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In the Name of God

Nowadays the Islamic Republic of Iran, in its path of scientific growth and elevation, has reached to achievements that are not only important regionally and internationally but also beneficial to human society for enjoying a better life.

Needless to say that one aspect of Iranians integration and their domestic and external endeavors can be traced in the scientific field. The scientific society of Iranians in any part of the world enjoys such characteristics that every Iranian is proud of that.

Here in Japan, with the help of God and endeavors of some of our Iranian scientists and researchers, the first gathering of the scientific society of Iranians is taking place. A variety of subjects will be dealt with and we hope, through this event, a new momentum of cooperation between Iran & Japan develop.

I am convinced this society's endeavors and cooperation with Iranian related organizations, is essential for optimal usage of dearly earned know-how.

I sincerely thank all participants in this scientific movement and specially the executing committee and Iranian entities in Japan such as Islamic Republic of Iran Airlines, Islamic Republic of Iran's Shipping Lines, ASCOTEC and all those who extended their help to us for realization of this seminar.

I pray to Almighty God for your health and prosperity and further success in all aspects of your life.

Mohsen Talaei

Ambassador of the Islamic Republic of Iran

In the name of God

Academic Society of Iranians in Japan (ASIJ) is pleased to hold “ASIJ 1st Scientific Seminar” on February 25, 2006, to initiate an actual scientific dialogue among this society and hence promotes its academic atmosphere. By introducing our research themes or research fields to the other members during this seminar, we may have more chance to be acquainted with ourselves, our research fields and the Iranian students and researchers in Japan. Such an event would be also a good opportunity for us to share our visions and develop our knowledge together.

We got together from a broad spectrum of different fields of study to perform this seminar. One of the most important characteristic goals, which make this seminar so unique, is that it could be a way to create new common projects between 2 different fields of studies.

Moreover, as Japan is a strong pole of research in the world, this seminar may help us acquaint with the facilities of Japanese universities and research centers, which may be unique itself, and its issues hopefully can be a good guide for the others who are interested in studying or doing research in Japan.

We are hopeful that ASIJ 1st Scientific Seminar opens a new window among Academic Society of Iranians in Japan (ASIJ) for further scientific interchange.

We wish this kind of seminars initiates the close scientific collaborations among Iranians scientists in Iran and Japan.

Dr. Armin Bastanfard
Seminar president and secretary

Dr. Habib Hassan Nejad
ASIJ director

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Study on Outdoor Playing Equipments from the Viewpoints of Children's Social and Physical Development

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Keywords: Outdoors Play Equipment, Children's Development, Social Skill, Physical Skill.

Summary: The twentieth century development of psychoanalytic thought emphasized on necessity and need to play for children. Considering the play's potential role in human development and evolution, providing children a good environment to play is necessary. The development of science and technology has affected the human's life style, such as industrialization, urbanization and changes in family structure. These transformations have affected the way of children's play and activities. Now children can play with various kinds of toys and games at home instead of playing outside. Specialists warn about the lack of enough physical and social skill development among children especially in large cities, In this research the issues of the problems in new generation of children were laid out, it was found out both from the viewpoints of children expert researchers and the mothers that now the most problems in children's life is having less opportunities for getting enough and desirable physical and social skill development. The items of social and physical developmental skills for children were derived and the relevancies between those developments with the play equipments were studied. Investigative research focused on user behavior was the key elements in gaining understanding of how the playground equipments are actually used by children; the observations showed that children are seeking for some new activities with the equipment, also it is found that the equipments do not provide some of physical skills development to children. The miss-fitness of play equipments according to the actual behaviors of the user can help us in proposing new concepts for outdoor play equipments.

Facial Perception a Way toward Subjective Interaction

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Keywords: Facial Perception, Subjective Interaction, Face-to-Face Communication.

Summary: Consider a professional business advertiser as a sample. They always try to start a directional interaction with the customers to suggest them most proper choices and sell more. This is a simple as well as important ability which current human-computer interaction methods don't have, the *subjective interaction*. Currently the intelligent personalized advertising systems need the user attention and motivation to start interacting and giving useful information. To be the starting point of a directional interaction we need to have minimum information from the other side. One of the best ways of gathering this kind of information is facial perception. Whenever we can't recognize the identity of a person we will unconsciously do a non-identical facial recognition. This is estimation of personal characteristics like gender, age, race and so on which is also called facial perception. The first aim of this research is to design a robust analytical facial perception method. There are two major categories of facial features which are in relation with personal properties, region-based and edge-based features. Regional features are mainly color and texture of the facial skin area. On the other hand internal components of the face like eyes, eyebrows, nose and lips will give us the facial anthropometry measurements. These anthropometries and the relation with personal properties are well studied before in anthropology science. But as there are several changes and limitations in detection of facial landmarks by computer vision, all of above mentioned features were analyzed again. The process is done by statistical discriminant analysis independently from pre or post processing on a large set of extracted features from wide variety of facial images from different countries. The output of the analysis in simple words gives the different categories of skin color and facial structure as well as clear relation with personal characteristics by means of efficiency percentages.

Estimation of Crop Coefficients and Evapotranspiration of Forests and Several Crop Fields in Thailand and Japan

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Keywords: Actual Evapotranspiration, Crop Coefficients, Meteorological Parameters, Empirical Equations.

Summary: In the present study, an attempt has been made to present empirical equations including easily available meteorological parameters for estimating crop coefficients (K_c) and actual evapotranspiration (AET). Bowen ratio energy balance method (BREB) was used to measure AET, and Penman-Monteith (PM) equation was employed to compute reference evapotranspiration (ET_0). K_c was calculated by the ratio of AET to ET_0 . Measurements were carried out in three popular vegetations in Thailand, a rain-fed paddy rice field, cassava and teak plantations. In Japan, summer and winter season crops as soybean, maize, irrigated paddy rice field, wheat, Italian rye-grass and a red pine forest were also selected to accomplish this research. The author investigated the correlations between K_c and individuals as well as combinations of the meteorological parameters as solar radiation (R_s), air temperature (T_a), wind speed (WS), vapor pressure deficit (VPD), and soil water content (SWC). One equation (TM) was presented for all Thai sites using the four mentioned meteorological parameters excluding SWC. Root mean square error (RMSE) on a 1-day scale was 0.72 mmday^{-1} agreed with 19% error. Examination of TM equation produced no satisfactory results in estimating of AET in Japan, and as a result, another equation (JM) was introduced to all Japan sites using the four meteorological parameters. JM equation was able to estimate AET with a relative error of 23% at a 1-day scale. Moreover, JM equation was improved by adding leaf area index (LAI) as the fifth parameters to obtain JML equation ($\text{RMSE} = 0.5 \text{ mmday}^{-1}$). Proposed empirical equations were found to be applicable for estimating the actual evapotranspiration particularly in the tropical monsoon Asian countries as well as in the humid and temperate Asian countries where only the routine meteorological parameters have been observing.

