PREFACE

It is my pleasure to write this introductory note for the Ninth volume of the *Abstract of Published Papers*. The Abstract of Published Papers is an annual production of the East West University Center for Research and Training (EWUCRT) with an objective to keep an official log of academic publications of the faculty members of East West University. It includes the abstract of published research articles, book chapters, books, and also conference papers of our colleagues.

It is indeed a matter of great satisfaction for the East West University Center for Research and Training (EWUCRT) to publish the Ninth Volume of the Abstracts of published papers in 2014. This publication is a collective effort of all the faculty members of the university. Our scholars have enthusiastically and immensely contributed in areas of business, economics, social sciences, engineering, telecommunications, liberal arts and literature, population health, computer science, pharmacy, and technology. This volume contains abstracts of 59 research articles, of which 37 were published in international journals and 7 were in national journals. It also contains abstract of 3 book chapters published abroad, 11 international and one national conference papers. Considering their academic achievements, we profoundly extend our congratulation to all of them.

The Center expresses its sincere thanks to Dr. Rafiqul Huda Chaudhury, Chairperson of EWUCRT and Member, Board of Trustees, and all the members of the Research Committee (RC) for their support and encouragement. Thanks are also due to CRT Secretariat, in particular Ms. Aynun Nahar, who has meticulously collated and organized the abstract series in a coherent way.

……….., 2015   Professor Muhammed Shahriar Haque, PhD
                                                                  Executive Director
                                                                  EWUCRT

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Dr. Tanbir Ahmed Chowdhury* and **Farzana Huda****

ABSTRACT

In a developing country like Bangladesh insurance sector plays a vital role in the progress of economic development. In this paper we have tried to analyze the development and growth of selected Private Life Insurance Companies of Bangladesh. It is observed that all the selected Private Life Insurance Companies were able to achieve a stable growth of premium, total assets during the period of 2007-2011.Seven trend equations have been tested for different activities of private life insurance companies. Among them the trend value of premium, investment fund, total assets, earnings per share etc. are positive incase of all the selected private life insurance companies. Square of correlation coefficient (r2) has also been tested for all trend equations. The r2 of premium, investment fund and total assets is more than 0.5. It indicates the prospect of private life insurance Companies in Bangladesh is very bright.

Key words: Premium, Net Income, Insurance Company

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Incorporating Small Farmers in the Agricultural Supply Chain: A Pastoral View of Bangladesh

Omar Faruq*, M Sayeed Alam** and Sabina Sharmin***

ABSTRACT

In Bangladesh, approximately 52% of the workforce is employed in the agricultural sector. This study is based on the rural rice farmers of Bangladesh who are a major player of this sector, but are caught in the middle of illiteracy and deprivation. The majority of these rice farmers remains landless and commonly uses antediluvian methods of farming. Despite the now established fact in Supply Chain Management (SCM) paradigm that greater coordination among the chain actors can improve overall efficiency of the chain, by benefiting each stakeholder, and thereby improving competitiveness of market economy, the rice farmer in Bangladesh vis-a-vis the producer is not a member of the supply chain. There is no specific path of material flow nor is there a relation among the members of the supply chain governed by the demand- supply equation. A collaborative model is suggested where an improved balance of power will be established between farmers and other members in the supply chain in Bangladesh. The suggestive model would ensure that the material flow is governed by the market condition, option for bypassing material flow would be less, therefore option for hoarding and artificial price increase would be limited.

Key words: Supply chain collaboration, small farmer, Bangladesh

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Impacts of Granular Urea and Efficiency of Resources used on MV Paddy Production in Bangladesh: A Case Study of Jessore District

Basanta Kumar Barmon* and Sushanta Kumar Tarafder

ABSTRACT

Granular urea is technologically and physically modified normal urea that is used in MV paddy production in Bangladesh. The present study estimates the impact of granular urea and efficiency of resource use in MV paddy production in Bangladesh using primary data. Shimlagachi village of Sharsha upazila in Jessore district was purposively selected because a large number of farmers use granular urea along with traditional urea in MV paddy production. The findings of the study indicate that significantly less amount of granular urea is required per hectare for MV boro and aman paddy production than traditional urea. Moreover, the yield of MV boro and aman paddy is markedly higher with application of granular urea. On average, production cost per hectare of MV boro and aman paddy cultivation is less with application of granular urea. Consequently, net profit is significantly higher. The results of Cobb-Douglas production function, marginal value products (MVPs) and marginal factor cost (MFC) ratio tests show that the farmers do not use inputs efficiently and optimally in MV boro and aman paddy cultivation. They use more granular urea than traditional urea in MV boro paddy cultivation.

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The Behavior of Stock Return of Mutual Funds in Bangladesh

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ABSTRACT

Mutual fund comprising of a wide range of securities allows the participants to obtain the benefit of lower transaction costs in purchasing securities enabling the shareholders to hold more diversified portfolios. In Bangladesh, there are about 30 mutual funds of which nine are managed by the Investment Corporation of Bangladesh (ICB). In the total market capitalization of Dhaka Stock Exchange (DSE), ICB contributes about 3 percent and in Chittagong Stock Exchange (CSE), it contributes about 10 percent. ICB mutual funds are performing well in the capital market mainly due to provision for reserve of 10 percent quota of each IPO for mutual funds. The demand for IPO is growing fast in the capital market. Small investor is always looking for the IPO in the market. The demand for mutual funds is also growing fast and persistent price rise in the market reflects the mismatch between demand and supply. This implies that the demand for mutual funds is higher than the supply of mutual funds in the market. This shows the need to float more mutual funds in the capital market to satisfy the demand. The ICB funds are good instruments of stabilizing savings and providing investment opportunities in small investors. Because small investors are always looking for high and relatively, secure returns. The paper tries to examine the ICB mutual funds performance using the growth percentage, average growth; descriptive statistics and regression analysis and the paper also address the following question; Does the ICB Mutual fund Indices follow a random walk or is there a possibility of predicting ICB mutual fund price changes from previous prices?

Keywords: Investment Corporation of Bangladesh, Capital Market, Mutual Funds

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Impacts of Rice-Prawn Farming System on Farm Productivity, Food Security and Poverty Alleviation in Bangladesh: A Case Study of Khulna District

Basanta Kumar Barmon*

ABSTRACT

The present study was undertaken to assess the impacts of rice-prawn gher (RPG) system on farm productivity, food security and poverty reduction in Bangladesh. In this study, farm survey data, extracted from a comprehensive questionnaire from two study villages viz. Bilpabla village (RPG farming) and Chanchra village (year-round modern variety–YRMV) located in Khulna and Jessore district, respectively, were analyzed deliberately. This study consists of a random selection of ninety (90) farmers from Bilpabla village and one-hundred (100) farmers from Chanchra village. The study indicates that RPG farming system has significant impacts on farm productivity. On an average, yield of modern variety (MV) was reasonably higher in RPG farming system to that of YRMV farming system. In addition, the households engaged in RPG farming system (Bilpabla village) have simultaneously gained more household income and per capita income (more than twice), relative to YRMV farming system (Chanchra village). Moreover, the households of Bilpabla village are superior in terms of physical, social and economic access (purchasing power) which permits them to acquire and consume well-balanced food as well as sufficient calorie intake compared to those households residing in Chanchra village. Therefore, it could be concluded that the RPG farming system has significant impacts on food security and poverty reduction.

