdieu et Violi, they produce a very effective tool for the theoretical analysis of the social construction of gender linguistic behaviors. Then, from this theoretical assembly, the text reflects on the problem of female discursive subjectivity in linguistic studies, ending with a reflection on the construction of integrative theoretical tools, as an alternative to highly complex sociolinguistic categories.

**Index Terms:** Construction, Sociolinguistic Categories, Gender Discursive

## **Conference Abstracts**

### **Track 2: Engineering Technology & Applied Sciences**



# A Data Analysis Platform for High Altitude Biomonitoring using Devops principles and Time Series Machine Learning

<sup>1\*</sup> Felix-Constantin Adochiei, <sup>2</sup> Radu Ciucu <sup>3</sup>Ioana Raluca Adochiei, <sup>4</sup>Florin Ciprian Argatu, <sup>5</sup>Ciprian-Marius Larco, <sup>6</sup>Miron Casian

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In this paper we propose a software platform for correlating real-time physiological data using microservices and time series analysis with machine learning. We use a devops type architecture with multiple containers governing specific aspects of our platform. In order to run the analytics and correlation protocol several microservices had been designed to orchestrate and process multiple data streams in real time. The data ingested by our platform is provided in an intuitive data visualization interface that binds together digital elevation models and geospatial data with the blood oxygen saturation and heart rate of a subject. The platform provides an accurate representation of a subjects physical performance in high altitude/low oxygen environments.

**Index Terms:** MRI, DVR, Devops, Biomonitoring, Long-Short Term Memory

# Configuring the Assembly Line to Increase Production Capacity

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Needs and market demands are the benchmark against which production processes have to improve both in terms of production capacity and in terms of quality by applying traditional and non-traditional methods of development. This paper will review the existing assembly lines (AL) which must be modified to meet new requirements. The bibliographic research has the role of highlighting the various methods by which one can optimize an assembly line that is complemented by the presentation and analysis of a real case, which aims to enrich the studies done to date in the study area of assembly line balancing problems (ALBP). The aims are to reduce the time of product development and maximizing the use of resources (both machines and workers). By balancing the workload of operators at each station and reducing downtime, the aim is to minimize losses and costs. Balancing the line will allow you to reduce the waiting time and increase the transfer rate.

**Index Terms:** Increase Productivity, Configuration of Assembly Lines, Assembly line Balancing (ALB), Simulation.

# Integration of Technology Enriched Games with Classical Teaching Instruments for the Development of Technical Communication Competencies

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Communication competencies in the field of technical communication form a complex network of professional communication competencies, containing on the one hand general communication competencies, as well as specific competencies linked to the field of technical communication. The development of such competencies represents a challenge for teachers as well as for professional trainers on the one hand, and the students and trainees on the other hand. The paper is addressing the issue of developing technical communication competencies, analyzing the competencies involved in a structured way and then proposing some technology enriched games as innovative instruments to be used by teachers and trainers together with the classical teaching instruments. For this purpose classical teaching instruments are analyzed in order to identify their strengths and their weaknesses when used to develop technical communication competencies. Then complementary innovative instruments in this case technology enriched games are identified and configured with the aim of addressing exactly the weak point of classical instruments in a better way. The aim of these technology enriched games is not to replace classical teaching instruments, but to be integrated as complementary instruments alongside them. This way the paper aims to identify a balanced mix of technology enriched games and classical teaching instruments, that is well suited for the efficient development of technical communication competencies by students or trainees.

**Index Terms:** Serious Games, Education, Technical Communication, Development of Competencies

# New Fractional Differential and LoG Operator Based Algorithms for Image Edge Detection

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Using a second-order central difference scheme to approximate the fractional derivative operator, we develop two fractional edge detection algorithms alongside the traditional LoG operator. Taking advantages of fractional differential method and based on the Grunwald-Letnikov and Weil-Riesz definitions combined with a Lagrange 3-point interpolating Fractional for smoothing image data, we propose two new edge detection convolution filters. We compare the experimental results with those obtained by traditional Sobel and LoG and show that our models are able to enhance edges and contours better and also improve the criterion of robustness to noise

**Index Terms:** Fractional, Algorithms, Detection

# A Benchmark Based on the Automatic Generation of Ontology Between the Psychological and Theological Domains

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An ontology is a semantic way to organize the knowledge of a domain based on concepts, relations between them and instances of the concepts. In a traditional way the ontologies are built manually, which is time consuming especially when the ontology of a domain is quite large. A new way to build ontologies is based on their automatic generation from a corpus of text. In this article, we present an interdisciplinary research at the intersection of computer science, psychology and theology, namely we apply the automatic ontology generation processes in order to compare ontologies from two different domains: psychology versus the theological domain. The common denominator of the two domains is human restoration. One should note that there are no studies based on ontologies for the comparison of the two domains. We fill this gap with the research presented in this article. For the automatic generation of ontologies we use the tool Text2Onto. We run this tool using as corpus first text from the psychology domain and then text from the Bible, as a representative of the theological domain. From the initial list of concepts generated by the tool, we take into account only those concepts with the highest grade of relevance. As a result, our final ontologies contain only the most important generated concepts. Using the final ontologies, we analyze those two different domains. We compare the methods used for human restoration from psycho-trauma as they are described in the psychology domain with those restoration methods described in the Bible.