Modulation of Trophoblast Cells Adhesion by Galectins: A Role in Implantation

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Keywords: Galectins, Pinopod, Cell Adhesion, Implantation, Immunogold TEM.

Summary: Galectins are a family of proteins that bind to galactose-containing ligands. Members of this family have been implicated in a variety of functions that include cell growth, cell adhesion, apoptosis, and inflammation, all of which are important for endometrial function, as well as implantation. In the first step of this study, spatial protein expression and subcellular localization of two well characterized galectins (galectin-3 and galectin-9) in human endometrial uterodumes (pinopods) during the opening of implantation window were studied by immunogold transmission electron microscopy (TEM). In the second part, in vitro rapid secretion/release of galectin-3 and galectin-9 from endometrial epithelial cell by fetuin (a serum glycoprotein abundant in fetal blood) were studied. We also evaluated the influence of exogenous galectin-3 on adhesive activity of CRL-3A cells (first trimester trophoblast cell line). Our results illustrated that a high level of galectin-3 and galectin-9 were localized in uterodumes of endometrial epithelium compare to uterodumes-free area of apical surface membrane. Galectin-3 and galectin-9 were rapidly released from endometrial epithelial cells after treatment with fetuin. We also showed that exogenous galectin-3 promoted CRL-3A cell adhesion in a time and dose manner. Based on these findings, we suggest a role for galectins in trophoblast cell function by influencing cell adhesion during the embryo implantation.

Proteomic Analysis of Sigma Factor: Sigma H Regulation of Staphylococcus Aureus

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Keywords: Sigma Factor H, Staphylococcus Aureus, proteomic, MALDI-TOF-MASS.

Summary: Staphylococcus aureus is a human opportunistic pathogen that causes variety of disease ranging from moderate disease like skin inflammation to severe deep infections, such as endocarditis, meningitis, sepsis, toxic shock syndrome, osteomyelitis. Due to the emergence of multidrug resistant strain, treatment of aureus infection becomes more difficult, e.g. methicillin resistant. Since physiological behavior of σ_H in Staphylococcus aureus is not clarified perfectly, a study has been carried out here to achieve more information on its behavior. Generally we know that producing of protein is based on a process where in initiation of transcription is one of its the most important part to take place. Existence of σ_H on the other hand is a necessary condition to commence such transcription. It is obvious that each different protein has its own physiological characteristic in cell therefore they should be investigated in order to clarify behavior of σ_H in Staphylococcus aureus. In this regard by sampling protein preparation of cytoplasm-membrane-supernatant and inserting the prepared sample into the SDS-PAGE (Sodium dodecyl sulfate polyacrylamid gel electrophoresis) protein bands (pattern) were determined. In case where some proteins can not be clearly recognized, additional process needs to be carried out by means of 2DE (two dimension electrophoresis). The aforementioned method is based on isoelectric point and molecular weight of protein. This process was followed by separation of those over expressing strain proteins that differed from wild type strains. Afterward by employing a method called MALDI -TOF-MASS (matrix assisted laser desorption ionization time of flight mass spectrometry) physiological behavior σ_H in cell was recognized through definition of its proteins. In this study a comparison was made between wild type and over-expressing strains where in different patterns of proteins were found. Physiological aspect of σ_H , however can be investigated through this finding which is next target of on going study.

Excimer Laser Corneal Refractive Surgery: Corneal Haze and Influence on Visual Performance and Correlation with Corneal Chondroitin Sulfate

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Keywords: Photorefractive Keratectomy, Laser In Situ Keratomileusis Wound Healing, Halo Vision, Contrast Sensitivity, Glycosaminoglycans.

Summary: Due to development of subepithelial corneal haze after corneal excimer laser surgery (photorefractive keratectomy [PRK] and laser in situ keratomileusis [LASIK]), a group of patient suffers from halos around bright lights, especially in night vision. Corneal haze after these procedures reaches a peak at 1 to 3 months or, in some cases even 6 months postoperatively. Although, the corneal haze after LASIK has shown very less amount than after PRK. Despite all patients being given the same procedure, each individual responds differently to the operation in terms of haze formation. These differences most likely originate from cellular reactions to ablation which vary in different subjects. To evaluate the influence of corneal haze on vision, it is necessary to identify its possible adverse effects on visual performance. It seems contrast sensitivity is likely to be a more sensitive indicator of visual function to offer distinct advantages over visual acuity. Glycosaminoglycans (GAGs) are one of the major extracellular components of the cornea's stromal matrix. The question is: "Dose exist any correlation between postoperative corneal haze and GAGs?" To clarify this point, biochemical and histopathological investigations was done to find out the origin of the individual GAGs (ex. chondroitin sulfate [CS] isomers) in the cornea, especially those found in corneal haze after these procedures. TSPC-3 camera was used for precise evaluation of corneal density. Also, CS concentration was evaluated by using high performance liquid chromatography method (HPLC) in rabbit. Conclusion; contrast sensitivity value is strongly and negatively correlated with corneal haze level. Most studies about GAGs have focused on descriptions of hyaluronan concentrations in normal and hazy cornea, but in this study is tried to consider more components and showed that CS-6 isomer concentration is significantly correlated with the corneal haze after these procedures and finally, the more corneal haze, the worse the vision.

Development of Tools with Built-in Thin Film Thermocouple Micro Sensor for Measuring the Machining Temperature

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Keywords: Built-in Thin Film Thermocouple Sensor, Cutting Temperature, Metal Cutting, Physical Vapor Deposition (PVD) Coating, Photolithography.

Summary: Machining is one of the most extensive methods for fabrication of complex parts in industry but due to complexity of process, many of the parameters have not been known well yet. Temperature is one of the most important factors in cutting, which affect the tool life, work piece subsurface property and tolerance geometry of work piece. The ability to measure the workpiece surface temperature in machining process has been very interested for manufacturing engineers. Tools with built-in thin film thermocouple (TFT) sensor have been developed to measure high temperature changes during the cutting process. The built-in TFT sensor must fabricate enough strong to resist against the high stress and temperature during the cutting situation. Thermocouple materials were selected as Ni and Ni-Cr, which was able to measure temperature up to 1200 °C. Substrate is the cutting tool insert's frank face, which is Al₂O₃ ceramic. The tool frank face were polished and completely cleaned and degreased by lapping machine and ultrasonic cleaner, respectively. Ni and Ni-Cr layers with thickness of 0.5 μm were deposited on substrate by DC magnetron PVD equipment and in the next step circuit formation were carried out by photolithography method in clean room along with chemical machining process. Micro sensor circuits were electrically insulated from the workpiece material by coating of Hafnium oxide in RF magnetron PVD chamber. TiN or TiAlN/TiAlSiN layer was deposited on the cutting edge to strengthen the tool resistance against wear. Different tools with various types were developed to measure temperature in different areas from the cutting edge. All of TFTs were calibrated individually and did well in measuring the cutting temperature for A6061 Aluminum alloy and S45C plain carbon steel workpieces. Cutting temperature that was acquired by TFT sensors have in good agreement with developed simulation software for measuring the cutting temperature.