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Influence of Country-of-Origin on Overseas Supplier Performance

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ABSTRACT

The large body of COO literature is highly skewed toward consumers in comparison to business buyers. Purchasing managers, when sourcing products from international suppliers, will typically use country- and company-based perceptions in evaluating and choosing preferred suppliers. The selection of supplier company, therefore, leads buyers to expect superior supplier performance. This study, therefore, follows a multi-cue setting and investigates the relative influence of both company and country on international supplier performance. The country effect measures previously used in the literature have captured mostly product-related country image without considering the overall country image. The use of supplier performance as an outcome variable is also new in COO literature and can exhibit superior relevance to real life business practices than previously used supplier preference. Results show that both company and country influence on international supplier performance is statistically significant and that company influence is considerably higher than country influence.

Keywords: COO, B2B buyers, company effect, supplier performance

Track: International Marketing

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Do Street Food Businesses Have to Practice Branding for Organizational Identity to Transform into Formal Sector an Overview from Dhaka

M Sayeed Alam* and **Md Farhan Faruqui****

ABSTRACT

Informal business is defined as business activities that are not recorded in the national accounts. Informal street food enjoys inelastic demand and contributes to a significant part of urban diet. The contribution of street food vendors to the developing economies has been vastly underestimated despite its' contribution to income and employment generation. This sector is criticized as a hindrance to 'modernization', as they obstruct congested city centers. In this backdrop, street food vendors receive negative stimulus for business expansion. On the ground it is evident that street food sector compete with licensed eating establishments which is an indication of potential. This is a qualitative exploratory paper that attempts to connect the dots between informality of street food sector and role of branding so as to link it to the context of entrepreneurial potential or i.e. potentials for transformation from informal into formal. Fifty street food entrepreneurs were chosen randomly from two different areas (Mirpur, Rampura) with minimum two consecutive years of operation in the same locality. Semi-structured questionnaire were administered to dig information about future plan of business with respect to 'branding' and 'transformation'. From survey it was found that most of the survey respondents migrated to Dhaka because of the dream of a better life which is perceived as savings and education for children by the respondents. The respondents also attributed lack of education as primal cause for their marginalized state of living. This study finds two groups. One group is with better income are attempting to expand more items in the menu and also hiring people. The other group with merely survival income mostly operate business single handedly and in some cases their wives and children help them with the business. The term 'Marketing' is known to them but with varying interpretation. They do not have any knowledge about the term 'Brand'. When the term was made clear to them all most all of them were very happy about this. To them if brand means identity and differentiation then it is very helpful for them for doing business.

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Sciences and Engineering

Using Bayesian Networks to Model and Analyze Software Product Line Feature Model

Musfiqur Rahman and **Shamim H Ripon***

ABSTRACT

Proper management of requirements plays a significant role in the successful development of any software product family. Application of AI, Bayesian Network (BN) in particular, is gaining much interest in Software Engineering, mainly in predicting software defects and software reliability. Feature analysis and its associated decision making is a suitable target area where BN can make remarkable effect. In SPL, a feature tree portrays various types of features as well as captures the relationships among them. This paper applies BN in modeling and analyzing features in a feature tree. Various feature analysis rules are first modeled and then verified in BN. The verification confirms the definition of the rules and thus these rules can be used in various decision making stages in SPL.

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Circle of Trust: One-Hop-Trust-Based Security Paradigm for Resource-Constraint MANET

K. M. Imtiaz-Ud-Din, Touhid Bhuiyan and **Shamim H Ripon***

ABSTRACT

Mobile Ad Hoc Networks (MANETs) suffer from acute crisis of resources in terms of battery power, computational ability, and so on. This together with its inherent salient nature makes it very difficult to design effective and efficient security solutions for the MANET. In this kind of dynamic environment, the nodes cannot rely on the conventional measures pertaining to the wired networks. Thus, approaches that depend on trust establishment and evaluation among the nodes are being considered as significant strides toward data protection, secure routing, and other secure network activities. Most of these models can be deemed as rather unscalable due to an excessive exhaustion of resources. In this paper, we limit the region of concern for each node to its one-hop locality and thereby considerably reduce the network overhead. This simple approach to security depending on the principle of mutual trust and prioritization of self-experience has been shown to be effective against a pool of common attacks and feasible with respect to the architectural demand of MANET.

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Formal Analysis of a Ranked Neighbour MANET Protocol Suite

Shamim H Ripon*, Syed Fahin Ahmed, Afroza Yasmin, Yeaminar Rashid and K. M. Imtiaz-UD-Din

ABSTRACT

Formal verification plays an important role in development and application of safety critical systems. Formalized verification techniques to analyze the security and the safety properties of communication protocols increase and confirm the protocol confidence the advancement of mobile and wireless communication technologies in recent years introduced various adaptive protocols to adapt the need for secured communications. Security is a crucial success factor for any communication protocols, especially in mobile environment due to its ad hoc behavior. SPIN is a powerful model checker that verifies the correctness of distributed communication models in a rigorous and automated fashion. This paper presents a SPIN based formal verification approach of a security adaptive protocol suite. The protocol suite includes a neighbor discovery mechanism and routing protocol. The protocol suite is encoded into SPIN and is exhaustively checked for various temporal properties ensuring the applicability of the protocol suite in real-life applications.

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Logic-Based Analysis of Software Product Line Variant Requirement Model

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ABSTRACT

Software Product Line (SPL) provides the facility to systematically reuse of software improving the efficiency of software development regarding time, cost and quality. The main idea of SPL is to identify the common core functionality that can be implemented once and reused afterwards. A variant model has also to be developed to manage the variants of the SPL. Usually, a domain model consisting of the common and variant requirements is developed during domain engineering phase to alleviate the reuse opportunity. The authors present a product line model comprising of a variant part for the management of variant and a decision table to depict the customization of decision regarding each variant. Feature diagrams are widely used to model SPL variants. Both feature diagram and our variant model, which is based on tabular method, lacks logically sound formal representation and hence, not amenable to formal verification. Formal representation and verification of SPL has gained much interest in recent years. This chapter presents a logical representation of the variant model by using first order logic. With this representation, the table based variant model as well as the graphical feature diagram can now be verified logically. Besides applying first-order-logic to model the features, the authors also present an approach to model and analyze SPL model by using semantic web approach using OWL-DL. The OWL-DL representation also facilitates the search and maintenance of feature models and support knowledge sharing within a reusable engineering context. Reasoning tools are used to verify the consistency of the feature configuration for both logic-based and semantic web-based approaches.

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Knowledge-based Data Mining Using Semantic Web

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ABSTRACT

Semantic web offers a smarter web service which synchronizes and arranges all the data over web in a disciplined manner. In data mining over web, the accuracy of selecting necessary data according to user demand and pick them for output is considered as a major challenging task over the years. This paper proposes an approach to mapping data over the web 3.0 through ontology and access the required data via an intelligent agent. The agent provides all the searched data related to user query from which user can find desired information. When the user does not have sufficient search parameter, knowledge can be perceived from the information provided by the agent. The derivation of such unknown knowledge from the existing can be achieved by semantic web mining. We present an intelligent agent-based web mining model where users' query is being searched by following existing traditional way, e.g. by Google. The intelligent agent checks the searched data and derives only those are the semantically related to users search parameter. A work-in-progress case study of *University Faculty Information* presented to examine the effectiveness of the proposed model.

