

# research newsletters

Eastern Mediterranean University



Spatial Adaptation and Transformation  
in the Vernacular  
Houses of Büyükkonuk.

2008/4

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Dear Colleagues,

I am happy to bring the last issue of 2008 to the EMU community. The *EMU Research Newsletter* team has worked hard to bring out four successful issues within 2008. In order to further acknowledge their work, here I would like to introduce my team members: associate editor Donna Ruzzano; editorial assistants Fatih Parlak and Olusegun Olugbade; and graphic designer Ersev Sarper. Together, we look forward to continue bringing interesting research projects to your attention in 2009.

In the current issue, we begin with computer engineers Adnan Acan and Ahmet Ünveren, who explain their work on multi-objective optimization using the cross entropy method. This is followed by Yücel Vural of the Political Sciences Department, who introduces his research on the effect of history education on inter-communal relations between Turkish and Greek Cypriots.

We continue to highlight the student researchers of EMU. In our *Student Research Profile* section, interior architecture graduate student Leyla Çınar discusses her research on the transformation of Büyükkonuk vernacular houses. In our *Interview* section, we feature Mohammed Reza Azizian a Master of Science student from the Department of Mechanical Engineering. Azizian talks about his research on the evaluation of thermophysical properties of nanofluids.



From left: Donna Ruzzano, Fatih Parlak, Bahar Taneri, Olusegun Olugbade, Ersev Sarper

I would like to thank all those who have contributed to the 2008 issues of our newsletter.

With best regards,

Bahar Taneri

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### Research @ EMU

#### ■ MADD 2008 Conference held at EMU

International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 08) was hosted by the Department of Mathematics of Eastern Mediterranean University between 12-15 September 2008. The conference was co-organized by three other universities, Mersin University, Turkey, National Taras Shevchenko University, Ukraine and Institute of Mathematics of the National Academy of Science, Ukraine. MADD 2008 is the fourth conference organized in the field of mathematical analysis. The conference covered the subjects including functions of real and complex variables, approximation theory, functional analysis, harmonic analysis, integral transformations, qualitative methods for differential equations, asymptotic methods for differential equations, partial differential equations, functional differential equations and stochastic equations. Seventeen speakers were invited from thirteen different countries including Canada, France, Germany, Russia, Spain, Turkey, Ukraine and USA, and 130 speakers, coming from all around the world, presented their research at the conference. Besides international participants, researchers from the EMU Department of Mathematics, Mustafa Rıza, Suzan C. Buranay, Pembe Sabancıgil, Övgü Çıdar and Mustafa Hasanbulli, contributed to MADD 08 with their presentations. President Ufuk Taneri attended the closing ceremony of the conference and distributed the certificates of appreciation to all participants. *News submitted by: Mustafa Rıza, Department of Mathematics, Faculty of Arts and Sciences.*



MADD 2008 Participants

#### ■ A Seminar by EMU's Geographic Information Systems Research and Application Center

A one-day seminar about Geographic Information Systems (GIS) was organized by EMU's Geographic Information Systems Research and Application Center in cooperation with the Department of Geography of İstanbul University (IU), Turkey. The seminar held on 12 September 2008 was part of a joint field work carried out by 7 undergraduate, 1 post-graduate student from EMU, and 12 undergraduate, 3 post-graduate students from IU under the supervision of Yücel Tandoğdu from EMU and Hüseyin Turoğlu from IU. Research findings of the project titled '*Determining the Cultural Heritage Inventory of Gazimağusa Old City: An Education-aimed Application*' was presented by the participating students. Undergraduate and post-graduate students of both universities, who actively participated in this project, applied their theoretical knowledge gained from classroom education to a practical problem. Yücel Tandoğdu, of the EMU Department of Mathematics and the director of EMU's GIS Research and Application Center, gave a speech during the seminar about GIS, emphasizing that spatial data collection and its evaluation for information production are subjects of current studies within the field of GIS. He added that there has yet been no documented study about GIS for TRNC, but there are many databases maintained by different state departments and private enterprises that can be utilized in GIS studies towards the formation of a GIS infrastructure in TRNC. He also stressed the necessity for qualified people to carry out such work, and the joint field work was a starting point towards this goal. An idea that emerged from this seminar was that the introduction of GIS courses at EMU starting from undergraduate level progressing towards post-graduate is essential to catch up with the rest of the world in GIS market.

*News submitted by: Yücel Tandoğdu, Department of Mathematics, Faculty of Arts and Sciences.*

#### ■ EMU-PDRAM Efforts to Create Awareness and Eliminate Violence against Women

At least one out of every three women around the world has been beaten, coerced into sex, or otherwise abused in her lifetime and the abuser usually is someone known to her. Violence against women is a universal problem, close to an epidemic. One of the most pervasive human rights violations known today is domestic violence, which devastates lives, debilitates

communities, and prevents development. On 19 October 1999, at the 17<sup>th</sup> meeting of the Third Committee during the 54<sup>th</sup> session of the General Assembly, the representative of the Dominican Republic on behalf of his country and 74 Member States, introduced a draft resolution calling for the designation of 25 November as the International Day for the Elimination of Violence against Women. On the grounds of the above mentioned draft resolution, the General Assembly would issue invitations for the organization of worldwide activities on that day to raise public awareness of the problem of violence against women. The draft expressed alarm that endemic violence against women was impeding women's opportunities to achieve legal, social, political and economic equality in society. The Assembly would reiterate that the term "violence against women" would refer to acts which may cause physical, sexual or psychological harm, whether in public or in private life. Women activists have since marked 25 November as a day against violence. This date coincides with the brutal assassination in 1960 of the three Mirabal sisters, who were political activists in the Dominican Republic under orders of the then ruler Rafael Trujillo (1930-1961). It is for this reason that this year on 25 November 2008 on the International Day for the Elimination of Violence against Women, EMU-PDRAM pioneered and organized a panel and forum on the issue of domestic violence. This panel was chaired by EMU-PDRAM director and Department of Psychology Chairperson Biran Mertan, psychologists Uğur Maner and Şenel Hüsnü Biçmen. They presented their work on the causes of domestic violence, influence of the media and myths and stereotypes regarding domestic violence. Two lawyers, Pervin İpekçioğlu and Meryem Beşoğlu also contributed to the panel of experts by presenting case studies and recent developments in the laws and regulations in North Cyprus. At the end of the panel the audience was given the opportunity to direct their questions to the panelists. Discussions were continued during a short break and cocktail,



Panelist Pervin İpekçioğlu

after which students of the Department of Psychology organized a forum. Ten volunteer students gave 2-3 minute presentations whereby they voiced their opinions on the issue, bringing to light topics such as forced marriages, lack of education for girls and sexism in the workplace. The event was concluded with the handing out of Turkish-English bilingual booklets titled "Stop Domestic Violence" prepared by EMU-PDRAM. The Department of Psychology and EMU-PDRAM both aspire towards the abolition of violence in the home and in the world, strive to raise awareness around gender-based violence, and call for its elimination towards a just world for men and women alike.

*News submitted by: Biran Mertan, Department of Psychology, Faculty of Arts and Sciences & Psychological Counseling and Research Center.*

### ■ The Intergroup Relations between Greek-Cypriots and Turkish-Cypriots: Social Psychological Perspectives on Contact and Identities

On 3 December 2008 at the University of Cyprus, Nicosia, a colloquium exploring the role of contact and national identities in relation to intergroup relations between Greek-Cypriots and Turkish-Cypriots was organized by the Cyprus Association of Social Psychology. Throughout the colloquium titled "*The Intergroup Relations between Greek-Cypriots and Turkish-Cypriots: Social Psychological Perspectives on Contact and Identities*", social scientists presented theoretical and empirical papers on recent advances in the field of Intergroup Contact. Questions and comments from the public followed the panel discussion. Intergroup Contact Theory developed by Gordon Allport (1954), suggests that bringing members of different groups together can reduce prejudice and increase tolerance. Great developments have been made since Allport's theory. Current models compare the effectiveness of different types of contact (namely 'first-hand' direct contact and 'second-hand' indirect contact). They also explore the mediators of contact effects on prejudice ('how contact works'), including reduced intergroup anxiety and negative intergroup emotions, and increased empathy, perspective-taking, and self-disclosure. Developments in the field were discussed in reference to the Cyprus situation. A keynote address was initially given by the leading figure in the field of intergroup theory, Miles Hewstone, Director of the Oxford Center for the study of Intergroup Conflict, at the Department of Experimental Psychology, University of Oxford. In the first panel recent work regarding Direct, Extended and Imagined Contact was

presented. Charis Psaltis and Miles Hewstone discussed their research on the intergroup contact in Cyprus. They investigated the effects of Cypriocentrism and Helleno/Turcocentrism determining that contact works best for persons high on Cypriocentrism and for those low on Helleno/Turcocentrism compared to those high on Helleno/Turcocentrism. An experimental research conducted by Maria Ioannou showed that as a result of both direct and extended contact, changes in outgroup attitudes was observed. EMU's Şenel Hüsnü Biçmen, presented her work on "Imagined Intergroup Contact" illustrating that imagining intergroup contact can foster future contact intentions in several different targets outgroups.

*News submitted by: Şenel Hüsnü Biçmen, Department of Psychology, Faculty of Arts and Sciences & Psychological Counseling and Research Center.*

## ■ Quality Assurance System Approved

The EMU Senate meeting of 19 December 2008, approved the Quality Assurance System of EMU that was proposed by President Taneri. The approved system at EMU embraces participation of all course teaching teams, department chairs, faculty deans, school directors in the efforts for improving the quality of courses at EMU. The system's first effort is compiling the learning outcomes of over 2,500 undergraduate and graduate courses at EMU. The Quality Assurance (QA) system comprises all that the university does in the process of education. A clear vision of learning outcomes elucidates this process and the work of both instructors and students. Learning outcomes describe what learners may be expected to know, understand and be able to do on a basis of a given qualification, as well as how learners move between qualifications within an education system. The effort to clarify learning outcomes is urgent for EMU's membership in the European Higher Education Area (EHEA), which the Bologna Process aims to create by 2010. The EHEA allows the diversity of national systems and universities to be maintained and, at the same time, improves transparency between higher education systems, as well as implements tools to facilitate recognition of degrees and academic qualifications, mobility, and exchanges between institutions. The transformation to a sustainable quality system will be accomplished by three tasks. First, all course learning outcomes will be compiled by the beginning of April 2009. Second, the program grading criteria and course assessment will be combined in practice with the learning outcomes by the end of Fall Semester 2009. Third, the EMU QA documentation will be submitted for external review by the end of Spring Semester 2010. By undertaking this work, the University will

identify its strengths and its unique potential for continuous improvement in its service to the higher education community within North Cyprus and internationally.