A Bridge between Robustness and Simplicity: Practical Control Design for Complex Systems

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Keywords: Robust Control, Complex Systems, Feasibility, Low-Order Structure.

Summary: Automatic control design has been one of the major subjects in real-world system design/operation and is becoming much more significant today in accordance with increasing size, changing structure, uncertainties and complexity of artificial industry systems. A major challenge in a new environment is to integrate computing, communication and control into appropriate levels of real-world systems operation and control. In practice, many control systems usually track different control objectives such as stability, disturbance attenuation and reference tracking with considering practical constraints, simultaneously. At the moment in the industry applications, it is desirable to meet all specified goals using the controllers with simple structures. Since, practically these controllers are commonly designed based on experiences, classical and trial-and-error approaches, they are incapable of obtaining good dynamical performance to capture all design objectives and specifications for a wide range of operating conditions and various disturbances. It is significant to note that because of using simple structure, pertaining to the low-order control synthesis for dynamical systems in the presence of strong constraints and tight objectives are few and restrictive. Under such conditions, the synthesis process may not approach to a strictly feasible solution. Therefore, the most of robust and optimal approaches suggest complex state-feedback or high-order dynamic controllers. Moreover in the most of proposed approaches, a single performance criterion has been used to evaluate the robustness of resulted control systems. This research addresses three systematical, fast and flexible algorithms to design of low order or static output controllers for dynamical systems. The developed strategies attempt to invoke the strict conditions and bridge the gap between the power of optimal/robust control theory and industrial control design. To illustrate the effectiveness of the proposed control strategies, they have been applied to several complex systems in the electric industry.

An Overview to Water Resources Management in Iran: Technical Challenges and Solutions

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Keywords: Hydrology; Flood, Drought, Shared Water, River.

Summary: Iran is in the Middle East, and the country covers a total area of 1.65 million km² and a population of about 68 millions in 2004 estimate. Iran, with arid to semiarid climate conditions and with an average of rainfall of 250 mm/year (around one-third the world average), is facing extremely shortage of water resources. Most of Iran's rivers are seasonal, flowing only during the part of the year when precipitation is heaviest. The country's principal permanent rivers flow off the mountains on the slopes facing the Caspian Sea, the Persian Gulf, or the Oman Sea. The Karun River is only navigable river. The total renewable water resource in Iran is estimated at 137.5 km³/year, with the internal renewable water resource estimated to be 128.5 km³/year. This means Iran receives around 9 km³/year of surface water (in normal water years) through the Transboundary Rivers like Hirmand (Helmand) and Aras. The surface runoff to other countries, especially Iraq is estimated at 10 km³/year. In total of inflow and outflow the dependency ratio to Shared Waters is estimated to be 14%. Moreover Iran has Boundary Rivers with all of its seven neighboring countries. The main objectives of this paper are to provide brief background information on water resources in Iran including water hazards (flood and drought) and to provide an overview to technical challenges in order to improve planning and decision-making involved in the use of water resources. In addition, the paper talks about some scientific methods prepared to overcome these challenges, such as the IAHS Prediction in Ungauged Basin and role of Distributed Hydrological Models.

Evaluation of Persistent Organic Pollutants (POPs) in Breast Milk Samples in Japan

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Keywords: Polybrominated Diphenyl Ethers, Breast Milk, Women and Infant Health.

Summary: Persistent Organic Pollutants are a group of chemicals that are toxic and persist in the environment for long periods. Polybrominated diphenyl ethers (PBDEs) as a kind of POPs used as flame retardant for fire protection in large quantities in many types of consumer products and electrical appliances. PBDEs are now found as residues within sediment, wildlife and human samples. The high production volume and the structural resemblance of PBDEs to other well-known environmental contaminants such as PCBs, dioxins and furans are two main reasons for environmental and health concern. PBDEs level in breast milk samples from different countries manifested the worldwide contamination and exponential increasing. PBDEs have potential risk for human health and contamination of breast milk requires more consideration about women and infant health. Therefore in our study we collected 105 breast milk samples from northern to southern part of Japan (13 regions) in order to measure PBDEs level. The result shows the PBDEs level is higher in north part of Japan than in other areas. Furthermore, an increasing trend of PBDEs was observed. The PBDEs level in Japan is significantly lower than US and equal to UK, Sweden, and Finland. Thus, it is important to summarize the present state of knowledge about the environmental occurrence, human exposure, and toxicity of PBDEs to assess health consequences from the present and future use of this group of brominated

Tourism Development and the Role of Destination Image: Japan Outbound Market and Iran Tourism Image

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Keywords: Image Formation, Destination Selection, Image Promotion.

Summary: Most studies of traveler's decision making in tourism in the past three decades have investigated the relationship between image of a destination and preference or visitation intentions for the destination. The common point of most of the studies is focusing on a static structure of image by studying the relationship between image and behavior but not on the dynamic nature of image by studying the influences on image formation with and without considering of actual visitation, especially for low profile tourist destinations. This research examines the role of image in the promotion of a developing country with low profile as a visitor destination. Focusing on Iran as a tourist destination, visitors and non-visitors to the country were surveyed to find out their image of Iran. Although the importance of non-visitors for developing a low profile destination has been recognized, the importance of image to the promoters of a destination was examined through interview with some members of the tourist industry in Iran .The members of the industry were asked to explain their policies regarding to image promotion .This revealed a significant lack of co-ordination through the industry which prevents an effective image promotion. A number of theoretical researches on image formation process have been developed to assess tourist motivations and the destination selection, and to measure the role of image in decision-making process. The research suggests that to have a clear image of a destination is the most important factor in destination selection due to its link with other factors, such as past experience of a destination and experiences of other destinations. The research also shows that for a low profile destination like Iran, to have a clear image is the most important and necessary factor to promote the tourism.

Flow Segmentation in Phase Contrast MRA Image Series Using Autoregressive Modeling and Generalized EM Algorithm

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Keywords: Vessel Segmentation, PC-MRA, ARMA.