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Requirement Analysis of Product Line Based Semantic Web Services

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ABSTRACT

These Web services technology provides a platform on which we can develop distributed application by using existing service oriented application. Software product line on the other hand provides a systematic mechanism to manage the reusable components of the product family within the product line. In this work we followed an approach to combine these two approaches to achieve the benefits of both. The common and variants features of software product line can be modeled by using a feature diagram. We first perform a commonality and variability analysis of the requirements of the product line. From such analysis we develop a dependency graph consisting of the features and constraints among them. A walk through the graph can solve the constraints. We draw goal models of various functional features of the product line to get a clear view whether a certain goal can be achieved by the product line model. In order to check the consistency of the feature model we encode the feature by using OWL-DL. Such encoding facilitates to check whether any valid product can be composed from the product family model. We perform our analysis and experiment by using a Travel Agent Web Service.

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A Comparative Study of Web Service Composition via BPEL and Petri Nets

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ABSTRACT

Web services technology provides a platform on which we can develop distributed services. The interoperability among these services is achieved by various standard protocols. In recent years, several researches suggested that Petri Nets provide a satisfactory assistance to the whole process of web services development. Business transactions, on the other hand, involve the coordination and interaction between multiple partners. With the emergence of web services, business transactions are conducted using these services. The coordination among the business processes is crucial, so is the handling of faults that can arise at any stage of a transaction. BPEL models the behavior of business process interaction by providing a XML based grammar to describe the control logic required to coordinate the web services participating in a process flow. However BPEL lacks a proper formal description where the composition of business processes cannot be formally verified. Petri Nets, on the other hand, facilitates a formal foundation for rigorous verification of the composition. This paper presents a comparison of web service composition between BPEL and Petri nets.

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Semantic Web Based Analysis of Product Line Variant Model

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ABSTRACT

Feature diagrams are widely used to model software product line (SPL) variants. However, there is a lack of precisely defined formal notations for representing and verifying such models. Several proposals have been made in recent years to model product line features. In our earlier work we have presented a product line model to model and customize products from product specific features facilitating the very concept of reuse of common features throughout product family. However, no formal verification has been proposed for such product line model. This paper presents an approach to modeling and analyzing SPL model using semantic-web approach. We use OWL-DL to model the common and variant features in the SPL model. A reasoning tool is then used to verify the consistency of the feature configuration in the model. Such formal checking confirms and strengthens the variability model that has been presented in our earlier work. Besides, the OWL-DL representation also facilitates the search and maintenance of feature models and support knowledge sharing within a reusable engineering context.

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A Mat-Lab based filter for Curtailing Interferences in Ad-Hoc Network

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ABSTRACT

A wireless ad-hoc network is a new archetype in wireless communication which doesn't require any fixed infrastructure such as base stations or mobile switching center. Reducing interference is one of the main challenges in wireless ad hoc networks. The main aim of this thesis is to study various issues pertaining to wireless ad-hoc network and find ways to diminish the interference effect in this network. Starting with basic knowledge of ad-hoc networks, its applicability, security issues, and this thesis digs into details of existing research works in minimization of interference effect in ad-hoc network. Next the thesis work focuses on new ways to diminish the interference effect in ad-hoc network. A new solution is recommended to achieve our main goal which is both cost effective and simple. It is observed that the proposed minimization technique is an effective one.

Keywords: Enfumble average, Ad-hoc, Base station, Interference, Minimization

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Nonlinear ion modes in a dense dusty plasma with strongly coupled ions and degenerate electrons

Anindita Paul[*], Gurudas Mandal[**], A. A. Mamun[***] and M. R. Amin[****]

ABSTRACT

The nonlinear propagation of electrostatic ion modes in dense relativistic degenerate strongly coupled plasma has been investigated by employing the reductive perturbation technique. It has been shown that the amplitude of the nonlinear electrostatic potential is drastically changed to much higher value by increasing the relativistic effect, and that is not significantly changed when different ion viscosity and the coupling parameters are considered. The results of this paper would be useful in understanding the properties of the shock waves in laboratories and in space plasmas.

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Dust Ion Acoustic Waves Propagation with Degenerate Ions and

Nonextensive Electrons

Gurudas Mandal[*]**,** S. Ashraf[**] and A A Mamun[***]

ABSTRACT

In this recent investigation we have studied the nonlinear wave propagation of dust-acoustic (DIA) waves in an unmagnetized collisionless plasma system containing degenerate ions following only non-relativistic limits, nonextensive electrons, and negatively charged dust grains. This fluid model has been employed with the reductive perturbation method. The standard k-dV equation has been derived, and numerically examined. The basic features of the solitary waves (SWs) and shock waves (ShWs) are obtained from the solution of k-dV and Burgers' equations. It has been found that depending on whether the parameter q and μ are less than or equal to (greater than) the critical value of the DIA SWs and ShWs exhibit negative (positive) potentials by taking the effect of different plasma parameters in the plasma fluid into account. And because of the presence of coefficient of viscosity (η) the ShWs change the polarity. Dusty plasmas containing degenerate ions and nonextensive electrons with negative charged dust grains are most interesting topics to the research which are only found in astrophysical objects like white dwarfs, black holes, neutron starts, etc. This analysis can be employed in understanding and treating the nature and the characteristics of DIA SWs and ShWs both in laboratory and space plasma.

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Large amplitude solitary waves in a four component dusty plasma with vortex like (Trapped) electron distributions

Gurudas Mandal[*], Kaushik Roy[**]**, Anindita Paul**[***] and **Prasanta Chatterjee**[****]

ABSTRACT

Nonlinear dust acoustic solitary waves are studied in a four-component dusty plasma with vortex like electron distribution. The modified Korteweg-de Vries (mKdV) equation is derived by Reductive perturbation technique (RPT). A non-linear pseudo-potential technique is also employed to investigate the large amplitude solitary waves with the effects of vortex like electron in the plasma system. The existence of large amplitude positive and negative solitary waves are found. It is seen that solitons cease to exist when the parameter b (measures the deviation from iso-thermality) crosses a certain value. If b is less unity and Ã (pseudo-position) increases then pseudo-potential increases very sharply from negative to positive potential value.

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Quantum-Inspired Evolutionary Algorithm to Solve Graph Coloring Problem

Pronaya Prosun Das* and **Mozammel H. A. Khan***

ABSTRACT

Graph Coloring Problem (GCP) bears an enormous significance to the researchers in the field of soft computing. In this paper, we demonstrate a Quantum-Inspired Evolutionary Algorithm (QEA) to solve GCP. We use two dimensional arrays of Q-bits called Q-bit individual to produce binary individual. Q-gate operation is applied as a variation operator on Q-bit individuals. In traditional evolutionary algorithm (EA) for GCP, k-coloring approach is used and the EA is run several times for decreasing value of k until lowest possible k is reached. In our QEA, we start with the number of colors equal to the theoretical upper bound of the chromatic number, which is maximum out-degree + 1, and during evolution some colors are made unused to reduce the number of color in each generation. As a result, solution is found in a single run. We test 36 datasets from DIMACS benchmark and compare the result with several recent works. For five datasets, our algorithm obtains better solution than other.