*News submitted by: Quality Assurance Administrative Committee.*

## ■ EMU staff nominated for 2009 British Council Innovation Awards

Nilgün Hancıoğlu and John Eldridge of the General Education Department, along with Ali Billuroğlu of the English Preparatory School and Steve Neufeld have been nominated for the highly prestigious 2009 British Council Innovation Awards for their ongoing lexitronics research project on vocabulary profiling and frequency. Their work is one of only six shortlisted projects in the international category, the winner of which will be announced at a special award ceremony in London, England in March 2009. Lexitronics is multi-faceted, but at its heart is the premise that many students studying English as a foreign language suffer immense difficulties in understanding and communication, because they have failed to acquire an in-depth knowledge of the most frequently used word families. In its research and practice, lexitronics seeks to persuade practitioners that far more systematic attention must be paid to vocabulary development if students are to succeed in dealing with the demands of studying in an English medium environment.

*News submitted by: Nilgün Hancıoğlu, Department of General Education.*

## ■ Istanbul Prehistoric Survey

In 2007, an archaeological survey titled "Istanbul Prehistoric Survey" was started by the Archaeology Department of University of Kocaeli, Turkey with the permissions of Turkey's Ministry of Culture and Tourism and General Directorate of Cultural Heritage and Museums. Prehistoric survey was completed by teams arranged from universities of Kocaeli, Bristol United Kingdom and Istanbul. Geo-archaeological works, which started in 2008, have been sustained by University of Bristol and Yıldız Technical University teams. The underwater survey has been done by a team of researchers from EMU and Cyprus International University. Vice director of EMU Underwater Research and Imaging Center, Hakan Öniz worked on the underwater surveys as the underwater archaeologist.

Local municipalities of Avcılar, Küçükçekmece and Silivri of Istanbul supported the teams as well. The underwater survey team used four different methods for their analyses under the leadership of Hakan Öniz. First method was the observation of formed blocks by traditional methods; secondly underwater ruins were observed through mask, palette and snorkel from the surface of water; thirdly the Side Scan Sonar was used. The fourth method was determination of the ruins through analyzing satellite images of grass-shade marks. Finally, the team along with identified what they think could have been a lighthouse in the Küçükçekmece Lake, along with some ruins at the coast of the lake partly under the water. This work has been featured in the December 2008 issue of National Geographic, Turkey.

*News submitted by: Hakan Öniz, Underwater Research and Imaging Center, Faculty of Communication.*

## Upcoming Research Events

### ■ 3<sup>rd</sup> International Symposium on Underwater Research



The 3<sup>rd</sup> International Symposium on Underwater Research is scheduled to be held between 19 – 21 March 2009 at EMU. The main themes that will be explored with respect to underwater research include diving safety, first aid, diving physiology, underwater visual census, behavior of organisms, coral reefs, artificial reefs, marine pollution, developments in diving technology, equipments, underwater vehicles, marine

systems design, coastal zone management, underwater marine mapping, and navigation. In addition, education and careers in

underwater technology and underwater documentation will be discussed. Same as the previous two symposia, underwater photography, visualization and image interpretation will be important parts of this event. Deadline for submitting full papers to the 3<sup>rd</sup> International Symposium on Underwater Research is 5 March 2009. For more details on this symposium, please contact conference organizers Burak Ali Çiçek and Hakan Öniz at burak.cicek@emu.edu.tr and hakan.oniz@emu.edu.tr, respectively.

*News submitted by: Burak Ali Çiçek, Underwater Research and Imaging Center, Faculty of Communication.*

## Arts @ EMU

### ■ EMU Music Department is a member of the Association Européenne des Conservatoires

EMU Music Department was announced as a member of the Association Européenne des Conservatoires

(Association of European Conservatoires - AEC) on 29 September 2008. This is an

active membership, which is only given to music academies, conservatoires and

equivalent institutions in Europe, which fulfill the necessities of the professional education quality. The membership is given as a result of comprehensive evaluations, covering the quality of the program, the standard of personal music education, quality and performance of the academic staff, student success and several other factors. The AEC comprises more than 248 music institutions in more than 55 countries in and outside of Europe. The four members from Turkey are Hacettepe University, Bilkent University, Mimar Sinan University and Anadolu University Conservatoires.

*News submitted by: Aslı Giray, Department of Music, Faculty of Arts and Sciences.*



# Multi-Objective Optimization with Cross Entropy Method: Stochastic Learning with Clustered Pareto Fronts

By Adnan Acan and Ahmet Ünveren  
 Department of Computer Engineering  
 Faculty of Engineering



Ahmet Ünveren (left) and Adnan Acan

Multiobjective optimization (MOO) framework provides more realistic formulation of many real-life problems, since a set solutions, rather than a single solution, exhibiting different forms of concession among multiple and often conflicting objectives is provided as result of the optimization process (Coello, 1999; Deb, 1999; Alves & Climaco, 2000). Such a set of solutions is commonly known as a Pareto-optimal set in which Pareto-optimality is defined in terms of a dominance relation between two solutions as follows: given two solutions  $u$  and  $v$ ,  $u \neq v$ ,  $u$  is said to dominate  $v$ , if  $u$  is not worse than  $v$  in all objectives and  $u$  is strictly better than  $v$  for at least one objective. For example, for a maximization problem (Fig. 1),

$$\begin{aligned} \max f(x) &= (f_1(x), f_2(x), \dots, f_K(x)) \\ x &= (x_1, x_2, \dots, x_n) \in R^n \end{aligned} \quad (1)$$

solution vector  $u$  is better than solu-

tion vector  $v$  with respect to objective  $i$ , if  $f_i(u) \geq f_i(v)$ , and  $u$  is said to dominate  $v$ , denoted as  $u > v$ , if and only if

$$\begin{aligned} f_i(u) &\geq f_i(v) \text{ for } i=1, 2, \dots, j-1, j+1, \dots, K \\ f_j(u) &> f_j(v) \text{ for at least one } 1 \leq j \leq K. \end{aligned} \quad (2)$$

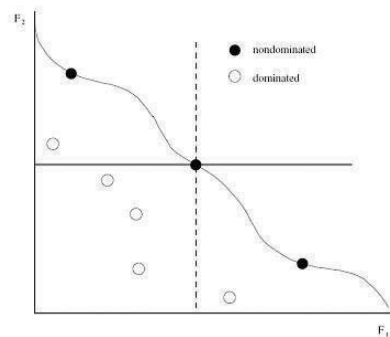


Fig. 1. Dominated and Nondominated points for two objective maximization problems.

A common difficulty with multi-objective optimization problems is the

presence of a number of conflicting objectives and, in general, none of the feasible solutions allow simultaneous optimality for all objectives. Hence, any favorable Pareto-optimum provides a solution exhibiting a subjective compromise between the problem objectives. In order to find such a solution, classical methods transform a multiobjective optimization problem into a single-objective one, through different scalarization and objective combination methods that include serious drawbacks in terms of appropriate representation of the real-world problem and quality of resulting solutions (Coello, 1999).

In the last few years, some advanced MOO techniques have been proposed in order to have better mathematical models for real-world problems and increase the efficiency of search within arbitrarily complex solution spaces through providing a set of solutions rather than a single solution (Coello, 1999; Deb, 1999; Alves & Climaco, 2000; Villalobos *et al.*, 2007; Baños *et al.*, 2007). These techniques are generally based on some metaheuristics such as Simulated Annealing, Evolutionary Algorithms, Tabu Search, Particle Swarm Optimization, Artificial Immune Systems, Cultural Algorithms and Ant Colony Optimization.

In this study, the use of the Cross Entropy (CE) method in multiobjective optimization is presented. The CE method is a stochastic learning algorithm inspired by the concept of rare



event simulations, which involve the estimation of parameters for a number of probability distributions associated with some rare events. Application of the CE method is carried out in two phases. First, a sample of random data is generated using a family of probability distribution functions. Secondly, parameters of the probability distribution functions are updated on the basis of a performance metric on the generated sample, so as to produce a better sample at the next iteration.

In applications of the CE method for single objective optimization problems, a subset of best performing samples is extracted from a large set of samples and parameters of the underlying probability distributions are adapted, based on the mean and standard deviation of this subset of elite samples. Since it is not objectively easy to define elite individuals in MOO, we introduced the notion of clustered nondominated solutions on the Pareto front to adapt the probability distribution parameters in applying CE method for MOO.

In principle, the set of all nondominated solutions is divided into clusters, using the fuzzy *c*-means (FCM) algorithm, and the statistical features of each cluster are used to adapt the parameters of an associated CE method. That is, associated with each cluster, there is a dedicated CE method, which adapts itself using statistical features of its cluster and explores the solution space as directed by these features. Hence, each CE method is expected to find nondominated solution within a particular region of the Pareto boundary because clusters are determined based on the Euclidean distance measure by the FCM algorithm.