Summary: Segmentation of CSF and pulsate arteries in phase contrast MRA has important clinical benefits. Segmentation of CSF and pulsate blood flow, based on a single phase contrast MRA (PC-MRA) image can lead to imperfect classifications. Moreover, because of a relatively small flow area, achieving a high signal to noise ratio by a single PC-MRA image, is basically limited. In this paper, we present a novel automated flow segmentation method by using PC-MRA image series. The intensity time series of each pixel is modeled as an autoregressive (AR) process and features including the Linear Prediction Coefficients (LPC), covariance matrix of LPC and variance of prediction error are extracted from each profile. Although LPC has been already applied in one dimensional signal applications as ECG characterization and speech recognition, extension of this method for flow identification in cine PC-MRA images with limited samples is not straightforward. In contrary to speech recognition where the signal has an asymptotically zero mean, the average of the pixel values over its intensity profile, is an important feature and may not be subtracted. Bayesian classification of the feature space is then achieved using a non-Gaussian likelihood probability function and unknown parameters of the likelihood function are estimated by a generalized Expectation-Maximization (EM) algorithm. The efficiency of the method evaluated on both synthetic and real retrospective gated PC-MRA images indicate that robust segmentation of CSF and vessels can be achieved by using this method.

Introduction to Data Safety and Data Recovery

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Keywords: Computer, Data Loose Preventations, Backup Technologies, Information Security, Information Technology, Hard Disk, Media, Operating System, Data Recovery.

Summary: We are all aware of the growth in Information Technology (IT) and computers in the world and in our country. This growth is leading to a massive deposit of data (Information) in all Industry sectors. This data has to be cared for, it has to be secure. Information Security (IS) is one of the fastest growing segments of the IT market. After a detailed analysis of the data loose problems faced by individuals and organizations I found a clear lack of coordinated solutions for such problems. More than lack of solutions it is the unawareness of the solutions. I have also noticed that, the computer / Information departments of many organizations do not hold responsibility of data of users. It is very surprising that DATA, which is the heart and matter of any individual or organization is left to the responsibility of the individual who has created it. In this short Data Care Awareness presentation, I have targeted to make the computer users aware of the importance of their data and many dangers behind it. No matter, whether the user is a software professional, managerial executive in corporate or is just a student. The data is important for everyone and it can be saved easily with few precautions and guidelines. On the completion of this presentation the audiences would be aware of how data is stored on a media and what happens when it is lost. Since 40% of data loss cases are due to user negligence, this presentation may help audiences to be more careful in handling data and hence will be more responsible towards data care.

Deposition of Polycrystalline SiC Film by Plasma Enhanced Chemical Vapor Deposition system

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Keywords: Semiconductor Thin Film, Polycrystalline SiC, PECVD, Fluorine.

Summary: Silicon carbide (SiC) film, as a wide band gap and high thermal conductive semiconductor, is currently under intensive research owing to its suitability for electronic and optoelectronic devices operating under high temperature, high power, high frequency, and strong radiation conditions. While, the conventional semiconductor materials like silicon, gallium arsenide, and indium phosphate are considered to have reached their limits. However, high temperature deposition of single crystalline SiC film prevents deposition of large area SiC films on the different substrates and contributes to the additional formation of defects that reduce the performance of SiC devices. Therefore, low temperature deposition of SiC film with lower defect density has received special attention in recent years. Reduction of temperature in SiC film deposition changes its structure from single crystal to the polycrystalline. In the present study, the effects of fluorine and hydrogen radicals on deposition of polycrystalline SiC film by plasma enhanced chemical vapor deposition system was studied. Our investigation indicates that although hydrogen radicals are necessary during deposition of SiC films to avoid formation of C-C clusters within SiC structure but hydrogenated/fluorinated plasma was found to be more effective in removing of C and Si clusters and improvement in the Si-C bonds formation. This finding demonstrates that fluorine radicals can enhance crystallization of SiC films by removing the undesirable bonds and improving the bonding of carbon and dangling bonds. Based on these results, deposition of polycrystalline SiC films using fluorine and hydrogen radicals can be introduced as a powerful method in the deposition of these films at lower temperatures with lower defects.

Interactions of human organic anion transporters with diuretics

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Keywords: Diuretics, Human Organic Anion Transporters (hOATs), Kidney.

Summary: Diuretics cause natriuresis and are therefore used to treat patients with volume overload, including hypertension, liver cirrhosis, nephrotic syndrome, and congestive heart failure. The tubular secretion of diuretics in the proximal tubule has been shown to be critical for the action of drugs. To elucidate the molecular mechanisms for the tubular excretion of diuretics, we have elucidated the interactions of human organic anion transporters (hOATs) with diuretics using cells stably expressing hOATs. Diuretics tested were thiazides, including chlorothiazide, cyclothiazide, hydrochlorothiazide, and trichlormethiazide; loop diuretics, including bumetanide, ethacrynic acid, and furosemide; and carbonic anhydrase inhibitors, including acetazolamide and methazolamide. These diuretics inhibited organic anion uptake mediated by hOAT1, hOAT2, hOAT3, and hOAT4 in a competitive manner. hOAT1 exhibited the highest affinity interactions for thiazides, whereas hOAT3 did those for loop diuretics. hOAT1, hOAT3, and hOAT4 but not hOAT2, mediated the uptake of bumetanide. hOAT3 and hOAT4, but not hOAT1 mediated the efflux of bumetanide. hOAT1 and hOAT3, but not hOAT2 and hOAT4 mediated the uptake of furosemide. In conclusion, it was suggested that hOAT1 may play an important role in the basolateral uptake of thiazides, and hOAT3 in the uptake of loop diuretics. In addition, it was also suggested that bumetanide taken up by hOAT3 and/or hOAT1 is excreted into the urine by hOAT4.

Possibility of Co-Creation of New Value through Social Networking

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Keywords: Instruction, Demand-pull Economy, Supply-push Economy, Product and Process Innovation, Experience Innovation, Customer-centric Management, Blog Marketing, Co-creation of Customer Value, Social Networking, Network Community, Experience Innovation Management.

Summary: The strategic key of global businesses is information technology. Human resources with wide vision in product and technology development and ability to promote strategic development for new business are needed. With the advent of the internet, customers now possess more information than producers. This trend reflects the essential change in social structure from a supply-push economy toward a demand-pull one. Traditional company-centric strategies based on product and process innovation will now be unable to capture the market share companies aspire for. Customers with abundant information are now professionalized and connected to each other through network communities. The marketing paradigm has shifted to flexible co-creation of needs and new values with customers. Experience innovation based on customer-centered management is necessary to realize market competitiveness. Particularly, social networking services such as “mixi” are now greatly upstaged in Japan and are now expected to become the key spaces to achieve the experience innovation. we discuss on the possibilities of co-creation of new customers values through social networking experience. Furthermore, we propose a new framework for experience innovation management.

Regulation of Cell Migration: The Role of Focal Adhesion

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Keywords: Focal Adhesion, Cell Migration, Integrins, Growth Factors, Tissue Transglutaminase, CD98.