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An Effective Quantum-Inspired Evolutionary Algorithm for Finding Degree-Constrained Minimum Spanning Tree

Pronaya Prosun Das* and **Mozammel H. A. Khan***

ABSTRACT

The Degree-constrained Minimum Spanning Tree (d-MST) is an extended adaptation of general Minimum Spanning Tree (MST) problem. This problem is pertinent in the design of communication networks. It consists of finding a spanning tree whose nodes do not exceed a given maximum degree and whose total edge length is minimum. In this formulation the problem turns into NP-hard, therefore meta heuristic approaches like Ant Colony Optimization, Simulated Annealing, Evolutionary Algorithms etc. are suitable for solving d-MST problem. In this paper, we demonstrate a Quantum-inspired Evolutionary Algorithm (QEA) that solves instances of the problem to optimality. We have used one dimensional array of Q-bits called Q-bit individuals to produce binary individuals. Then binary individuals are repaired according to problem specification. Here, Q-gate is the main variation operator applied on Q-bits. For testing our algorithm, three types of benchmark sets are used. Experimental results show that the algorithm has performed very well and it has also outperformed current best results.

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Design of Reversible Synchronous Sequential Circuits Using Pseudo Reed-Muller Expressions

Mozammel H A Khan*

ABSTRACT

Reversible logic has become very promising for low power design using emerging computing technologies. A number of good works have been reported on reversible combinational circuit design. However, only a few works reported on the design of reversible latches and flip-flops on the top of reversible combinational gates and suggested that sequential circuits be built by replacing the latches and flip-flops and associated combinational gates of the traditional irreversible designs by their reversible counter parts. This replacement technique is not very promising, because it leads to high quantum cost and garbage outputs. In this paper, we propose a novel approach of designing synchronous sequential circuits directly from reversible gates using pseudo Reed–Muller expressions representing the state transition and the output functions of the circuit. We present designs of arbitrary synchronous sequential circuit as well as practically important sequential circuits such as counters and registers. It is found that our direct designs save 1.54%–49.09% quantum cost and 51.43%–81.82% garbage outputs than the replacement design approach suggested earlier.

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Current Prescribing Practices for the Hospitalized Children Suffering From Pneumonia With Respect To Essential Drug List of Bangladesh

Md. Anisur Rahman* and **Hamza Hemal***

ABSTRACT

Pneumonia is a common illness in all parts of the world. It is a major cause of death among all age groups. In children, the majority of deaths occur in the newborn period, with over two million worldwide deaths a year. In fact, the WHO estimates that one in three newborn infant deaths is due to pneumonia. Antibiotics and some supportive drugs are given commonly as the treatment of pneumonia in hospitals. This retrospective study was designed to observe the adherence of the prescribing practices of hospitalized children suffering from pneumonia with the essential drug list (EDL) of Bangladesh. During the ten-months study period, 532 children (under 5 years of age) suffering from Pneumonia were enrolled from the Institutes of Child Health & Shisu Sasthya Foundation Hospital, Mirpur, Dhaka. The study revealed that cephalosporin alone or in combination with an aminoglycoside was the most common antibiotic prescribed for the treatment of children suffering from pneumonia. But surprisingly this given treatment had very insignificant (7.98%) adherence with the essential drug list (EDL) of Bangladesh. This study, therefore, suggests the need for updating the EDL of Bangladesh with modern evidence. Furthermore, countywide multicenter research with a larger sample can be carried out to consolidate the observation of this study.

Keywords: Pneumonia, Essential Drug List, Ceftriaxone, Prescription, EDL

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The Human CDKN2A Gene: Analyzing How Mutations of a Section of the Gene Can Be Associated with Malignant Melanoma

Md. Anisur Rahman*Abdullah Al Maruf**, **Dr. Repon Kumer Saha*** and Ivor H. Evans***

ABSTRACT

In this study, a section of the human CDKN2A gene was obtained from unknown individuals and analyzed for the purpose of detecting any probable single nucleotide polymorphisms (SNP). The exon-2 of this gene was chosen because its mutation was previously reported to be associated with malignant melanoma. At first, suitable primers were designed for a specific region of the CDKN2A gene including exon-2 and later the area was amplified several times at different temperatures through polymerase chain reactions (PCR). The PCR products of 60°C with 250ng human placental DNA was extracted for quantification and sequencing. After the sequencing, the three CDKN2A gene transcripts were found to be a 100% match with the database in NCBI and. no SNP was detected. However, in the genomic sequences, an insertion of nucleotide was detected in the intron of this gene. Furthermore, protein translation in 5'-3' open reading frame was significant.

Keywords: **CDKN2A, SNP, malignant melanoma, PCR**

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A comparative study of thyroid hormone levels in young diabetic and non-diabetic patients

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ABSTRACT

Thyroid disorders can adversely affect diabetes control. The aim of the study was to compare thyroid hormone levels in type 1 diabetic patients with that of non-diabetic patients. Fiftytwotype1Diabeticpatientswereconsecutively selected from among those attending the outpatient department of Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorder (BIRDEM) hospital. Fifty three healthy non-diabetic volunteers were selected from the students of a university. Both groups were below 30 years of age. The patients with type 1 diabetes have significantly lower serum FT3 levels (P <0.001) when compared to the control groups. There was no significant difference between controls and study subjects in terms of serum FT4 (P=0.376) and TSH(P=0.821) concentration. We conclude that alteration of FT3 is a common feature in these subjects with type 1 diabetes mellitus.

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Performance Evaluation of VoIP Service of Cognitive Radio System Based on DTMC

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ABSTRACT

In recent literature on traffic scheduling, the combination of the two dimensional discrete-time Markov chain (DTMC) and the Markov modulated Poisson process (MMPP) is used to analyze the capacity of VoIP traffic in the cognitive radio system. The performance of the cognitive radio system solely depends on the accuracy of spectrum sensing techniques, the minimization of false alarms, and the scheduling of traffic channels. In this paper, we only emphasize the scheduling of traffic channels (i.e., traffic handling techniques for the primary user [PU] and the secondary user [SU]). We consider the following three different traffic models: the cross-layer analytical model, M/G/1(m) traffic, and the IEEE 802.16e/m scheduling approach to evaluate the performance of the VoIP services of the cognitive radio system from the context of blocking probability and throughput.

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Spectrum Sensing and Data Transmission in a Cognitive Relay Network Including spatial false alarm

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ABSTRACT

In this paper, the average probability of the symbol error rate (SER) and throughput are studied in the presence of joint spectrum sensing and data transmission in a cognitive relay network, which is in the environment of an optimal power allocation strategy. In this investigation, the main component in calculating the secondary throughput is the inclusion of the spatial false alarms, in addition to the conventional false alarms. It has been shown that there exists an optimal secondary power amplification factor at which the probability of SER has a minimum value, whereas the through put has a maximum value. We performed a Monte-Carlo simulation to validate the analytical results.