Due to the nature of the CE method, this strategy can be applied equally well for numerical and combinatorial optimizations. The most important step in applying the CE method for function optimization is to

update the algorithm's current parameters in a way that the next data samples will improve the performance metric. In multiobjective function optimization, the set of nondominated solutions on the Pareto front is clearly the best performing samples, because performance of solutions is defined in terms of dominance relations. Since in MOO, one looks for the set of globally nondominated solutions, it is natural to consider the set of nondominated solutions at each iteration to extract features required to update probability density function's (pdf) parameters. However, since nondominated solutions are distributed along the Pareto front, guiding the CE method with features extracted from the overall set misleads the algorithm and causes exploration of nondominated solutions in the middle of the Pareto front much more frequently than compared to tails towards the axis. This is an expected phenomenon because taking means of samples over iterations causes pdf to take more and more samples towards the middle of Pareto front. In order to overcome this problem, the presented CE strategy partitions the set of nondominated solutions into clusters using the FCM clustering algorithm (Duda, *et al.*, 2001). FCM clusters data samples based on the Euclidean distance among samples. Samples within the vicinity of cluster

centers are grouped together. This way, each cluster combines locally closer samples and carries characteristic information on a particular region of the Pareto front. Depending on the number of clusters used, the CE method will be guided to explore the Pareto boundary more uniformly, as demonstrated by the experimental evaluations below. Figure 2 exhibits a Pareto boundary generated by the MOCE method using 3 clusters of nondominated solutions, the arrows point possible improvement directions for a maximization problem.

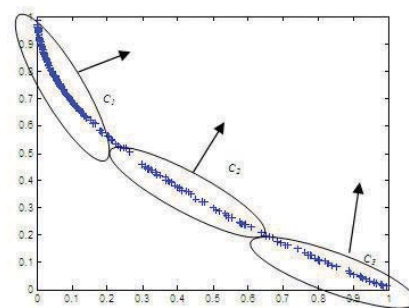


Fig. 2. Nondominated set with 3 clusters

As shown in figures 3 and 4 the presented strategy clusters the set of nondominated solutions on the Pareto boundary to better guide the CE method and lead uniform distribution of nondominated solutions (Unveren

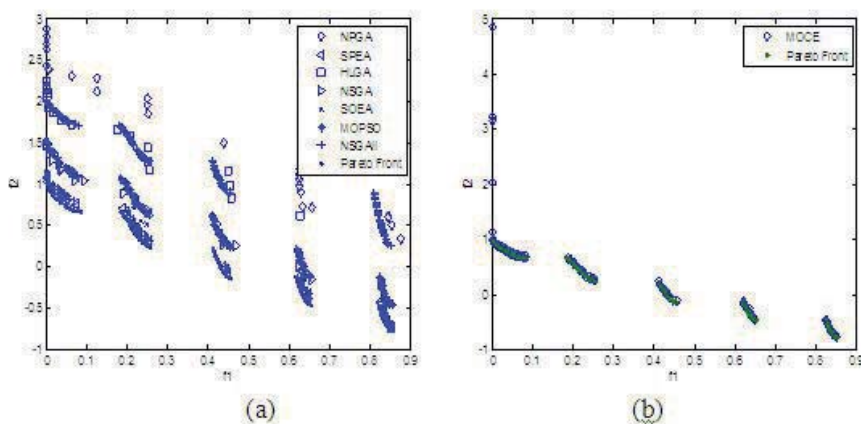


Fig. 3. Pareto fronts for test problem ZDT3

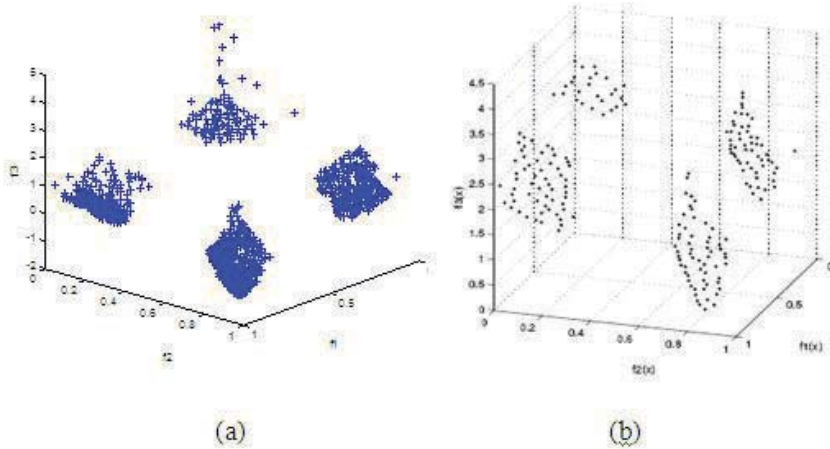


Fig. 4. Pareto fronts for test problem DLZT

& Acan, 2007). Experimental evaluations using well known benchmark instances and comparisons with well known MOEA's demonstrate that MOCE performs better than its competitors for most of the test cases and it achieved equal success for a few of the others. Future research will be on the use this approach for difficult multiobjective combinatorial optimization problems.

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## About the Researchers

**Adnan Acan** worked as a lecturer in Middle East Technical University, Turkey between 1983 and 1992. During 1993 he was a visiting scholar at Ohio State University, USA. In 1995 he joined EMU Computer Engineering Department as an Assistant Professor, where he acted as the Assistant Chairman between 1996 and 1998. He actively participated in foundation and administration committees of EMU-Technopark and EMU Advanced Technology Research and Development Center. His current research interests include evolutionary computation, nature-inspired computing, neural networks, classifier systems, and face recognition. Acan is currently supervising one M.S. thesis and one Ph.D. thesis at the Computer Engineering Department. For more information about this research project, please contact our researcher at [adnan.acan@emu.edu.tr](mailto:adnan.acan@emu.edu.tr).

**Ahmet Ünveren** obtained his Ph.D. degree in 2002 from EMU Computer Engineering Department. He has been teaching at the same department since then. In 2004, he was the Vice Chairman of Computer Engineering Department. He participated in the organizations of the TAINN 2001, BAS 2001 and SIN 2007 conferences. His current research interests include Multiobjective Optimization, Evolutionary Algorithms, VLSI design and routing, Genetic Algorithms for VLSI Design and Routing and Graph Theory. For more information about this research project, please contact our researcher at [ahmet.unveren@emu.edu.tr](mailto:ahmet.unveren@emu.edu.tr).

# Effect of History Education on Intercommunal Relations

By Yücel Vural  
Department of Political Sciences  
Faculty of Business and Economics



Yücel Vural

Educational policies, the school environment, the content of the textbooks and classroom activities affect political socialization of school children. One of the ways of understanding and examining the intercommunal relations is to study the role of formal education. I am specifically concerned with the terminology by which intercommunal relations are narrated and with the political implications of such narrations. The methods and ways used to describe the broader socio-political environment of the pupils are of crucial importance in shaping intercommunal relations in culturally divided societies. History teaching appears to function as means of political socialization by which pupils are indoctrinated into specific identity categories. As Baranovic and colleagues argues history-teaching 'in regions that are in the process of post-war social reconstruction becomes an extremely sensitive and controversial issue which can involve emotions, differing and very often opposing approaches and interpretations of events...' (Baranovic *et al.*, 2007. p. 455). History teaching in the two major communities of Cyprus was seen and used as an instrument to propagate feelings of enmity between the two communities.

The nature of intercommunal

relations in Cyprus in the post-accession process is expected to change as response to the positive climate emerged both in Cypriot domestic politics and in international community. This expectation is fostered by the belief that EU membership would have transformed intercommunal relations so as to encourage peaceful interactions between the conflicting actors. The positive role of the EU rests on its 'potential' 'to assist less conflictual co-existence' of the two communities of the island (Diez, 2002). The EU is seen as an actor having potency to promote 'civic identity' (Korostelina, 2008) and therefore to provide appropriate politico-ideological environment towards encouraging peaceful co-existence of diverse groups in a shared political system. This role of the European Union has been substantiated partly when the Turkish-Cypriot authorities in Northern Cyprus began to revise the 'Cyprus history' textbooks used in the Turkish-Cypriot secondary schools starting from 2004. This attempt seems to 'contribute towards reconciliation' (Makriyianni & Psaltis, 2007) between the two major communities in Cyprus and to promote new dynamics to heal historical conflicts in the island. The efforts aiming at revising school history-textbooks to encourage both peaceful co-existence of communal entities

and reconciliation in deeply divided societies usually focus on the alteration of the narratives of history that propagate hostility against the 'other'.

The new history-textbooks used in Turkish Cypriot secondary schools reject the ethnocentric approaches of the old textbooks and attempt to use objective knowledge in history teaching. Moreover, the new textbooks attempt to change the perceptions of intercommunal relations by altering radically the narratives on identity, homeland, the 'other', and civic integration. No less important than those revisions is the role of teachers teaching the textbooks. Therefore it can be argued that pupils' perceptions of intercommunal relations are significantly correlated with the teachers' political-ideological orientations. Those teachers who adopt and use an inclusive/conciliatory terminology in intercommunal relations would teach history differently from those teachers who adopt an exclusive/nonconciliatory terminology. Therefore one would expect the perceptions of the pupils would differ markedly due to differences in teaching practices. Revisions made in 'Cyprus history' textbooks by the 'TRNC' Ministry of National Education and Culture received both positive and negative reactions from political circles.

Academic works, on the other hand, focused both on 'strengths' and 'weaknesses' of the new history school-books. To show their strengths it was argued that the new textbooks soften the boundaries between the "self" and the "other" (Vural & Ozuyanik, 2008), narrate the history of Turkish-Cypriots without perceiving Greek-Cypriots as others (Kizilyurek, 2007) and 'avoid treating groups as homogeneous, and pay considerable attention to social history' (Papadakis, 2008).

The new 'Cyprus History' textbooks began to be used in 2004 in northern Cyprus. The entire contents of the new textbooks seemed to initiate a series of novelties in the sense that they emphasize civic elements in Turkish Cypriot collective identity, present the whole island of Cyprus as the homeland of Turkish-Cypriots, and provide a conciliatory terminology in narrating history and intercommunal relations. Such revisions have provoked both positive and negative criticism in Turkish-Cypriot community and have been focused for academic analysis. The impacts of the revisions on the teachers' and pupils' perceptions of history however were not studied at all. This research aims to examine the initial effects of the revised history textbooks based on empirical evidence.

The data of this study comes from the responses of almost all 'Cyprus history' teachers (N= 52) of 9th and 10th graders in public and private secondary schools in TRNC and a randomly selected sample of their students (N=213, 9th and 10th graders) to a questionnaire. Totally 17 public and 4 private secondary schools were included in the survey. A standard questionnaire form consisting of 35 multiple-choice questions were used to elicit relevant empirical data. A group of EMU students worked voluntarily in data-collection process. The TRNC 'Ministry for National Education and Culture' and school authorities provided valuable assis-

tance in organizing and conducting the survey.