Summary: Cell migration is central to several physiological, pathological, and developmental phenomena. The human placenta is an invasive structure, in which highly proliferative and invasive embryonic villous cells (EVTs) invade the maternal uterus and its vasculature. EVT cell migration similar to tumor cell migration can be regarded as a multistep cycle, including extension of a protrusion, formation of stable attachments, translocation of the cell body, release of adhesions, and retraction at the cell rear. Integrins are integral transmembrane adhesion receptors, which provide an intersection where mechanical forces, cytoskeletal organization, biochemical signals and adhesions can meet. Over 50 proteins have been found to interact with integrins in cell-extracellular matrix adhesions, among which the focal adhesions are widely studied. Cell migration requires the continuous, coordinated formation and disassembly of focal adhesions. The primary cultures of human placenta and mutant transfected non-trophoblastic cells were employed to study the effects of Insulin-like growth factors (IGFs), tissue transglutaminase (tTG), and CD98 on focal adhesion turnover using several approaches, such as scanning and transmission electron microscopies, immunostaining for light and electron microscopies, *in vitro* migration assays, immunoblotting and kinetics for binding affinity. Our findings identified $\alpha_v\beta_3$ as the core integrin in the focal adhesions of human EVT, which exhibited co-localization with the components of focal adhesion, CD98 heavy-chain and tTG at the cell periphery. It was revealed that treatment with IGFs and over expression of CD98 as well as tTG could stimulate EVT cell migration. Furthermore, our findings address the involvement of CD98hc and its transmembrane domain in activation of $\alpha_v\beta_3$ signaling pathways and suggest a role for RhoA during the CD98-induced stimulation of integrins. In conclusion, we propose that regulation of cell migration, at least in part, through modulation of integrin activation and focal adhesion assembly leads to novel therapies for cancer treatment and assisted reproductive technology.

Application of Semi-Active Control Method for Seismically Isolated Structures

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Keywords: .Seismic Control of Structures, Base Isolation, Semi-Active Control.

Summary: Base isolation and seismic control of structures have been known as successful methods of seismic lateral force reduction during strong ground motions. Among the control methods, semi-active control method is well known because of independency of the devices to large amount of power and because they do not input additional energy to the structure resulting in destabilizing the structure. This study focused on the development of a semi-active control law as a simplified semi-active control algorithm for seismic response reduction. The strategy of the method is to produce desirable hysteretic loops to absorb as much energy as possible by semi-active devices. The control method only requires information on the device's displacement and velocity. The hysteretic loops produced by the semi-active control herein provide energy absorption capacity similar to those by friction dampers, while minimizing the disadvantages of the friction dampers, such as residual displacement after strong earthquakes and the generation of high frequency contents in the damping forces. Utilizing a variable oil damper and an actuating system, and measuring the response of the damper, the applicability of the control method on the oil damper is studied in practice. The experimental device and experiment procedure are explained. The time histories and hysteresis curves of the damping force produced by the variable damper device are presented. Effect of the control design parameters and performance of the oil damper are studied during the experiment. The structure used for numerical simulation is the benchmark problem for control of base isolated buildings provided by the journal of Structural Control and Health Monitoring. The results show that the simplified control strategy is effective for a variety of ground motion. This study has been performed in the Structural Dynamics Laboratory of Kyoto University under supervision of Professor Hirokazu Iemura and associate professor Akira Igarashi.

An Introduction to Industrial & Systems Engineering

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Keywords: Management, Industry, and Optimization.

Summary Undoubtedly, economical development can be achieved when appropriate distribution of economical resources is accompanied with efficient systems and suitable techniques. Therefore, acquaintance of these elements and principles are mandatory to achieve such social purposes. Industrial Engineering is a science that pays special attention to variety of systems and analysis of their efficiency. Scheduling, project management, optimization and operations research are some of main subjects in this field, in which systems are mathematically modeled and solved by analytical or numerical methods. Making a proper decision for running systems in industry is not as easy as it might be seen, and this is consequently the time when techniques of Industrial Engineering should be introduced. Today, as in the past, the Industrial Engineer is closely involved in the creation of wealth and prosperity. This is achieved through designing and implementing better, more productive SYSTEMS in both a manufacturing and a service environment. The day-to-day task of an Industrial Engineer therefore encompasses a wide variety of activities. He/she has to ensure that the available resources (labor, machines, material and money) are used as productively as possible. Only by increasing productivity can wealth be created in a company, and through that in the country, which in turn leads to a better life for all.

Manuscript Accelerated Construction of Urban Intersections with Portland Cement Concrete Pavement (PCCP)

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Keywords: Accelerated Construction, Asphalt Concrete, Portland Cement, Maturity Method.

Summary: Traditional pavement construction, repair, or replacement solutions may no longer be universally acceptable due to increasing public impatience with traffic interruption. Public works agencies must repair or replace deteriorated pavements while maintaining traffic on these structures. These types of construction are especially inappropriate in urban areas where traffic congestion is significant. Asphalt pavement has long been a popular road construction material. In areas where traffic becomes concentrated, such as urban intersections, flexible pavements may be prone to rutting over time. In areas with seasonal temperature extremes, the ruts can quickly become severe. Several of the flexible pavement intersections in such climates had been suffering from severe rutting caused by slow moving heavy vehicles, exasperated by high temperatures during the summer months. The frequent maintenance required on some asphalt concrete (AC) pavement sections has made reconstruction with Portland Cement Concrete Pavement (PCCP) a feasible alternative. However many constructability issues need to be addressed in order to realize the full potential of this alternative. Accelerated paving encompasses three classes of activities: technological methods to accelerate the rate of strength gain, construction methods to minimize the construction time, and traffic control to minimize user delay. In a case study, three major AC intersections with severe rutting problems were reconstructed with PCCP. The entire reconstruction of each intersection, including demolition of the AC pavement and its replacement with PCCP, took place over a period of three days. The results of this investigation can be used to educate pavement construction professionals on how major urban intersections can be reconstructed with PCCP on an accelerated basis, with minimal user and traffic disruption, using innovative construction techniques and traffic management optimization principles. This investigation produces valuable information to help develop a construction methodology for building PCCP and demonstrate that concrete pavements can be constructed efficiently and quickly.

Localization of Three Types of Fatty Acid Binding Proteins in the Mouse Ovary

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Keywords: Fatty Acid Binding Protein (FABP), A-FABP, H-FABP, E-FABP, Ovary, Follicle, Atresia.