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Performance Evaluation of WiMAX Network under Complete Partitioned User Group with Traffic Shaping Algorithm

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ABSTRACT

To enhance the utilization of traffic channels of a network (instead of allocating radio channel to an individual user), a channel or a group of channels are allocated to a user group. The idea behind it is the statistical distribution of traffic arrival rate and service time of individual user or a group of user. In this paper, we derive the blocking probability and throughput of a subscriber station of Worldwide Interoperability for Microwave Access (WiMAX) considering both connection level and packet level traffic under complete partition scheme. The main contribution of the paper is to incorporate the traffic shaping scheme on the incoming turbulent traffic hence the impact of drain rate of buffer on the blocking probability and throughput is analyzed.

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Traffic Analysis of a Cognitive Radio Network Based on the Concept of Medium Access Probability

Risala T. Khan*, Md. Imdadul Islam** and **M. R. Amin***

ABSTRACT

The performance of a cognitive radio network (CRN) solely depends on how precisely the secondary users can sense the presence or absence of primary users. Incorporation of spatial false alarm (SFA) makes the derivation of probability of correct decision a cumbersome task. The previous literature performs the task for the case of received signal under Normal probability density function (pdf) case. In this paper we enhance the previous work including the impact of carrier frequency, gain of antennas on both sides, antenna heights to observe the robustness against noise and interference to make correct decision. Three small scale fading channels: Rayleigh, Normal and Weibull are considered to get the real scenario of a CRN in an urban area. Incorporation of maximal ratio combining (MRC) and selection combing with variation of the number of received antennas are also studied in achieving correct decision to serve the cognitive users. Finally, the above concept is applied in traffic model of the CRN based on a two-dimensional state transition chain.

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Numerical Solution of a Fluid Dynamic Traffic Flow Model Associated with a Constant Rate Inflow

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ABSTRACT

In this paper, a modification of a macroscopic traffic flow model has been presented. In most cases, the source terms that have been appeared in traffic flow equations, represent inflow and outflow in a single-lane highway. So, to demonstrate the effect of inflow, a constant source term has been introduced in a first-order traffic flow equation. Inserting a linear velocity-density relationship, the model is presented. In order to incorporate initial and boundary data, the model is treated as an Initial Boundary Value Problem (IBVP). We describe the derivation of a finite difference scheme of the IBVP which leads to a first order explicit upwind difference scheme. Rigorous well-posedness results and numerical investigations are presented. This paper contains the implementation of the numerical schemes by developing computer programming code and numerical simulation. Numerical schemes are implemented in order to bring out a variety of numerical results and to visualize the significant effects of constant rate inflow.

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Applications of Riemannian Geometry Comparing with Symplectic Geometry

A. K. M. Nazimuddin[*] and Md. Rifat Hasan[**]

ABSTRACT

The main object of this paper is to provide various applications of Riemannian geometry in the theory of relativity and to provide special comparisons between symplectic geometry and Riemannian geometry with respect to different point of view.

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Connections on Riemannian Geometry and it's Applications

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ABSTRACT

The main purpose of this paper is to study the connections on vector bundle and apply connections to prove the Bianchi identity and Christoffel symbols.

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Assessing the Association in Repeated Measures of Depression

Islam MA*, Chowdhury RI, Bae S and Singh KP

ABSTRACT

The dependence in the outcome variables is a major issue of concern in modeling the correlated data stemmed from the repeated observations. The marginal models such as GEE and the conditional models based on Markov chain have been employed for longitudinal data in the past. However, it has been evident that without addressing the underlying association parameters, the analysis of repeated outcome variables remains far from being resolved. In this paper, a method has been demonstrated to model such data using the underlying dependence in the outcome variables as well as dependence between outcome and explanatory variables. An extension of the regressive model is shown in this paper and a comparison is demonstrated between the existing model (reduced model) and the proposed model (extended model). The models are illustrated for depression by an example.

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Dependence in Binary Outcomes of a Longitudinal Study and Test for Order: A Quadratic Exponential Form Approach

Sirdari MZ, **Islam MA*** and Awang N

ABSTRACT

Repeated measurements data appear in many applications of study subjects such as correlated binary data. Most of studies often focus on the dependence of marginal response probabilities. There is a lack of study based on joint probability distributions that yield estimation and test procedure using conditional probabilities, marginal means and correlated binary data. In this paper, the quadratic exponential form model has been extended for a Markov chain framework. This study extends the quadratic exponential model for displaying the estimation procedure for the nature and extent of dependence among the binary outcomes. In addition, a test procedure is extended to test for the goodness of fit of the model as well as for testing the order of the underlying Markov chain. The proposed model and the test procedures have been examined thoroughly with an application to elderly population data from the Health and Retirement Study (HRS).

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A Competing Risk Hazard Model for Complications of Diabetes Mellitus

Khanam PA, **Islam MA***, Sayeed MA, Begum T, Rabbani MG, Choudhury S and Mahtab H.A

ABSTRACT

Diabetes mellitus is a major public health problem globally. It is the cause of serious and sometimes life-threatening complications leading to death. It is one of the most common non communicable diseases and leading cause of death in most developed countries. It is associated with the increased risk of microvascular (nephropathy and retinopathy), macrovascular (cardiovascular diseases, stroke) and other mixed (cataract, pulmonary tuberculosis, foot ulceretc.) complications. The aim of this study was to determine the risk factors related to diabetes complications and to propose competing risk models for analyzing complications of diabetes mellitus. We study 2887 diabetic patients from the BIRDEM registry record books for the period from1984 to 1997 who have at least two follow-up visits and who are free from complications at the first visit. The data on variables such as 2-hBG, age, sex, family history of diabetes, area of residence, educational level, BMI, SBP, DBP and treatment status are obtained. Also, the time from the diagnosis of type 2 diabetes mellitus (T2DM) to the occurrence of complications was recorded. We use the competing risk hazard model and examined the potential risk factors for determining the development of such complications. This study reveals that increase in blood pressure is a potential risk factor for CHD and nephropathy in T2DM. We also found that male and patients with no schooling are more affected by nephropathy. In our study, we also revealed that female and patients with no schooling are also more affected by cataract.

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Evaluation and computation of diagnostic tests: A simple alternative

Sumi NS, **Islam MA*** and Hossain MA

ABSTRACT

Methods of evaluating and comparing the performance of diagnostic tests are of increasing importance in medical science. When a test is based on an observed variable that lies on a continuous scale, an assessment of the overall value of the test can be made through the use of a Receiver Operating Characteristic (ROC) curve. The ROC curve describes the discrimination ability of a diagnosis test for the diseased subjects from the non-diseased subjects. The area under the ROC curve (AUC) represents the probability that a randomly chosen diseased subject will have higher probability of having disease than a randomly chosen non-diseased subject. For comparing two diagnostic systems, the difference between AUCs is often used. In this paper we have investigated various methods of the comparison of equality of two AUCs and proposed a McNemar test for the comparison of two diagnostic test procedures. The proposed test is based on an optimal cut-off point that discriminates the individuals in actually positive or actually negative cases for which we have a2X2 contingency table where we can apply the McNemar test. The operating characteristics of the proposed test are evaluated using extensive simulation over a wide range of parameters.