My research summarizes the terminology employed by the old and new history textbooks on intercommunal relations and measures perceptions of identity, the homeland, the other and civic integration. The research presents results of statistical analysis bearing on questions about how pupils and teachers perceive intercommunal relations.

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## About the Researcher

*Yücel Vural* obtained his Ph.D. degree in 1997 from Ankara University, Turkey, on Political Science and Public Administration. He has been teaching at EMU Business and Economics Faculty since 1993. He had many administrative duties. He was a member of the EMU Ad Hoc Committee, Vice Rector in 2004, and Chairman of the Department of Political Sciences between the years of 2006 and 2007. Vural served as a BRT Executive Board member in 2004. He took part in establishment of Turkish Cypriot Human Rights Foundation in 2005 and Political Science Association in 2006. For more information about this research project, please contact our researcher at [yucel.vural@emu.edu.tr](mailto:yucel.vural@emu.edu.tr).

# Sustainability through Spatial Adaptation and Transformation in the Vernacular Houses of Büyükkonuk

Leyla Çınar  
Department of Interior Architecture  
Faculty of Architecture



*Leyla Çınar (left), with her supervisors Özlem Olgaç Türker (middle), and Türkan U. Uraz*

Social change in the community, the differences and similarities among the sub-cultures of a society, and the rotation of family life can be observed within the dwelling. The relationship between dwelling and household is an interactive process where both the dwelling and the users change, transform and adapt to each other. If this type of union is established this will produce a sustainable dwelling, a sustainable environment that is appropriate for a sustainable life. Within this framework, the aim of our study is to find out how the spatial organizations of rural dwellings of Northern Cyprus are sustained within the rural environments through change and transformation.

Rapoport, claims that on a world-wide scale, the development of dwellings is affected by the lifestyles of people and their family structures; although he admits this is not true for every group of people (Rapoport, 2005). For example,

within a city the design of the dwellings is somewhat contextual; therefore, certain institutional limitations are required which make it almost impossible for the dwelling of the household to undergo any drastic changes. In contrast to this, rural areas do not have these types of restraints. Dwellings within the rural areas are more likely to be closer together either in modular or linear designs and, therefore, are more susceptible to change. In other words, these types of dwellings provide and support the capability of transformation.

When planning a series of dwellings within the desired area, environment must be taken into account. The forms of rural dwellings are designed in accordance with the needs and the importance of the area. Rural dwellings generally tend to be organic and pragmatic. Rather than concentrating on materialistic design and decoration, the dwellings are mostly designed with a focus on functional

requirements (Kirsaaan & Cagdas, 2004). The architecture of the buildings is plain and simple without any splendour observable on the facade. Materials used are generally those which can be found within the rural areas, such as stone, adobe and wood. The most common type of rural house in Northern Cyprus is customarily a two story house with a rectangular or a prism shaped garden next to it. The shape of the house with its garden can take on the form of an 'I', 'L' or 'U'. The economy and income of the rural area dwelling tends to depend on farming and agriculture. For that reason, an open area of land next to the dwelling is a necessity for these types of houses. Houses within a rural area tend to be designed and situated within the garden so that there is a courtyard at the front of the house. The dwellings are organized in the form of an open space- the courtyard, a semi-open space- the sundurma and a closed space- the dwelling unit (Dincyurek, 2002; Pulhan, 1997; Turker, 2002; Turker & Dincyurek, 2007 ). It is apparent that the dwelling units are designed in accordance with the climate of the country, although when there is an extremely hot climate it is clear that the garden areas are commonly used.

In Northern Cyprus most architects take into consideration the significant factors of other rural areas in order to design environment-friendly buildings without disturbing the nature. One of the good examples of such areas is the village Büyükkonuk (Kom-i Kebir). This particular village is situated in Northern Cyprus

along the perimeter of the flat lands below the mountains. Büyükkonuk typically reflects how a rural area has been changed and reorganized in the process of becoming more of an urban area. There are three distinctive varieties of dwellings within this area; in our study, we identify these as 'unit without hall', 'the unit with outer hall' and 'the unit with inner hall' as shown in Figure 1.

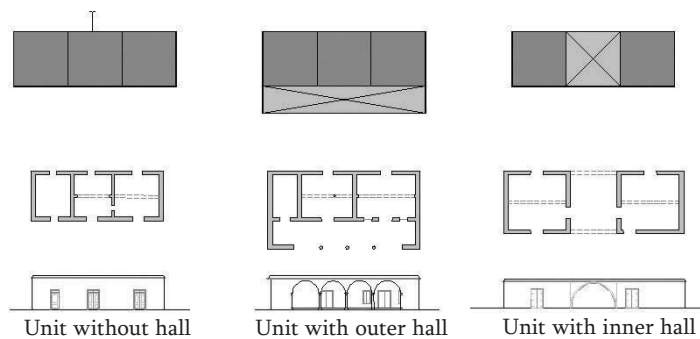


Figure 1: The typology of rural vernacular Cyprus house

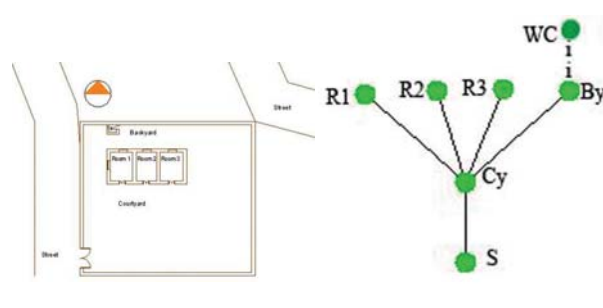
In this study, using space syntax techniques, we analyse examples of original rural houses that have been subjected to change and how they have influenced the area. Space syntax, as an architectural theory, was developed by Bill Hillier and his colleagues in 1980 at University College London, in order to demonstrate how the architectural designs would

work and impinge on the surrounding areas (Hillier & Hanson, 1984). Today, space syntax is widely used in the fields of architecture, urban design and planning, communication, interior design, archaeology, information technology, regional and population geography, anthropology, landscape architecture and data processing (Hanson, 1998). Concrete

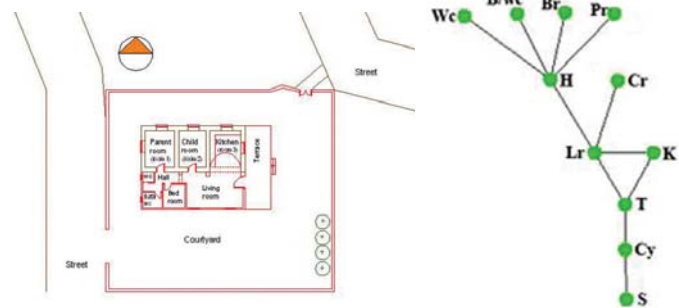
scientific data is obtained when using the space syntax method. Constructing configuration models, analysing change in the spatial organisation of dwellings, and identifying spatial depths are possible with this method. As a result, it is thought that this method provides a strong foundation for the research on transformation and changeability of the

habitation by comparing spatial relationships in the original with those in the transformed dwellings.

The first step in our analysis involves taking the three types of dwellings and within each type analysing the spatial configuration of the original form and the transformed form. These are handled by using the space syntax method where the dwellings were able to be improved without becoming too modernized and isolated from other dwellings within the vicinity. Every dwelling has a Mean Depth (MD), which conveys the depth of all areas within the system, a Relative Asymmetry (RA), which conveys the distance between the areas within the system and a Real Relative Asymmetry (RRA), which conveys the differences contained within each space. MD, RA and RRA values facilitate the calculations for the most integrated and segregated areas. The transitional graphics, therefore, are designed in accordance with the street areas (Figs. 2, 3, 4). Figure 2 shows the original and transformed plans and their justified graphs for a unit without a hall. Original and transformed plans and their justified graphs for a unit with an outer hall and those for a unit with an inner hall are shown in Figures 3 and 4, respectively.

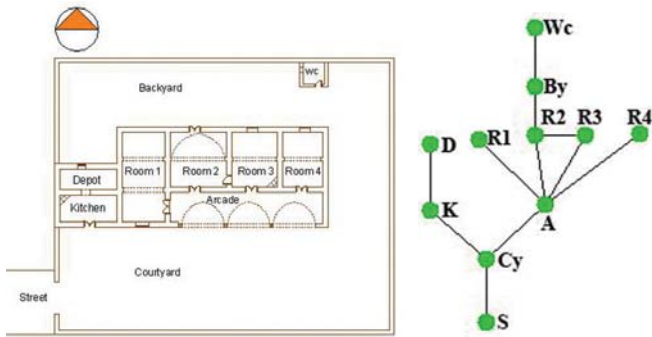


(a) Original plans and justified graphs

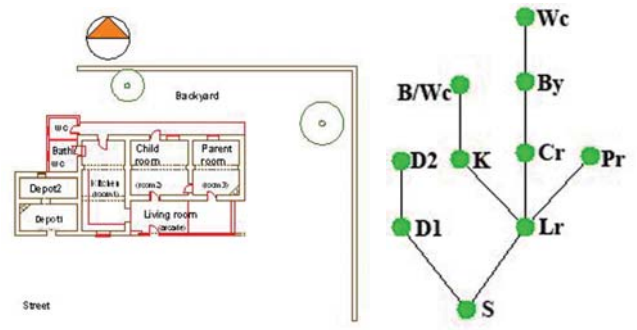


(b) Transformed plan and justified graphs

Fig. 2: Analysis of a vernacular house in Büyükkonuk village: A unit without a hall