Summary: Fatty acid binding proteins (FABPs) are cytosolic non-enzymatic proteins of about 15 KDa and they are capable of binding long chain fatty acids. Multiple isoforms of FABPs have been identified and named by their initial site of detection: such as epidermal-type (E-FABP), heart-type (H-FABP), and adipocyte-type (A-FABP). However, subsequent studies have been clarified that individual FABPs show much wider tissue distribution than their original isolation sites. There has recently been increasing evidence that fatty acids (FAs) play as important signaling molecules in cell proliferation/differentiation and inflammatory/ immunological reaction as well as substrates for energy supply and building blocks of membrane lipids. For FAs to be uptaken into the cytoplasm and to be transported to appropriate intracellular compartments to exert their functions, FA binding proteins (FABPs) are supposed to play crucial roles as their cellular shuttles. In order to clarify the functional significance of FAs and FABPs in the ovary, the localization of adipocyte (A) type-, epidermal (E) type- and heart (H) type-FABPs was examined in details by light- and electron microscopic immunohistochemistry. A-FABP-immunoreactivity was detected in some degenerating granulosa cells of atretic antral follicles. E-FABP-immunoreactivity was detected in macrophages which invaded into atretic follicles and phagocytes degenerating granulosa cells in the advanced atretic follicles. H-FABP-immunoreactivity was detected in theca cells and interstitial gland cells. It is thus suggested that the three FABPs function discretely in these individual cells of the ovary.

A Japanese Aesthetic Sense of Painting

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Key words: Japanese Arts, Simplicity, Active Space, Aesthetic, Painting.

Summary: Japanese have unique concepts and values when it comes to all manner of their taste in arts. "Sense of beauty" is a characteristic feature of Japanese culture. Concepts such as Wabi, Sabi, Miyabi and Mono no aware, are important expressions in Japanese arts.

As nature is much respected in Japan, many artistic works are inspired by the nature. For instance in tea ceremony the sweets which serve and decoration are influenced by the change of seasons. "Simplicity" is also inherent in Japanese arts which have its root in Zen thought and Shintoism.

In compare to Iranian arts which emphasize on exhibiting symmetry and balance of the elements on the screen, uniqueness of Japanese art is to create asymmetry. The artists tend to create an artistic work with unbalanced subjects. For example symmetry in Persian carpet designs and asymmetry in Japanese painting, flower arrangement and kimono designs show these differences.

"Negative space" or blank space is an important element in the artistic works, which exists in music and poetry as well. Yohaku can be translated as "negative space" in English - I prefer to use "active space"- is an indispensable part of Japanese arts and has given more attention. It evokes an aesthetic experience quite different from Western arts and even other Asian arts. Interestingly there is no word in Japanese to express the antonym of Yohaku which is "positive space" in Western arts.

Principles of Japan Architecture

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Keywords: Rabbit cages, dwelling surface, land-use.

Summary: It seems that the Japanese live in "rabbit cages". This study is based essentially on statistical research which showed that the average dwelling space for a family in urban agglomerations hardly amounts to 40 square meters. Great astonishment! "Why do two out of three Japanese affirm that they like their life and that in general they are content?" In view of the fact that as a standard today a corresponding family needs roughly 100 square meters - that is to say, two and a half times as much - one could ask the counter question: Do we waste space? Why does the average urban family in Japan manage with so much less dwelling surface and still feel comfortable? In such purely quantitative comparisons, it is often overlooked that spatial needs are closely related to the constructive design, and this is determined by the specific cultural tradition. To illustrate this point there is hardly any better example than that of Japan. Its architectural heritage and its dwelling culture developed under entirely different cultural and geographical conditions from those with which we are familiar. So we can definitely confess that Japan enjoys an accepted rate of land-use planning and at the same time the traditional forms are the basis of their nowadays modern architecture. I think by considering the characteristic of their traditional style of life, one can apprehend their current overwhelming architecture.

Quantum Computing, Different from the Classical Computing

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Keywords: Theory and Physical Realization of Quantum Computing, Quantum Entanglement.

Summary: Quantum computation and quantum information processing are the study of the information processing tasks that can be accomplished using quantum systems at atomic scales. It has been claimed that by employing quantum processing some huge advantages will be accessible as compared to the classical processing. *Exponential speed up* for factorization and *quadratic speed up* for searching, as compared to the classical counterparts, are guaranteed by Shor algorithm and Grover algorithm, respectively. Also, a new and wide extend in manipulation of information has been opened by employing quantum information processing, namely quantum teleportation and quantum superdense coding. Furthermore, no classical computer can defeat a quantum computer which would be used for cryptography. Hence, all the classical encoding protocols are extremely fragile with regard to a quantum computer. As a theoretical point of view, all the advantages of quantum processing are accessible just by constructing a quantum computer, which has not been realized yet even although there have been several candidates based on different physical technologies. We have been working on nuclear magnetic resonance (NMR) as one of the most viable and foremost technologies for implementing quantum algorithms. We proved that NMR in its current form is not a reliable physical system for a true realization of a quantum computer due to the separability, non-entanglement, of the states. Instead, we originally established a new approach for making a quantum computer. We have been trying to realize such a quantum computer as based on electron nuclear double resonance (ENDOR) spectroscopy. Much expectedly, quantum computer, in any reliable physical system, will beat the current classical computers very soon.

A Role for RAD18 in Double Strand Break Repair by Homologous Recombination

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Keywords: Translesion DNA Synthesis, Homologous Recombination, Rad18, Non-homologous End-joining, Camptothecin.

Summary: Cells have evolved numerous repair pathways to contend with various types of DNA Damages. The significance of DNA repair is clear, as defects in repair pathways are linked to human disease and malignancy. Unrepaired DNA damage can lead to replication fork arrest and the formation of gaps, and occasionally double-stranded DNA breaks (DSBs) in one of the daughter strands. To remove such DNA lesions arising during replication, cells have evolved methods of post replication DNA repair (PRR). The *S. cerevisiae* *RAD18* gene is essential for all types of PRR but appears not to be required for the two major double strand break (DSB) repair pathways, homologous recombination (HR) and nonhomologous end joining (NHEJ). To investigate the role of vertebrate Rad18 in DSB repair, we analyzed *rad18*-deficient chicken DT40 cells. *rad18* DT40 cells exhibited a significant reduction in HR-dependent repair of DSBs induced by ionizing radiation (IR), a topoisomerase1 inhibitor, camptothecin, and I-Sce1 nuclease expression. A defect in the repair of IR induced DSBs was also observed in Rad18 depleted human (HeLa) cells. Remarkably, deletion of Ku70, an essential early component of NHEJ, suppressed these defects in DSB repair. These observations suggest that, in vertebrate cells, loss of Rad18 results in the accumulation of DNA ends that when bound by Ku70 lead to unrepairable intermediates causing cell death.

Concepts in Modern Dentistry: Prevention and Minimal Intervention

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Keywords: Dental Caries, Prevention, Adhesive Restoration, Minimal Intervention.