**Index Terms:** Text2Onto, Ontology, semantic, Knowledge, Corpus, Concepts, Domain

# Call-Center Virtual Assistant Using Natural Language Processing and Speech Recognition

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Call center assistance is one of the many domains of activity that could be enabled by Artificial Intelligence. Enter CRIS (Customer Recommended Interaction Software). The idea of a virtual agent that can offer assistance during a live call or troubleshooting procedure has great potential and can be used to unlock a great extent of advantages. We propose a proof of concept that uses state of the art cloud-computing technologies to lay that basic functionalities that we have envisioned as our solution.

**Index Terms:** Call Center, Functionalities, Virtual

# Web Application for Self-Diagnosis and Drug Recommendation Based on User Symptoms

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Throughout the evolution of the Internet and social networks, forums and online platforms have a vital role in sharing information, along with the creation and engagement of virtual communities. Such websites represent great resources, and they are the first step in the adoption of e-health services. When the persons are ill, many of them use search engines for self-diagnosis and gather possible treatment ideas before asking for a doctor's opinion. This takes a lot of time because the information is scattered across various forums and websites. In this paper is presented an application that aims to provide an online self-diagnosis and drug recommendation tool based on natural language processing of the symptoms described by the user. Over 2,200 medicines are stored in the database, each having a set of keywords according to their usage. Thus, the platform automates the search process, and provides the user the most relevant information, eliminating the need of manual data interpretation. The results are ranked according to the confidence score obtained after the execution of the fuzzy search algorithm. The platform does not provide medical advice, thus it is intended for informational purposes only. The developed platform is not a substitute for professional medical advice, diagnosis or treatment. Another feature of the platform is that it enables users to find hospitals and clinics around them, so that they can receive professional healthcare service. The field of medicine is a sensitive topic due to the fact that one mistake could lead to the loss of countless human lives. It was a long and difficult journey to reach the current state of medicine, but technology was and will remain essential to the evolution of the healthcare system. The proposed solution of this paper is customized for Romania but it can be adapted for other countries by replacing the drugs database.

**Index Terms:** Online Self-Diagnosis, Medication Recommender System, Symptoms, Diseases, Big Data, Data Mining

# Integration of Technology Enriched Games with Classical Teaching Instruments for the Development of Technical Communication Competencies

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Communication competencies in the field of technical communication form a complex network of professional communication competencies, containing on the one hand general communication competencies, as well as specific competencies linked to the field of technical communication. The development of such competencies represents a challenge for teachers as well as for professional trainers on the one hand, and the students and trainees on the other hand. The paper is addressing the issue of developing technical communication competencies, analyzing the competencies involved in a structured way and then proposing some technology enriched games as innovative instruments to be used by teachers and trainers together with the classical teaching instruments. For this purpose classical teaching instruments are analyzed in order to identify their strengths and their weaknesses when used to develop technical communication competencies. Then complementary innovative instruments in this case technology enriched games are identified and configured with the aim of addressing exactly the weak point of classical instruments in a better way. The aim of these technology enriched games is not to replace classical teaching instruments, but to be integrated as complementary instruments alongside them. This way the paper aims to identify a balanced mix of technology enriched games and classical teaching instruments, that is well suited for the efficient development of technical communication competencies by students or trainees.

**Index Terms:** Serious Games, Education, Technical Communication, Development of Competencies Serious Games, Education, Technical Communication, Development of Competencies



# Practical Approach of Environmental Awareness to Broadening Community Participation: a Case Study of Pindad (Persero) Bandung, Indonesia

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Manufacturing industries, both in commercial and strategic defense sectors are in trends to start their changing paradigm on environmental management. PT Pindad (Persero) as one of national manufacturing industry in Indonesia has been initiated related programs for the last few years. Starting year of 2019, the industry have implemented new transformation on energy and environmental preservation program, which also simultaneously conducted in community development area. This paper mainly discussed about activity in the industry, consist of energy efficiency and responsible resource consumption to reduce waste emitted to the environment, taking into account the life cycle thinking. Results shows that life cycle thinking of the Weapons Division consist of Design, Development, Manufacture, and Assembling activity, have potential impact in wastewater toxicity and air emission. This impact somehow drives the industry to reports the improvement program comprehensively, mainly in manufacturing area. Moreover, in the same objectives to spread environmental concern, the industry also conducted ex-situ conservation and land rehabilitation, while also develop awareness on environmental, safety, and health aspect to the long-run community empowerment.

**Index Terms:** Manufacturing Industries, Environmental Concern, Community Involvement, Life Cycle Thinking

## Upcoming Events

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