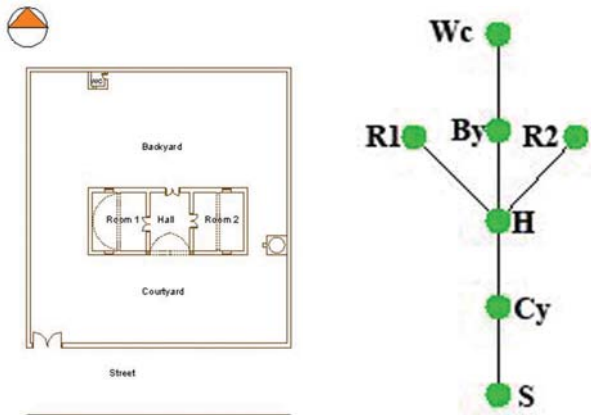


(a) Original plan and justified graphs

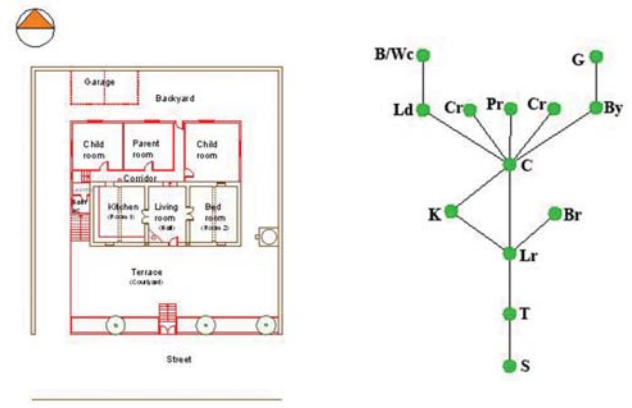


(b) Transformed plan and justified graphs

Fig. 3: Analysis of a vernacular house in Büyükkonuk village: A unit with outer hall



(a) Original plan and justified graphs



(b) Transformed plan and justified graphs

Fig. 4: Analysis of a vernacular house in Büyükkonuk village: A unit with an inner hall

S: Street, Cy: Courtyard, A: Arcade (Sundurma), R: Room1,2,3,..., Lr: Living room, Br: Bedroom, Pr: Parent room, Cr: Child room, K: Kitchen, C: Corridor, H: Hall, Str: Study room, By: Backyard, Br/WC: Bathroom/WC, St: Storehouse, Dt: Depot, Ld: Laundry, Pr: Pantry, T: Terrace,

Future directions for this work will include two main subject areas. Firstly, we will focus on how spatial structure in rural areas are subject to change within a rapidly changing world, and how these changes are associated with socio-cul-

tural, socio-economical, and technological advances. Secondly, we will document how much the changes have transformed the building from its original state. Overall, our approach will expose how a sustainable rural dwelling can be

subjected to variability and transformation. My graduate studies at the Department of Interior Architecture is being supervised by Türkan U. Uraz and Özlem Olgaç Türker.

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## About the Researcher

*Leyla Çınar* was born in Trabzon, Turkey. After graduating from the EMU Department of Interior Architecture in 2001, she pursued her M.Arch. degree in the same department and obtained a Research Assistant position. Her M.Arch. thesis was titled “An Ergonomic Evaluation for Interior Space of Housing Units.” Since 2003, she has been continuing her postgraduate program in the same department, and currently working on her Ph.D. dissertation titled “Sustainability through Spatial Adaptation and Transformation in the Vernacular Houses of Büyükkonuk” under the co-supervision of Türkan U. Uraz and Özlem Olgaç Türker. For more information about this research project, please contact our researcher at [leyla.cinar@emu.edu.tr](mailto:leyla.cinar@emu.edu.tr).





Mohammad R. Azizian

*During his undergraduate studies, Mohammad R. Azizian obtained a patent for his design of variable engine valves for cars. Azizian chose EMU for his Master's degree in Mechanical Engineering. We asked him about his research experience at EMU.*

- **Where are you from? When did you first arrive at EMU, North Cyprus? What were your initial thoughts and ideas when you first arrived?**

I am Iranian and I came to North Cyprus in February 2007. The first thing that I saw when I arrived here was a small town with a very big campus. I was impressed by the large campus of EMU. In addition, I was comforted by the hospitality of the people here.

- **Please tell us a bit about your educational background before EMU.**

During my highschool education in Pishgam Highschool in Iran, I discovered my interest in Physics and Mathematics. I decided to pursue my undergraduate education in the field of engineering. I passed the university entrance examination in Iran and got admitted to Azad University to study Mechanical Engineering (Heat and Fluids) in 2001. Shortly after I finished my Bachelor's degree, I worked with an NGO organization called The Iranian Society for Improvement of University-Industry Relations, which tries to enhance the relationship between the universities and industries. I was responsible for the student committee which arranged conferences to promote these relationships.

- **You have obtained a patent for your research work when you were an undergraduate student. Could you tell us a bit about that?**

After taking undergraduate courses covering topics such as Internal Combustion Engine, Auto Mechanic Workshop, Fuel and Combustion, and Heat Transfer, I discovered an interesting area for my undergraduate project about a new design of variable valve actuation for improvement of fuel economy, emission and performance. It was about varying the engine valve-open duration, lift and phasing. When vehicles work at low speed and with low load, they need fewer air/fuel mixture than when they work with full load. The result is more fuel consumption and emission. Varying the engine valve-open duration, lift and phasing are known ways to improve engine performance, increase fuel economy and lower emissions, and therefore have been the subjects of considerable work. My design for the variable engine valve was patented by the Emblem of Iran, Registry of Companies and Industrial Ownership. This project was supervised by Mahdi Hamzei and co-supervised by Tuba Oktucu from Middle East Technical University, Ankara, Turkey. It led me to obtain the best honorary degree for a B.Sc. project.

- **How did you decide to come to EMU? And where did you hear about EMU?**

After I completed my undergraduate degree, I worked as a teacher for one year and after that, I decided to pursue my Master's program at EMU. Actually, I heard about EMU from my classmates during my undergraduate days. Also the regular advertisements of EMU locally run in Iran contributed to its popularity.

- **Could you introduce the topic of your graduate studies here at EMU for our readers?**

After taking the Advance Heat Transfer course and further studies on heat transfer, I decided to work on "Evaluation of Thermo-physical Properties of Nanofluids" as my M.Sc. research project. As the technology progresses, the high-tech industries working on things such as microelectronic devices like electronic chips, laser applications or similar high-energy devices go to miniaturization and the need of increasing the heat flux becomes obvious. A major limitation is the low

thermal characteristic of ordinary fluids that are used for heat transfer. Nanofluids, a new class of solid/liquid suspensions, offer scientific challenges because their measured thermal conductivity is superior to traditional heat transfer fluids. My master's thesis is under the supervision of Hikmet Aybar of EMU Mechanical Engineering Department and is co-supervised by Tuba Oktucu from Middle East Technical University. In addition, we have established the Nanofluid Research Group in Mechanical Engineering Department at EMU. At the moment, we have a very good cooperation with some professors from different institutions such as Wenhua Yu of Argonne National Laboratory, USA, T. Pradeep of Indian Institute of Technology, Madras, and Behdad Moghtaderi of University of Newcastle, Australia.

■ **What kinds of projects are you involved in within your department besides your M.Sc. project?**

Presently, I work as a Research Assistant with Uğur Atikol in Energy Research Center of Mechanical Engineering Department. We got a Hybrid Solar-Hydrogen car design project that was Funded by EMU Technology Development Center in 2008. In this project, we designed a car that makes use of solar energy and hydrogen at the same time. In addition, it has a water tank on board from which hydrogen is generated by an electrolyzer in emergency cases. Another project that I have been involved in at the Energy Research Center was on analysis of the feasibility of high performance windows in Cyprus.

■ **Would you say that EMU has made a difference in your life?**

Well, as I am gradually approaching to the end of my studies here at EMU, I notice that in my social and academic life, I have been supported by all my instructors and research assistants of my department, who in various ways have played constructive roles in my education. They also made my life,

as a member of the Mechanical Engineering family, a very interesting and memorable experience.

■ **What are your short-term plans after you obtain your M.Sc. degree?**

I am seriously thinking about pursuing a Ph.D. degree in the area of heat transfer and nanofluids. I have received full scholarships from University of Melbourne in Australia and University of Surrey in United Kingdom for graduate study. I think that having a master's degree from EMU has provided me with a lot of opportunities to continue my Ph.D. studies in Europe or elsewhere. After obtaining my Ph.D. degree, I plan to start lecturing at a university.

■ **Do you have any messages for our prospective graduate students?**

I would encourage them to work hard and share their ideas with the faculty members in order to bring out the best in them. At EMU there is a nice environment for research and good communication between faculty members and students, which makes it easier for students to fulfill their dreams. Based on my experience as a graduate student, I would recommend EMU to any prospective student.

■ **Finally would you like to add anything else?**

I would like to thank members of EMU family, particularly Mechanical Engineering Department members, who have greatly contributed to my education here. Lastly, my parents and my brother have always supported my academic efforts. They have always encouraged me to be unyielding and pursue any responsibility to the end. I would like to acknowledge their contribution to my academic success.

**WHY DON'T YOU...**

*...share this interview with your undergraduate students? Please direct them to <http://research.emu.edu.tr>.*

## Fall 2008 EMU Type-B Award Recipients

*In Fall 2008, EMU approved financial support for eighteen different Type-B research projects for a total of 291,150 YTL. Following is the list of projects, principal investigators, researchers, specific amount granted per project and a short project overview. We congratulate our researchers and wish them continued success.*

■ **Project Director:** Arif Akkeleş

**Researchers:** Filiz Bilen, Tibor Illes, Peter Kas

**Amount Awarded:** 13,000 YTL

**Project Title:** Complexity Analysis of General Linear Complementarity Problems and Their Effective Computer Applications

**Project Topic:** In a recent article, T. Illés, M. Nagy and T. Terlaky have developed a new concept about the solvability of general linear complementarity problems. This solution concept is closely related with Existentially Polytime Theorems (EP-theorems), which was developed by Cameron and Edmonds in 1989 for some combinatorial optimization problems. Many interesting applications in real life, such as market balance point and games, are modeled by linear complementarity problems. Effective digital solutions of these models are demanded by many researchers. This project has four main aims. Firstly, improving interior point algorithms for general linear complementarity problems will be targeted. Secondly, codification of different variations of interior point and criss-cross algorithms for understanding and developing the practical effectivity of these methods will be investigated. Thirdly, some testing problems for the general linear complementarity problems will be constructed. Lastly, an actual list of applications modeled by general linear complementarity problems will be formed.