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Prediction of Diseases Status: Transition Model Approach for Repeated Measures

Islam MA* and Chowdhury RI

ABSTRACT

This paper develops models for prediction of disease status from longitudinal data. The estimation of area under curve (AUC) is illustrated on the basis of estimates of sensitivity and specificity for repeated binary outcomes of disease status. There are several research papers in this field on cross-sectional data but only a few dealt with the repeated observations. This paper shows the procedures to deal with repeated observations employing Markov models. These procedures employ covariate dependent Markov models for estimating sensitivity and pecificity, which in turn, produce the estimates for area under curve. The tests for equality of areas under curve for two models are also suggested. An application is illustrated for depression data from the Health and Retirement Survey, USA. The results indicate that the transition model approach can reveal the matching of disease status very efficiently; an estimate of more than 0.96 was obtained for the AUC for a transition model based prediction of disease from the depression data.

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Childhood Deaths with a Co-Morbidity of Diarrhea and Severe Malnutrition: A Brief Insight in an Urban Critical Care Ward in Dhaka, Bangladesh

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ABSTRACT

Although co-morbidity of childhood diarrhea and severe malnutrition is very common with high mortality, data on predicting factors for deaths in diarrheal under-five children also having severe malnutrition are very limited in medical literature. The aim of this study was to evaluate the clinical predicting factors for death in diarrheal under-five children with severe malnutrition. The study was designed as a prospective analysis from retrospective data of diarrheal children (case control design) which were collected from electronic database of the hospital of the International Center for Diarrheal Disease Research, Bangladesh (icddr,b) from mid-September 2011 to mid-September 2012. The cases were severely malnourished diarrheal children under the age of five years who died in the intensive care unit and the controls were those who survived. Comparison of clinical characteristics among the cases and the controls were made. There were 32 cases from the ICU and 1790 controls including 253 from the ICU. The median (inter-quartile range) age (months) of the cases compared to the controls was significantly lower [8.0 (4.1, 14.1) vs. 10.0 (6.1, 17.2); p=0.050]. The cases more often had pneumonia (OR 3.40, 95% CI 1.48-7.66, p<0.001) with respiratory distress (OR 30.06, 95% CI 11.47-77.67, p<0.001), frequently presented with the features of clinical sepsis (OR 52.22, 95% CI 24.02-127.68; p<0.001), less often received Oral Rehydration Salt (ORS) at home (OR 0.07, 95% CI 0.03-0.14; p<0.001), and more often had lower Z-score for weight for age [(mean -5.42 ± standard deviation 1.35) vs. (mean -4.14 ± standard deviation 1.28); p<0.001] compared the controls. The brief results of the data suggest that severely malnourished diarrheal children presenting with younger age with a history of lack of intake of ORS at home, extreme under-weight, pneumonia with respiratory distress or clinical sepsis are at higher risk of death. This re-emphasizes the importance of identification of these simple clinical parameters which may help in early aggressive management of these children and underscores the importance of the requirement of extensive mass media education in encouraging the adequate intake of ORS during diarrhea in order to reduce their morbidity and deaths.

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Design of Ternary Reversible Sequential Circuits

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ABSTRACT

A good number of efforts have been made on design of ternary reversible combinational circuits, but no significant attempt has yet been made to design arbitrary ternary reversible sequential circuits. In this paper, we have proposed a novel design method of ternary reversible sequential circuit using direct feedback of the present state output. We have also shown the way of making the circuit falling-edge triggered and pre-settable using Fredkin gate. For this purpose, for the first time, we have shown realization of Fredkin gate on the top of M-S gates. We have shown design examples of an arbitrary two-trit sequential circuit, three-trit up/down counter, and three-trit universal register.

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Iron chelation improves Capillary perfusion and Reduces Leukocyte adhesion within the intestinal microcirculation in a mouse model of experimental sepsis

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ABSTRACT

Despite recent progress made in sepsis research, patients with abdominal sepsis still have a mortality rate above 40%. The host's response to bacterial invasion causes an excessive inflammatory response, which may lead eventually to multiple organ failure and death. Bacterial growth depends on the sufficient supply of iron and can be suppressed by iron scavengers. Furthermore, under hypoxic conditions like in sepsis, iron contributes to inflammation through the production of highly toxic radical oxygen species and thereby plays a pivotal role in the course of sepsis. Iron scavenging by a novel iron chelator (DIBI) improves the intestinal microcirculation in experimental sepsis. We used the Colon Ascendens Stent Peritonitis (CASP) model to induce abdominal sepsis in mice. Animals with sham surgery and untreated CASP animals served as controls. The treatment groups received either imipenem, DIBI, or both. Leukocyte activation and microcirculatorychages were assessed by intravital microscopy.Bacterial counts were studied in blood and peritoneal lavage fluid samples. Finally, we documented the severity of sepsis by cytokine measurements, while tissue damage of the small intestine was documented by standard microscopy of H and E stained cross sections. Capillary perfusion of the muscular layer of the gut was improved by DIBI or antibiotic treatment of the septic animals in combination with DIBI but not by imipenem alone. Imipenem or DIBI - given separately - both reduced leukocyte adherence in intestinal submucosalvenules. The combination of DIBI with imipenem decreased leukocyte adhesion significantly to baseline levels. The bacterial count in both the lavage fluid and the blood stream was not significantly reduced. Iron chelators have shownanti-inflammatory and anti-microbial effects in animal models of sepsis. The combination of antibiotic treatment (imipenem) with DIBI improved capillary perfusion and reduced leukocyte adhesion in the intestinal microcirculation in CASP-induced experimental sepsis more than antibiotic treatment alone. We propose anti-inflammatory effects of iron chelation in the setting of sepsis.

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A semi –analytical model for III-V semiconductor quantum well field effect transistors

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ABSTRACT

Si MOS technology is reaching near the fundamental scaling limit. New materials are being explored to sustain the continual scaling of MOSFETs into the deca-nanometer regime or even lower. III-V semiconductor materials are potentially attractive as alternatives to Si. In this paper we propose a semi-analytical model for the current-voltage characteristics of III-V semiconductor quantum well field-effect transistors (QWFET). The model calculates the quantized states in the well through numerical solution of one dimensional Schrodinger's equation. Channel carrier density and drain current as functions of gate and drain voltages are calculated analytically. It is expected that the model will be useful in qualitative studies of the device trends.

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Determination of Energy Efficiency of a Multi-User Wireless Network Based on Limited User Traffic Model

Md. Nurul Islam*, Shamim Ahmed*, Ummy Habiba*, Md. Imdadul Islam** and **M. R. Amin***

ABSTRACT

In recent days intense research is taking place on energy efficiency (EE) of a multi-user wireless network. In this paper we propose a model to detect EE based on limited user traffic model. We observe the variation of EE against the number of users and energy signal to noise ratio engaged by the user. The impact of enhancement of subcarriers on EE and channel capacity is also analyzed to reach an optimum condition of network performance. Finally satisfaction index (SI) is plotted against signal-to-noise-ratio (SNR) for different bandwidth of subcarriers.