Summary: Similar to all other branches of the science, new concepts along with the advanced technology have revolutionized many fields of the dental sciences. The “Modern Dentistry” or contemporary dental science is not only different with the conventional older versions in instruments and techniques, but also in the perceptions. In this presentation, a closer look is taken at two of the major concepts of modern dentistry: Prevention and Minimal Intervention. Prevention is about the strategies to be followed by an individual or by a professional to stop dental caries as a multi-factorial disease. The known causes of the dental caries and the possible ways to stop or neutralize each of them are explained with a special focus on my previous research topic, Fluoride. Minimal intervention is about application of the non-invasive techniques to repair a tooth damaged by the dental caries. The use of adhesive restorative materials, substituting the metallic restorations plays a leading role in minimal intervening strategies today. Some aspects of new restorative materials, as the results of my current research works at my department, which is the birthplace of many inventions in the field of adhesion, are discussed in the presentation. In conclusion, we can expect a better quality of life regarding the community oral health in the future, which will have been made possible by then through a better understanding of preventive measurements as well as highly conservative treatment strategies, and improvement of the materials, with the priority on keeping and protecting the natural tissues.

Cooperation; A Must for Sustainable Development

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Keywords: Sustainable Development, Cooperation, Conflict, Interests, Partnership.

Summary: This article tries to discuss one of the related concepts to development activities, which is “cooperation”, as main component of “sustainable development”. In other words, while cooperation and development are two independent concepts in human value system, this work tries to bind up the concept of “sustainable development” to the concept of “cooperation”. The main proposition of this work is: “without cooperation, sustainable development might not be accessible”. This proposition is in contrast with the principles of revolutionary theories of development, such as Marxist theory of historical development via class struggle, and recent theory of clash of civilizations. On the other hand, this proposition roots the same direction with linear theories and stage theories of development, although takes place out of the ambit of dependency theory of development. Development plans might be applied in certain fields on non-cooperation basis. Economic growth plans, military development programs, sectorial technical developments, health and human services improvement are of such sort. Those plans, particularly if being of directorial nature, tend to ignore cooperation as a principle. Partial growth for neglecting the other parts’ needs and evolutions declines in dissonance and conflict amongst the sectors. This gives rise to troubles which challenge the theoretical basics of concerning development plan and finally yields in a situation which is known already as against the sustainable development. Ignoring the other players might be considered in three levels: internal, regional, and international. In each level, decision makers and planners tend to ignore existing players of various levels who are in some manner in touch with the plan, either being affected, or included, or subjugated, or even executing it. Such lack of attention and due care, either on purpose or not, conducts to clash of interests and rise conflicts whose costs, as is being discussed, show clearly the necessity of cooperation from the first square.

Advances in Analytical Methods of Reinforced Concrete Structures

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Keywords: Reinforced Concrete, Finite Element Method, Crack Model.

Summary: Numerical simulation of structures is necessary for a number of reasons as below. In order to establish a platform to evaluate or predict response of structures subjected to different loading conditions experimental study should be conducted. Since performing test on large number as well as large size of members is a time and cost consuming task parametric study will be inevitable. Moreover in real construction, there have been many occasions that constructed structures need performance assessment due to changes in design codes, specification, and application an also occurrence of damage or decay in under service structures. This happens quite often specially after each earthquake, which arises questions on reliability of structures in new condition. In addition, large and important structures such as inshore or offshore platforms, infrastructures such as bridges, lifelines and nuclear containments need continuous and accurate assessments of their performance in their service life. Numerical simulation is the most reasonable answers to all above problems. In this aspect nonlinear finite element method has dominant role in numerical assessments of structures. Crack is an inherent characteristic of concrete structures. Once crack develops in a structure the cracked member's behavior will be shifted from linear to nonlinear. Indeed behavior of reinforced concrete members is very complex and versatile and needs a comprehensive multi disciplinary research to be conducted. In this regard a number of crack models, RC element constitutive models and nonlinear equations solution techniques are presented by researchers in recent years. Furthermore material models along with finite element method are enriched in order to enhance numerical perdition of RC structures under various loads and environmental conditions. In this study some of those advances are briefly presented. The results indicated reliability and accuracy of nonlinear finite element simulation in prediction of RC structure's behavior particularly cracking development and load-deflection response.

Lessons from Devastations in Recent Massive Earthquakes and Possible Countermeasures

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Keywords: Seismic-Induced Damages, Geotechnical Hazards, Disaster Mitigation.

Summary: In the last decades of the 20th century and the first few years of the 21st century, the loss of human lives in natural disasters was reported to be more than one million. Countless number of people had been left destitute and many communities suffered huge economic loss. Such terrible damages to life and property call for increased efforts in investigating causes of disasters, evaluating their risk and developing procedures for mitigating their effects. One of the important concerns in Civil Eng. field is to discuss the possible measures for minimizing losses of life and damage to a variety of structures during the strong ground motions. This needs well organized technical committee to establish remedial measures for damage to structures. It was thus a natural must for this type of research activity to incorporate individual works of many others, especially with respect to risk identification and analysis. The geotechnical aspects involve in natural disasters such as earthquakes, fault-inflicted damage, liquefactions and land slides are broad and complex experience-based discipline. Because of their nature, the field of geotechnical earthquake engineering associated with ground disasters is often regarded as a significant research topic. Until something disastrous happens, no problems have been identified or recognized as important for further studies. Learning from what has happened is the most important consideration and should never be missed. In fact, whenever serious damage has occurred due to earthquakes, new horizons have been discovered and significant advances made in the development of geotechnical and structural engineering. For this, archiving available data in a systematic way will be quite necessary. This paper aims to give some hints for rational remedial or design measures for civil-structures and infrastructures whose constructions were/are unavoidable in geotechnical hazardous areas.

Evaluation of Bond Strength for Current Adhesive Systems

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Keywords: Micro-Tensile Test, Dentin, Bond Strength, Resin Adhesive.

Summary: Over the past few decades, dentin bonding systems have been widely used by clinicians as adhesive system for the resin composite restorations. Dentin adhesives are currently available as three-step, two-step and single-step systems depending on how the three cardinal steps of etching, priming and bonding to tooth substrates are accomplished or simplified. For the last several years, all in one adhesive system have become extensively applied for resin-dentin bonding. An all in one bonding system, which combines etching, priming and bonding into one procedure, has shown the potential for a good bonding to enamel and dentin. These systems have succeeded in reducing the multiple steps of applying agents and require only one step for bonding. The micro tensile bond strength test provides information on the inherent bonding capacity between adhesive materials and small regions of dental tissues. The present in vitro study on long-term durability of bonds provided a new approach for evaluating the adhesive interface over time. In this research, flat coronal dentin surfaces of extracted human molars were prepared. Tri-S bond (Kurarary Medical Co.) and G-Bond (GC Co.), as of two all-in-one adhesives system, were applied to the dentin surfaces according manufacturer's instruction. Then resin composite buildups were made by APX composite. The bonded specimens were stored in 37o C water for 24 hours (control group), 3 months and 6 months. In this study, micro-tensile bond strength, μ TBS, testing was carried out with a crosshead speed of 1.0 mm/min. For both adhesive systems, the bond strengths were almost stable over six months. However, for the longer times, it is possible to have degradation patterns focusing on hybridized dentin. The results would be specially enabled to the beneficial improvement of long term effect of bonding systems.