■ **Project Director:** Mesude Atay and Özlem Çaykent

**Amount Awarded:** 9,500 YTL

**Project Title:** Child Upbringing in Turkish Republic of Northern Cyprus

**Project Topic:** This project aims to reveal the history and culture of childhood in Cyprus during 1930-60s. It will be a preliminary analysis of the concept of child upbringing as well as

the factors that influence the perception of it. It is also hoped that as a result of this project it will be possible to define the historical and social transformation of the upbringing of children within the Turkish-Cypriot community. The fact that the project is a first of its kind on the Island makes the undertaking even more important and necessary. Certainly, childhood is a special and an important structural component of societies. Not only does culture shape children, but also children play a crucial role in shaping culture. Thus, this study becomes a mirror to social life. The data on children's upbringing will be collected mainly by interviews within certain age groups and the following are expected to be understood: ceremonies, celebrations, beliefs and childhood customs, games and toy, schools and teachers, manners, education and discipline types within the family, family relations, friendship, nutrition, clothing, child labor, designing home environment according to the needs of children, and examples of children's songs, fairy tales, and stories.

■ **Project Director:** Işık Aybay

**Researchers:** Fahriye Altınay Aksal, Zehra Altınay Gazi

**Amount Awarded:** 12,000 YTL

**Project Title:** Organizational and Pedagogical Developments in Distance Education Institutes and Programs based on EUA Norms

**Project Topic:** This project aims at contributing to the distance education in TRNC under the light of European Universities Association norms, which highlight the distance education's contribution to the development of universities. The project consists of several parts; encouraging registration to distance education institutes, developing students' critical thinking abilities through designing online lectures, improving the qualifications of teachers, and improving the student-teacher and student-student communication. The project also covers seminars, workshops, and information gathering techniques such as focus group, documentary analysis and interviews.

■ **Project Director:** Rza Bashirov

**Researchers:** Hüseyin Lort

**Amount Awarded:** 10,000 YTL

**Project Title:** Implementing CP-net to Decide on Permutation Admissibility

**Project Topic:** A new approach for investigating permutation admissibility problem – a challenging problem of switching theory - is proposed. The main idea is to reduce permutation admissibility problem into marking reachability in Petri nets and then use Petri net analysis methods to decide on permutation admissibility. It is quite often that unfolding technique results in complete unfoldings that are exponential in the size of original CP-net. This is known as “state explosion” and leads to memory overflow. GreatSPN software tool will be used to create optimized complete unfoldings, and the results of unfolding will be verified with TINA and HELENA software tools. Marking reachability will be decided on by using MATLAB.

■ **Project Director:** Süha Bayındır

**Researchers:** Mert Bal, Hülya Francis, Michael Francis, Hüseyin Kusetoğulları

**Amount Awarded:** 20,000 YTL

**Project Title:** The Design and Implementation of a 3 Dimensional Geographical Information System for University Campuses

**Project Topic:** The aim of this project is to develop a 3 Dimensional (3D) Geographical Information System (GIS) for University Campuses. The first application is creating a geographical referenced 3D map of the EMU Campus. This study will make it easier to reach the infrastructural information of the university campus and will contribute to the modernization of the campus. The campus maps will be related to the spatial based information systems, and 3D maps and verbal information systems will be installed on the computers which will be placed at different places within the campus. After completing the 3D Campus GIS model, detailed information about dormitories and administrative buildings, parking lots, sport activity places, roads, electricity and water connections, internet and telephone nets will be included according to the geographical references, so that these infrastructural information will be observed by the related administrative unit. Moreover, all visual and printed information regarding the infrastructure services will be monitored continuously on digital maps and hence any infrastructural problem will be detected and fixed in the shortest time. The 3D University Campus GIS Model developed in this project could easily be applied to other university campuses in North Cyprus.

■ **Project Director:** Huriye Bilsel

**Amount Awarded:** 20,000 YTL

**Project Title:** Assessment of Liquefaction Potential and Potential for Cyclic Failure of Tuzla Soils

**Project Topic:** Seismically induced soil liquefaction is a leading cause of damage and loss during earthquakes. This natural earthquake phenomenon is a function of the liquefaction resistance of soils in relation to the cyclic stress induced by ground shaking. The objective of this project is to define the likelihood of initiation of seismically induced soil liquefaction in Tuzla soils. Tuzla is a development area on alluvial deposits of the delta of River Pedieos (Kanli Dere) in Famagusta Bay. The saturated alluvial subsoil deposits encountered in this region consist of very weak silts, and sands. Tremendous increase in construction activities in Famagusta Bay is alarming since soil investigations are most of the time ignored and no soil mitigation is done before the commencement of construction activities. Therefore, liquefaction potential in suspected regions should be reliably assessed, as it can be a significant hazard. Within the scope of this project, the soils susceptible to liquefaction in Tuzla will be determined by the investigation of the soil samples obtained from the exploratory boreholes, and by using the Standard Penetration Test and Cone Penetration Test (CPT) results. Laboratory methods will involve series of static and cyclic triaxial tests. The cyclic tests are planned to be implemented in Middle East Technical University, Ankara, Turkey. A series of bore holes will be selected in the vicinity of the CPT locations, and samples recovered will be tested to determine physical and engineering properties. Some selected undisturbed samples will be preserved and transported to Middle East Technical University to be subjected to cyclic triaxial testing.

■ **Project Director:** Naciye Doratlı

**Researchers:** Resmiye Alpar Atun, Mukaddes Fasl, Şebnem Hoşkara, Nil Paşaoğulları Şahin, Beşer Oktay Vehbi

**Amount Awarded:** 13,000 YTL

**Project Title:** Reading Girne Avenue in the Walled City of Nicosia: Morphological Transformation Process (1881-2008)

**Project Topic:** Located in the middle of the island, the Walled City Nicosia has been divided into two by a green line/buffer zone since 1963. Girne Avenue in the north and Ledra Street in the south of the buffer zone are the two important arteries,

which have changed in parallel with the socio-economical and political changes that the city and the island have been faced with, and have witnessed the social history of both societies. Especially Girne Avenue has a special importance in the struggle for existence period of the Turkish Community. The main purpose of this project is to write a book, which documents the spatial changes and developments of both arteries since the Kitchener Map which dates back to 1880, through consulting the old pictures, documents, maps, and interviews with people, who have witnessed the changes. The first step of the project will be limited only to the Girne Avenue. This initial step includes identification of the changes at parcel scale on the avenue since 1880, collecting old pictures, and interviews with the first person witnesses. The second step involves the preparation and publication of a book. Afterwards the same procedure is aimed to be applied to the Ledra Street.

■ **Project Director:** Mustafa Gazi

**Researchers:** İlhan Dalcı

**Amount Awarded:** 19,850 YTL

**Project Title:** Examining the Potential Use of Frying Oil Waste for Producing Biodiesel in TRNC

**Project Topic:** Experts suggest that oil reserves in the world will be finished by 2040. Therefore, it is vital to look for alternative energies. Biodiesel is an alternative to diesel that is produced from petrol. The main difference between diesel and biodiesel is that while diesel is a fossil fuel which is finishing, biodiesel is renewable and reproducible since it is produced from agricultural activities and recycling oil wastes. Biodiesel has been mixed into diesel fuel at %2 in European Union (EU) countries. According to the "White Book", which is shaped by the EU Energy politics, the amount of biodiesel in diesel fuel is aimed to be increased to a level of %5.75 in 2010 and to a level of %20 in 2020. In this sense, it is important to recycle the oil wastes for biodiesel production, since it will decrease the high costs of biodiesel and protect the environment. In this project, examination of the potential use of oil wastes for production of biodiesel will be investigated. Firstly the capacity of oil wastes will be measured. After determining the characteristics of the waste, such as its water content, acid amount and viscosity, production of biodiesel from the waste will be carried out at the laboratory.

■ **Project Director:** Şebnem O. Hoşkara

**Researchers:** Kağan Günce

**Amount Awarded:** 20,000 YTL

**Project Title:** Industrial Architectural Heritage: Re-Functioning of Sanayi Holding Building for Culture and Art

**Project Topic:** Re-functioning of old industrial buildings, which have lost their functions but keep their identity, has recently been a common subject of investigation. Considering that these strong buildings' physical features are more durable than their function, it is advantageous for cultural and economical aspects to re-use and re-function them. Sanayi Holding building, located in Nicosia, has the potential to be a center for culture and art, housing educational and recreational activities. In North Cyprus, original and independent places, especially for visual arts, are needed. Building of Sanayi Holding has got the required features. Re-functioning such buildings for cultural and artistic purposes can be achieved through the following steps. The first step is the preparation of the structural analysis and relief documentation; the second step involves studio work and preparation of drawing projects together with artists and related people; third and fourth steps involve finalizing the drawing projects by making detailed proposals; and the last step covers documentation of the finalized project.

■ **Project Director:** Gökhan İzbırak

**Researchers:** Emine Atasoylu, Haluk S. Balkan, Nirmal S. Kambo, Nureddin Kirkavak, Adham Mackieh, Hasan H. Önder, Alagar Rangan, Bela Vizvari

**Amount Awarded:** 20,000 YTL

**Project Title:** Solid Waste Recycling Project

**Project Topic:** This project is about solid waste recycling which aims to minimize the effects of solid wastes produced in Gazimağusa and their damage to the environment. The world's economy is dependent upon consumption and natural resources are not unlimited. Garbage is the inevitable result of consumption and it is not easy for nature to turn it into reusable sources in a short span of time. One of the suitable ways to protect the existing sources and to prevent the garbage from breaking down the balance of ecology is to turn the garbage into usable raw materials and/or energy. The purpose of this project is to collect garbage, transport it, and design the facilities for decomposing and recycling the wastes, which are harmful to the ecology of TRNC. The ultimate aim is to turn them into usable materials. Decomposing biological wastes from the hard and moist matters such as paper, glass, metal, natural matters in

order to gain energy and fertilizers will be investigated. In a feasibility pilot investigation, decomposition-recycling investment and management costs will be observed together with the damage that the materials cause to the ecosystem when they are not processed.