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3D Quantitative Brain Tumor Growth Model Based on Cell Proliferation and Diffusion

Sohana Tanzeem*, Wilburn E. Reddick** and Khan M. Iftekharuddin***

ABSTRACT

The focus of this work was to develop a 3D mapping of brain tumor (glioma) growth based on cell proliferation and diffusion. In this mathematical model, we incorporated high resolution brain tissue maps (white and gray matter) from an anonymized pediatric patient and initialized the model with a single voxel seed point of tumor with a Gaussian distribution. We used this model to investigate the ratio of growth rate to the diffusion coefficient (ρ/D) which determines the proportion of tumor that is detectable. After expansion of the tumor growth model to three dimensions and solving the differential equations for our specific starting conditions, we performed several simulations to assess tumor growth patterns. After observing the performance of the model at varying time points across a one year time frame with different values for ρ/D, we ascertained that the tumor diffused more rapidly than the cell proliferated for a short period of time followed by an exponential growth in detectable tumor size.

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Primitive Quantum Ggate Realizations of Multiple-Controlled Toffoli Gates

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ABSTRACT

Multiple-controlled Toffoli gates are extensively used in quantum and reversible circuits. However, very limited attempt has been made for primitive quantum gate realizations of these gates. In this paper, we present realization of three-qubit Toffoli gate requiring five primitive quantum gates. We then propose realization of four-qubit Toffoli gate requiring 13 primitive quantum gates and one ancilla input. Finally, we propose realizations of (n + 1)-qubit (n > 3 control lines) Toffoli gates using ($\lceil n/2 \rceil$ + 1)-qubit and ($\lfloor n/2 \rfloor$ + 1)-qubit Toffoli gates and ancilla inputs, which make a trade off between quantum cost and number of ancilla inputs. Our proposed method outperforms the best result so far presented in the literature in terms of quantum cost and number of ancilla inputs.

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Liberal Arts and Social Sciences

Literature Review in Applied Linguistics: A Conceptual Framework
Md. Tahamid Ar Rabbi* and **Mian Md. Naushaad Kabir****

ABSTRACT

The study approaches to throw light on a number of significant characteristics of literature review. It seeks to clarify the concept of literature review, putting emphasis on what it actually means. It then aims to narrow down its focus to the use of literature review in applied linguistics. It is found that in writing literature review a number of factors come into consideration. If it is a part (as usually it is) of a broader research work in applied linguistics, for example, its composition needs to be done in the context of that work. The value it has, the objectives it can fulfill, the types of sources it presents and the procedure it follows in its pursuit are some of the factors requiring vital consideration. Moreover, it has an organizational plan and it is conducted through some key phases whereof the last one is writing or reporting the significant literature reviewed, in a section of the research paper. Connected with this reporting, therefore, the organization, revision and final presentation of the reviewed literature also come into concern. The study attempts to elucidate in some detail all of the relevant factors mentioned above in general, with a view to conceptualizing the know-how of literature review in applied linguistics in particular. Finally, it seeks to draw some pedagogical implications to chalk out a suitable path for instruction on literature review in the particular field.

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Will Bangladesh seize or squander the economic opportunity offered by the demographic dividend?

Rafiqul Huda Chaudhury*

ABSTRACT

Bangladesh experienced a significant reduction in fertility and mortality during the last three decades of the twentieth century, leading to a drastic change in the population structure. To date, the number of persons in productive ages by far exceeds the number in dependent ages. This creates a one-time opportunity to boost economic growth. The present paper examines the extent to which Bangladesh has taken advantage of this window of opportunity. It also identifies remaining challenges to exploiting this opportunity to further increase economic growth and development. The paper concludes that in order to reap benefits from this window of opportunity, Bangladesh must make critical investments in its human capital base, as well as improve infrastructure and the overall investment climate.

Keywords: Demographic dividend, demographic transition, human capital investment

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Relationships between Learners' Motivation Factors and Speaking Strategy Factors to Learn Oral Communication In English

Dr. Moriam Quadir*

ABSTRACT

This study investigates the relationships between motivation and speaking strategy factors of Bangladeshi university students to learn oral communication in English. 355 university students participated in the study. To measure students' degree of motivation a modified version of questionnaire used by Schmidt et al. (1996) was administered. Participants reported their strategy use on a modified version of SILL (7.0) (Oxford, 1990). Exploratory factor analysis was used to identify the motivation factors and speaking strategy factors. Seven motivation factors were extracted: (a) Positive attitude, (b) L2 (second/foreign language) speaking anxiety, (c) Determination to learn, (d) Instrumentality, (e) Intrinsic motivation, (f) Social appeal, (g) Immigration tendency; and five speaking strategy factors were extracted: (a) Sharing strategies, (b) Coping strategies, (c) Active processing strategies, (d) Memory strategies, (e) Involving strategies. To examine the relationships between motivation factors and speaking strategy factors, Pearson Correlations were performed. According to the correlation results, motivation factors c, d, e, and a (mentioned above) had positive correlations, and motivation factor b had negative correlations with many speaking strategy factors.

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Expectation of Tertiary Students of Bangladesh from ELT Classrooms

Saifa Haque*

ABSTRACT

Expectation influences motivation and performance in Second Language Acquisition (SLA). Students' expectation also plays a significant role in curriculum development. This paper focuses on the expectations of the students in an English language classroom and how they want to be taught. From a research on 45 students of Stamford University Bangladesh, the researcher tried to find students' expectations about content, factors behind the expectations and effects of expectations in a language classroom using semi-structured interviews. It was found that students have expectations regarding their course content, teaching-learning style and education management. Several factors such as professional need, education background, social belief, personal goal and personality of the students worked behind their expectations and their expectations played significant role in their classroom behavior and performance.

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Using Non-native English Films to Promote Multiculturalism in ELT Classroom

Nazua Idris*

ABSTRACT

This paper aims to present how the incorporation of non-native English films can enhance the multicultural awareness among the English language learners. As the non-native English films expose the students to linguistic and cultural diversity, they can be used as effective tools in designing materials for ELT classroom. To demonstrate how the teachers can incorporate these films in their classroom, the paper discusses various approaches to design materials for language classroom, and contains three sample lesson plans for intermediate, upper-intermediate and advanced level students. The lesson plans exploit a number of non-native English films to generate a discussion of different cultures along with teaching English language. Finally, the paper ends with some suggestions for the teachers.

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Trol(Po)litics – An Explanation to Internet Trolls: Virtual Consumerism VS. Cyber Marxism

Mohammed Mizanur Rashid*

ABSTRACT

The rise of the 21st century had seen many new ideas emerge and materialize. The internet is not a new phenomenon but what we as users do with it, does not seize to perplex us every once in a while. The 'Troll' culture is one such corridor that has not seen a good amount of visitors lately and clearly we did not do justice to it. The amount of happenings and actions in the virtual world aka Cyberspace deserves more attention than it has received lately because when talking about Cyberspace we are talking about the Americas standing in Columbus' boots. My paper briefly introduces this novel culture of 'trolling' on the internet and goes further to provide a detailed study of how this culture functions as a gigantic hypothetical billboard and manufactures consent in the minds of millions. Paradoxically, the webs of 'Troll' culture are so disheveled that the very culture that works as a site for advertisement and publicity, also facilitates and advocates the principles of Marxism. My paper also argues that not only does it support those doctrines but thanks to this latest cyber culture, Marx's ideas could be more re(alistic/alized) now. And as a product of the overall discussion and studies, the paper will provide a better understanding about the after-effects of 'Troll' culture and 'Troll' politics or 'Trollitics'. Specific images, posters and posts from social networking sites, where they are mostly put into effect will be analyzed to rationalize and legalize the general understanding.