Approaching Product Aesthetic Sustainability: An Inverse Approach to Product Aesthetic Durability

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Keywords: Product Sustainability, Product Aesthetics (PA), Sustainable Design, Aesthetic Durability (AD), Aesthetic Boredom (AB).

Summary: PA in term of sustainability can be subjectively and objectively discussed from two standpoints: the reflection of philosophy of sustainability and its values; and the effects on sustainability issues. The notion of Product Aesthetic Sustainability (PAS) is here proposed to generally involve all effective and reflective sustainability issues of PA in both objective and subjective levels. As a designed product for sustainability should aesthetically sustain during its lifespan, the particular indication of PAS is a product's ability to sentimentally satisfy the users and aesthetically last until the end of its lifespan. Therefore, AD is a radical concern of PAS. But AB, as the opposite of AD, is a negative factor that may discourage PAS. In this research, the phenomenon of 'the highly reduction of a product's aesthetic values after continually or repeatedly using or looking it' is named Product Aesthetic Boredom (PAB) that is seemingly an influential factor on product replacement. The analysis of AB of a product can help designers clarify the aesthetic properties shortening its life. Thus, the notion of AB can be focused as a specific but inverse approach to AD to be an experiential aspect of PAS. Based on the findings of an exploratory inquiry, Mobile Phone (MP) and Youth are decided as the object and subject for the case study on PAB. To find out the causal elements of PAB and compare its form-structural patterns between different contexts, a fieldwork involving the comparative surveys and experiments on AB of MP between Iran and Japan has been fulfilled. The derived data from the questionnaires and experiments are processed and analyzed through KJ Method, Nonlinear Principal Component Analysis, Cluster Analysis, and Multiple Regression Analysis. As the result, the derived form-structural patterns of AB of MP from the Iranian and Japanese subjects' evaluation of the same samples of MP based on the same form-structural variables are contrary. Such results prove that AB, AD and thence PAS are the very contextually dependent phenomena.

SEMINAR PROGRAM

8:45 - 9:00 Opening ceremony

National anthem
Welcome greetings and Seminar President and Secretary Report

9:00 – 10:15 Engineering Session (Electronics-Computer)

Chairman: Dr. Habibzadeh, Co-Chairman: Dr. Bevrani

Name	<i>Title</i>	P#*
Bevrani, Hassan	<i>A Bridge between Robustness and Simplicity: Practical Control Design for Complex Systems</i>	12
Haddad Adel, Azadeh	<i>Deposition of Polycrystalline SiC Film by Plasma Enhanced Chemical Vapor Deposition system</i>	19
Akbari, Mohammad Ali	<i>Facial Perception a Way toward Subjective Interaction</i>	6
Rahimi Darabad, Robabeh	<i>Quantum Computing, Different from the Classical Computing</i>	28
Habibzadeh Vaneghi, Houshang	<i>Introduction to Data Safety and Data Recovery</i>	18

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10:15 - 10:30 Coffee Break + Poster presentation

Name	<i>Title</i>	P#
Basti, Ali	<i>Development of Tools with Built-in Thin Film Thermocouple Micro Sensor for Measuring the Machining Temperature</i>	11
Kazemi, Alireza	<i>An Introduction to Industrial & Systems Engineering</i>	24

10:30 – 12:00 Dental-Medical Session

Chairman: Dr. Hasannejad, Co-Chairman: Dr. Sadr

Name	<i>Title</i>	P#
Kabir Salmani, Maryam	<i>Regulation of Cell Migration: The Role of Focal Adhesion</i>	22
Nourani, Reza	<i>Localization of Three Types of Fatty Acid Binding Proteins in the Mouse Ovary</i>	26
Bastanfard, Armin	<i>Excimer Laser Corneal Refractive Surgery: Corneal Haze and Influence on Visual Performance and Correlation with Corneal Chondroitin Sulfate</i>	10
Saberi, Alihossein	<i>A Role for RAD18 in Double Strand Break Repair by Homologous recombination</i>	29
Daneshmehr, Leila	<i>Root Dentin Surface Coating by All in One Adhesives To Inhibit Biofilm Attachment</i>	14
Sadr, Alireza	<i>Concepts in Modern Dentistry: Prevention and Minimal Intervention</i>	30

12:00- 13:15 Lunch and Pray

13:15 – 14:15 Engineering Session (Civil)

Chairman: Dr. Salamy, Co-Chairman: Dr. Basti

Name	Title	P#
Nemati, Kamran M.	<i>Manuscript Accelerated Construction of Urban Intersections with Portland Cement Concrete Pavement (PCCP)</i>	25
Salamy, Mohammad Reza	<i>Advances in Analytical Methods of Reinforced Concrete Structures</i>	32
Chavoshian, Seyed Ali	<i>An Overview to Water Resources Management in Iran: Technical Challenges and Solutions</i>	13

14:15 - 14:30 Coffee Break + Poster presentation

Name	Title	P#
Hasannejad, Habib	<i>Interactions of human organic anion transporters with diuretics</i>	20
Jafarzadeh, Elaheh	<i>Possibility of Co-Creation of New Value through Social Networking</i>	21

14:30 – 15:45 Engineering and Science Session

Chairman: Dr. Kheirandish, Co-Chairman: Dr. Gooya

Name	Title	P#
Fard, Farzin	<i>Tourism Development and the Role of Destination Image: Japan Outbound Market and Iran Tourism Image</i>	16
Saharkhiz, Aliasghar	<i>Cooperation; A Must for Sustainable Development</i>	31
Zafarmand, Seyed Javad	<i>Approaching Product Aesthetic Sustainability: An Inverse Approach to Product Aesthetic Durability</i>	35
Afsharlahoori, Fatemeh	<i>Study on Outdoor Playing Equipments from the Viewpoints of Children's Social and Physical Development</i>	5
Attarod, Pedram	<i>Estimation of Crop Coefficients and Evapotranspiration of Forests and Several Crop Fields in Thailand and Japan</i>	7

15:45 - 16:00 Coffee Break + Poster presentation

Name	Title	P#*
Azarpaykan, Anahita	<i>Proteomic Analysis of Sigma Factor: Sigma H Regulation of Staphylococcus Aureus</i>	9
Azadbakht, Mehri	<i>Modulation of Trophoblast Cells Adhesion by Galectins: A Role in Implantation</i>	8
Pourbakht, Mojtaba	<i>Principles of Japan Architecture</i>	27

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16:00 - 17:15 Free Discussion on Education and Research Experiences in Japan

**Attendees: Mr. Fard, Dr. Musavi, Dr. Salami, Dr. Habibzadeh,
Dr. Bastanfard, Dr. Kheirandish, Dr. Hasannejad**

17:15 - 18:00 Closing Ceremony

Iranian classic music
Giving some testimonial to presenters
Closing greetings

End of English Part

Persian Part