■ **Project Director:** Osman Kükre

**Researchers:** Mohammed Sukri Ahmad, Aykut Hocanın

**Amount Awarded:** 14,400 YTL

**Project Title:** Interference Reduction through Adaptive Filtering

**Project Topic:** Algorithms used for recursive updating of adaptive filter parameters can be divided into two groups as optimization based algorithms and recursive least squares based algorithms. The main purpose of this project is to apply an adaptive filtering technique (Frequency-Response-Shaped LMS) which has been developed by the researchers of the project, for solving problems that require digital processing. Some of these problems are acoustic noise reduction, reduction of interference that arises particularly in communication systems, and reduction of correlated noise in image processing. For the solution of these problems, real time experimental systems will be established and the behavior of adaptive filters developed for such applications will be observed in real time. Developing new algorithms for the solution of related problems is also targeted.

■ **Project Director:** Fatma Güven Lisaniler

**Researchers:** Hanife Aliefendioğlu, İrem Beyli, Nurten Kara, Alheri Bawa Magaji

**Amount Awarded:** 10,000 YTL

**Project Title:** Women and Environment: Towards a Sustainable Development in North Cyprus

**Project Topic:** It is known that issues about sustainable development, protection of environment and natural resources, and reduction of socio-economic inequality are related to each other. Gender roles and equality are usually ignored, although they are known as components of a unity in society. This project

aims at protecting the environment by creating alternative environment-friendly occupations, and strengthening the status of women within the society by involving them in production activities. Consequently, this project focuses on providing women economic freedom, protecting the environment and contributing to the state's economy. Karpaz Peninsula and women living there are targeted, because of the fact that in terms of socio-economic aspects this place remains the most underdeveloped. The literacy of women is low and they are nonexistent in socio-economic life and at decision making mechanisms. In addition, deficiency of environmental protection and consciousness exist. The goals will be achieved by three steps which are the determination of creating potential occupations that focus on environmental and natural resources; the determination of women's needs and potential talents; and the determination of marketable services and products. This project is unique since it is the first attempt that covers such issues in North Cyprus, and it considers three important compounds: gender equality, sustainable development, and environmental consciousness and protection.

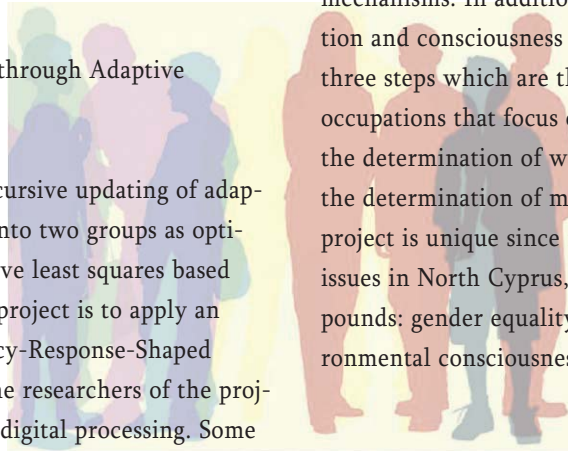
■ **Project Director:** Halil Nadiri

**Researchers:** Mustafa Tümer

**Amount Awarded:** 11,200 YTL

**Project Title:** Fieldwork for Measuring Service Quality in Retailing and Determining Zone of Tolerance of Customers in TRNC

**Project Topic:** After the opening of border gates, between north and south Cyprus in 2003, there has been close commercial relations with the south. It has been observed that the retail dealers' service quality sensitivity in order to promote customer satisfaction, has been increased. It is considered that determining the customers' level of perceiving the service quality and the expectations of customers will be the foundations for taking the correct decisions. It has been found that five dimensions of SERVQUAL scale, which is a common scale for measuring the service quality, has not been validated in the retail store environment. In this project, Retail Service Quality scale will be used to identify customer expectations and perceptions of retail service quality and in this way it will be possible to identify the customers' zone of tolerance. Developing appropriate strategies for improving the service quality of retail



stores and increasing the customer satisfaction are also within the scope of this project.

■ **Project Director:** Mesut B. Özdeniz

**Researchers:** Halil Z. Alibaba

**Amount Awarded:** 20,000 YTL

**Project Title:** Behavior of Double Skin Facades in Warm Climates

**Project Topic:** This project aims at finding suitable design and performance of double skin facades in warm climates. Recently, it has been observed that there has been an increase in the use of double skin facades in developed countries. Double skin facades have advantages such as producing heat in cool seasons, providing air circulation in warm seasons, having a modern look, preventing external noise from entering buildings, and reducing wind load of the window. The experimental section of this project will take place at the Experiment House in EMU Campus using three different types of windows. These types are the windows which take outside air and warm it up before circulating it inside, those that circulate the warm air out and those that circulate the air from inside of the room to outside. This project is the first one of its kind for understanding the behavior of such facades in a warm climate like that of North Cyprus.

■ **Project Director:** Gülçay Tuna Payaşlıoğlu

**Researchers:** Kemal Bağzıbağlı, Mehmet Balcılar, Nuru Giritli, Cem Payaşlıoğlu

**Amount Awarded:** 18,000 YTL

**Project Title:** Forecasting the Long-term Electricity Demand for TRNC

**Project Topic:** The aim of the project is to understand and forecast the demand for electricity in the TRNC. In order to meet future demands for electricity, significant lead times are necessary for planning and construction. Since the costs of underbuilding or overbuilding electricity-generating capacities are high, the use of forecasting procedures is critical to cost-effective planning. Implementation of a new electricity power plant or expansion of the existing plant will involve other public costs associated with plant safety, environmental effects and

their economic consequences. The econometric models constructed can usefully contribute to highlighting points by determining and quantifying the factors that affect the demand for electricity and forecast electricity demand that are empirically based and reliable. The demand for electricity is an indirect demand that is derived from the demand for services that involve electricity-using equipments. This implies that, demand for electricity is associated with the number and nature of such equipments used by households and businesses. Another important feature of electricity demand is that electricity-using equipments are usually long-lasting goods. Electricity demand may vary by changing the utilization patterns of the equipment. One other important factor in modeling electricity demand is related with the price schedules offered to consumers that contain block tariffs. Another issue that has to be dealt with is the seasonal variation of consumption depending on the purpose of its usage, for heating or cooling. This creates a seasonal effect called "peak demand" in summer and in winter relative to other seasons. Factors described above and others that are country-specific and that are related to the state of the economy such as economic growth, immigration, pricing systems and technological innovation will also be taken account in the econometric modeling for electricity.

**Project Director:** Yenal Süreç

**Researchers:** Mehmet Balcılar, Saule Baurzhan, Süleyman Efe, Hasan Güngör, Fatma Güven Lisaniler, Hasan Kölel, Güzde Yahlı

**Amount Awarded:** 22,000 YTL

**Project Title:** Measuring Poverty: Household Income, Consumption, and Saving Tendencies in TRNC

**Project Topic:** Household income, tendency to consume, tendency to save and poverty studies constitute an important place in economic literature. Income-consumption, income-poverty and consumption-poverty relations are crucial subjects that have been questioned for a long time. This project aims at achieving two things. Firstly, gathering some information about household, household income, consumption, saving tendencies and then measuring the level of poverty. Secondly, the results obtained will be made available to academicians and to the public for suggestions of possible policy solutions. Especially, determining the level of savings is important in terms of understanding the availability of sources for investments in TRNC and developing the consumption models for consumption tendencies of the households. Measuring the level

of poverty on the other hand, will be useful for figuring out how sources should be distributed among poor, and consequently, for making programs in order to decrease the level of poverty. This project will be the first to collect and analyze information on this topic. Since there has never been such an investigation before, the findings of the project will be very significant for the policy makers in the area.

■ **Project Director:** Rasime Uyguroğlu

**Researchers:** Azadeh Didari, Hüseyin Özkaramanlı, Abdullah Öztoprak

**Amount Awarded:** 18,200YTL

**Project Title:** Analysis of Integrated Circuit Interconnects at Nano-scale Dimensions Using Finite Difference Time Domain Method

**Project Topic:** The rapid miniaturization of integrated circuits brings with it certain unavoidable problems, which relate to the integrity of signals that carry information from one network to another. As the technology moves rapidly towards sub-micrometer dimensions (35 nanometers), the challenge is becoming a tremendous one. These problems arise due to the fact that interconnections behave like transmission lines at these frequencies. In this project, the electromagnetic waves,

traveling on interconnect of the future nano-scale technologies will be analyzed by using the finite difference time domain technique. Specifically the delay crosstalk and overshoot behavior of single and coupled interconnections will be studied.

■ **Project Director:** Şener Uysal

**Researchers:** Hüseyin Kusetoğulları

**Amount Awarded:** 20,000 YTL

**Project Title:** Modular Security Systems

**Project Topic:** In this project, a comprehensive security system design constituted with modular units is provided. A security system that is made by connecting observation modules onto a local headquarter can be placed anywhere, especially at borders and coastlines. All required energy for the system is solar. By setting solar panels onto the module unite, power-load demands are met. At the first step, it is planned to use 2.45 GHz ISM microwave frequency band, which does not require license for using. However, pollution rates or tests of this band at different geographical sites are needed. The system will be tested for forest fire (Çatalköy), facility security (Teknecik Station), coast guarding (Girne Port), and security of crowded places (EMU Campus).



## INTERESTED IN EMU RESEARCH GRANTS ?

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## Recent Publications and Presentations (September 2008 - December 2008)

### ■ Journal Publications (SCI, SSCI, AHCI) ■

The journal publications listed here are those that are listed in Arts & Humanities Citation Index (A&HCI), Science Citation Index Expanded (SCI-Expanded), or Social Sciences Citation Index (SSCI). A search on ISI Web of Science was performed on 30 January 2009 to retrieve articles with at least one author having EMU affiliation. This list may not be comprehensive as some articles could be deposited to ISI after the query date.

Aliev R, Abiyev R and Menekay M. (2008) "Fuzzy Approach to Portfolio Selection Using Genetic Algorithms." *Intelligent Automation and Soft Computing* 14(4): 525-540.