Key words: Troll-Culture, Cyberspace, Virtual Consumerism, Marxism.

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The effect of intrapartum antibiotics on early onset neonatal sepsis in Dhaka, Bangladesh: a propensity score matched analysis

Grace J Chan[*], Elizabeth A Stuart[**], **Marzia Zaman**[***], Abdullah A Mahmud[***], Abdullah H Baqui[****] and Robert E Black[****]

ABSTRACT

To estimate the effect of antibiotics given in the intrapartum period on early-onset neonatal sepsis in Dhaka, Bangladesh, we followed 600 mother-newborn pairs as part of a cohort study at a maternity center in Dhaka. Some pregnant women received one dose of intravenous antibiotics during labor and newborns were followed over the first seven days of life for early-onset neonatal sepsis. Using propensity scores we matched women who received antibiotics with similar women who did not and a logistic regression model predicting sepsis was run. Of the 600 mother-newborn pairs, 48 mothers (8.0%) received antibiotics during the intrapartum period. Seventy-seven newborns (12.8%) were classified with early-onset neonatal sepsis. Antibiotics appeared to be protective (odds ratio 0.381, 95% confidence interval 0.115–1.258). The results were similar after adjusting for prematurity, wealth status, and maternal colonization status (odds ratio 0.361, 95% confidence interval 0.106–1.225). Antibiotics administered during the intrapartum period may reduce the risk of early-onset neonatal sepsis in high neonatal mortality settings like Dhaka.

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Reconceptualising the Idea of 'Power' in Cyberspace: A (J/L)og in to (Un)real

Arafat Mohammad Noman*

ABSTRACT

Technology seems to incorporate a post-ideological status quo where the 'old politics' of left and right are no longer useful or relevant. The politics are now more associated with 'real' and virtual. This politics of existence in real and virtual life paves some ways of inquiry: is technology a revolutionary tool or is it just a new epoch of Lord Clive's 'divide and rule' formation? Who has the access to cyberspace? To what extent one can get an exposure to cyberspace? Is cyberspace a bourgeoisie region? Considering Foucault, Althusser and Max Weber the paper focuses on the issues of power, surveillance, discipline, and power/knowledge structure in cyberspace. The discussion will concentrate on the formation of cyberspace as a politicised area where technology supersedes other ideological apparatus. It also addresses the intricate issues of race and class as well as community formation in Second Life (SL).

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Using Cartoons for English Language Teaching in Bangladesh: Progress, Problems and Possibilities

Saifa Haque*

ABSTRACT

From a semi-structured interview conducted on 20 English teachers of different schools of Bangladesh from April to June, 2013, this article reflects on the progress, problems and possibilities of using animated cartoons for teaching and learning English in Bangladesh.

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Composition Courses in the Private Universities of Bangladesh: Expectation and Reality

Saifa Haque*

ABSTRACT

In the different private universities of Bangladesh the Composition course at the undergraduate level is a course to develop sentence skill, reading skill and writing skill. In Bangladesh, this course is of great importance as English is a foreign language. This paper tries to focus on how far the expectation from the course is fulfilled and how far the students are benefitted from the course in the existing system. A case study on 162 students of different departments has been done. Moreover, a semi-structured interview on 40 teachers teaching composition courses at different private universities has been conducted to find out how far the Composition course is successful and if it is not successful what are the reasons behind and to provide a few possible solutions for making it successful.

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Using Multiple Screen Adaptations of a Literary Text to Improve Critical Reading at Tertiary Level

Nazua Idris*

ABSTRACT

The paper aims at showing how the multiple screen adaptations of a particular text can be used to improve the critical reading skill of the students at tertiary level. The use of the adaptations will not only improve the critical reading skill of the students, but also improve their critical thinking and critical writing skill as the students will have to respond to the text and its screen adaptations on their own. The use of adaptations will expose them towards different interpretations of a text and make language learning more interesting and interactive, and give the students enough space to think critically. This paper exploits Jane Austen's *Pride and Prejudice* and three of its screen adaptations for designing material for language class. The paper includes three sets of sample activities for intermediate, upper-intermediate and advanced level students. The paper ends with some suggestions for the teachers regarding the successful implementation of film adaptations into English language classrooms.

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Formative Assessment in Large Classrooms

Saifa Haque*

ABSTRACT

The presentation focuses on the problems, solutions and techniques of applying formative assessment in the large classrooms at the university level. Formative assessment is a widely used assessment technique in language teaching learning environment. But using formative assessment in large classrooms is really challenging for the teachers. The research for the presentation has been conducted on twenty teachers of English teaching in different universities of Bangladesh and India. The study used through questionnaire survey and interview. The result of the findings has been analyzed and suggestions on the basis of the research have been analyzed.

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Have you ever thought what we want?

Saifa Haque*

ABSTRACT

The presentation focuses on the expectations of the students from a language classroom and how they want to be taught. Teachers and curriculum designers always teach and design materials without taking any opinion of the students. From a research on 45 students of Stamford University Bangladesh, the presenter found students' expectation and reality in a language classroom and presents her point of view about teaching effectiveness and learning outcomes. The research used questionnaire and includes suggestion. The research is significant as it gives an opinion from the students' point of view.

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Master of Population, Reproductive Health, Gender and Development of East West University: The first ever multidisciplinary graduate programme focusing reproductive health in a comprehensive approach in Bangladesh

Dr. Marzia Zaman Sultana*

ABSTRACT

Global health has a positive logical relationship with level of education, information and communication, economic stability and quality & equitable health service. Although almost one third of the population of Bangladesh is young people (10-24 years), their health needs, especially reproductive health needs are yet to be addressed in a comprehensive and friendly way. In this context "Master of Population, Reproductive Health, Gender and Development (MPRHGD)" of Department of Social Relations, East West University has created a multidisciplinary platform for the first time in Bangladesh where students from multidiscipline mingle together to get and share the knowledge of population dynamics, poverty, statistics, gender issues, reproductive health and rights, family planning, adolescent health, sexually transmitted diseases which improve their early health seeking behavior. The MPRHGD program aims to develop healthy young graduates equipped with comprehensive knowledge of population & reproductive health to deal with the global reproductive health problems.

Keywords: Reproductive health, Young people, Bangladesh

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Investing in Young People

Dr. Marzia Zaman Sultana*

ABSTRACT

Bangladesh is a rapidly developing country with huge population density, fast urbanization, industrialization, both internal and external migration. All these factors are influencing the health outcome of population; especially young people, but they are not getting enough attention. Improvement of health needs investment and investment should be provided not only to the health sector but also to the other immediately related sectors like education, training, life skill development, economic empowerment etc. The main objective of this paper is to find out the area of investment to improve the health of the young people of the country and also to find out the gaps in current investment approaches. Health service of the country is not comprehensively focusing the health needs of young people who are playing a leading role in the progress of economy and development. Investments to the young people are not decentralized and sector wise approach is lacking integration and coordination among different sectors. Health as well as other related sectors should be focused which will ultimately lead to improvement of health outcomes. Decentralized approach should be taken for the best use of it and to get highest involvement from the young people.

Keywords: Reproductive Health, Young People, Development, Bangladesh

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