Aliev RA, Aliev RR, Guirimov B and Uyar K. (2008) "Dynamic data mining technique for rules extraction in a process of battery charging." *Applied Soft Computing* 8(4): 1720-1720.

Amca H and Celebi E. (2008) "The mobile phone can be the perfect payment tool." *Electronics World* 114(1869): 27-31.

Arifler D. (2008) "Information Theoretic Approach to Detecting Systematic Node Destructions in Wireless Sensor Networks." *IEEE Transactions on Wireless Communications* 7(11): 4730-4738.

Bashirov AE, Mazhar Z and Erturk SF. (2008) "Boundary Value Problems Arising in Kalman Filtering." *Boundary Value Problems* Article ID: 279410.

Benar H and Jenkins GP. (2008) "The economics of regulation and taxation policies for casino tourism." *Tourism Economics* 14(3): 483-510.

Bodapati JB and Icil H. (2008) "Highly soluble perylene diimide and oligomeric diimide dyes combining perylene and hexa(ethylene glycol) units: Synthesis, characterization, optical and electrochemical properties." *Dyes and Pigments* 79(3): 224-235.

Carcenac M. (2008) "A modular neural network applied to image transformation and mental images." *Neural Computing & Applications* 17(5-6): 549-568.

Daoud DS. (2008) "Determination of the source parameter in a heat equation with a non-local boundary condition."

*Journal of Computational and Applied Mathematics* 221(1): 261-272.

Domboski K, Stevens A, Miller LJ and Mittenberg W. (2008) "IQ-Memory Differences in Traumatic Brain Injury." *Archives of Clinical Neuropsychology* 23: 732.

Dosiyev AA and Buranay SC. (2008) "On solving the cracked-beam problem by block method." *Communications in Numerical Methods in Engineering* 24(11): 1277-1289.

Doukhnitch E, Salamah M and Ozen E. (2008) "An efficient approach for trilateration in 3D positioning." *Computer Communications* 31(17): 4124-4129.

Egemen M and Mohamed A. (2008) "SCBMD: A knowledge-based system software for strategically correct bid/no bid and mark-up size decisions." *Automation in Construction* 17(7): 864-872.

Faustmann H and Kaymak E. (2008) "Cyprus." *European Journal of Political Research* 47(7-8): 939-946.

Guler M. (2008) "Detailed numerical investigation of the dissipative stochastic mechanics based neuron model." *Journal of Computational Neuroscience* 25(2): 211-227.

Hancioglu N, Neufeld S and Eldridge J. (2008) "Through the Looking Glass and into the Land of Lexico-Grammar." *English for Specific Purposes* 27(4): 459-479.

Karatepe OM and Bektashi L. (2008) "Antecedents and outcomes of work-family facilitation and family-work facilitation among frontline hotel employees." *International Journal of Hospitality Management* 27(4): 517-528.

Karatepe OM and Magaji AB. (2008) "Work-Family Conflict and Facilitation in the Hotel Industry A Study in Nigeria." *Cornell Hospitality Quarterly* 49(4): 395-412.

Kaymak T and Bektas E. (2008) "East Meets West? Board Characteristics in an Emerging Market: Evidence from Turkish Banks." *Corporate Governance-An International Review* 16(6): 550-561.

Kusaf M and Oztoprak AY. (2008) "Dispersion Analysis of the ADI-FDTD and S-FDTD Methods." *Turkish Journal of Electrical Engineering and Computer Sciences* 16(3): 201-206.

Mahmudov NI and Sabancigil P. (2008) "q-Parametric Bleimann Butzer and Hahn Operators." *Journal of Inequalities and Applications* Article ID: 816367.

Matis TI, Jayaraman R, and Rangan A. (2008) "Optimal price and pro rata decisions for combined warranty policies with different repair options." *IIE Transactions* 40(10): 984-991.

Mazharimousavi SH, Halilsoy M and Amirabi Z. (2008) "New non-Abelian black hole solutions in Born-Infeld gravity." *Physical Review D* 78(6): 064050.

Myers A, Kuemmel A, Miller LJ and Mittenberg W. (2008) "Premorbid Memory Prediction using the Wechsler Test of Adult Reading." *Archives of Clinical Neuropsychology* 23: 731.

Ramadan O. (2008) "Accuracy improved multi-stage ADI-PML algorithm for dispersive open region FDTD problems." *Electronics Letters* 44(20): 1168-1170.

Ramadan O. (2008) "Complex Envelope Six-Stage Split-Step PML Algorithm for Open Region Electromagnetic Problems." *IEEE Microwave and Wireless Components Letters* 18(11): 713-715.

Sevketoglu M. (2008) "Early settlements and procurement of raw materials - new evidence based on research at akanthou-arkosykos (tatlisu- ciftlikduzu), Northern Cyprus." *Tuba-ar-Turkish Academy of Sciences Journal of Archaeology* 11: 63-72.

Tanova C and Holtom BC. (2008) "Using job embeddedness factors to explain voluntary turnover in four European countries." *International Journal of Human Resource Management* 19(9): 1553-1568.

Tuna G. (2008) "The Effectiveness of Central Bank Intervention: Evidence from Turkey." *Applied Economics* 30: 1-15.

Ulukok MK and Acan A. (2008) "Concurrent Path Construction for Global Map Building in Unknown Indoor Environments." *Cybernetics and Systems* 39(8): 787-805.

Yu R, Baradarani A. (2008) "Design of halfband filters for orthogonal wavelets via sum of squares decomposition."

*IEEE Signal Processing Letters* 15: 437-440.

Yu RY. (2008) "Theory of dual-tree complex wavelets." *IEEE Transactions on Signal Processing* 56(9): 4263-4273.

## ■ Other Refereed Journal Publications ■

Aker S. (2008) "Ekonomik Büyüme Karşı Ekonomik Kalkınma: KKTC'nin Değerlendirilmesi." *Review of Social, Economic and Business Studies* 9/10: 209-232.

Akgun A. (2008) "Ahmet Hikmet Müftüoğlu'nun Yayımlanmamış Şiirleri." *Journal of Turkish Studies* 32(1): 19-34.

Babakus E, Yavas U and Karatepe OM. (2008) "The effects of job demands, job resources and intrinsic motivation on emotional exhaustion and turnover intentions: a study in the Turkish hotel industry." *International Journal of Hospitality and Tourism Administration* 9(4): 384-404.

Bashirova E. (2008) "Köprülüzade Bakü'de." *İlmi Eserler* 2: 83-86.

Canci H. (2008) "A Theoric and Conceptual Glance to Nationalism in terms of its Invariable Dimensions." *SDU The Journal of Faculty of Economics and Administrative Sciences* 13 (2):105-116.

Colak Y. (2008) "The Headscarf Issue, Women and the Public Sphere in Turkey." *Global South* 4(5): 10-17.

Hoskara S. (2008) "Urban Design Theory: Past, Today, Tomorrow and Reflections on Istanbul." *mimar.ist* 8(29): 31-33.

Hoskara S. (2008) "Views on London Festival of Architecture." *Yapı* 322: 80-86.

Oktay D and Hoskara S. (2008) "Mimarlık Eğitiminde Çağdaş Yönelimler: Oxford Mimarlık Eğitimi Konferansının Yansıtıkları / Contemporary Orientations in Architectural Education." *Yapı* 324: 50-54.

Turgut T. (2008) "Tarihsel Bakış Açısıyla Kıbrıs Türk Hukuku Sistemi." *Ankara Üniversitesi Hukuk Fakültesi Dergisi* 57(2): 253-286.

## ■ Conference Papers ■

- Abrishambaf R, Demirel H and Kale I. "Establishing the Finite Word-Length Parameters for a CNN based Fingerprint Recognition System." in *Proceedings of the 5th International Conference on Electrical and Computer Systems*, pp. 27-31, Lefke, Northern Cyprus, 27-28 November 2008.
- Aliev RA and Alemzadeh M. "Prediction of world petrol prices based on comparison of exponential smoothing and back-propagation techniques." in *Proceedings of the Eighth International Conference on Application of Fuzzy Systems and Soft Computing (ICAFS 2008)*, pp. 98-100, Helsinki, Finland, 1-3 September 2008.
- Aliev RA, Huseynov OH and Aliev RR. "Decision making under conditions of imprecise probabilities." in *Proceedings of the Eighth International Conference on Application of Fuzzy Systems and Soft Computing (ICAFS 2008)*, pp. 334-343, Helsinki, Finland, 1-3 September 2008.
- Aliev RA, Guirimov B, Aliev RR, Ilhan U, Babagil M and Mammadli S. "Type-2 fuzzy neural inference system with fuzzy clustering and differential evolution optimization." in *Proceedings of the Eighth International Conference on Application of Fuzzy Systems and Soft Computing (ICAFS 2008)*, pp. 368-386, Helsinki, Finland, 1-3 September 2008.
- Aliusta GO, Unveren Z and Basri F. "The Miracle of the Age: Internet in Classrooms." in *Proceedings of the 3rd International Conference on Virtual Learning*, pp. 351-358, Constanta, Romania, 31 October – 2 November 2008.
- Aliusta GO, Unveren Z and Basri F. "Benefits of Using Self-Study Centres on Language Learning." in *Proceedings of the 3rd International Conference on Virtual Learning*, pp. 359-366, Constanta, Romania, 31 October – 2 November 2008.
- Bashirov R, Karanfiller T and Lort H. "An approach to reduce path-dependent-loss in optical networks implementing Petri nets." in *Proceedings of the 8th International Conference on Application of Fuzzy Systems and Soft Computing*, pp. 91-96, Quadrant Verlag, Helsinki, 1-3 September 2008.
- Bashirov AE and Erturk SF. "Boundary Value Problems Arising in Kalman Filtering." in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.
- Bashirov AE, Kurpinar EM and Ozyapici A. "On Multiplicative Differential Equations." in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.
- Celikag M and Ozbilen M. "Health and Safety Matters in Construction Industry in North Cyprus." in *Proceedings of the 8th International Congress on Advances in Civil Engineering (ACE2008)*, Famagusta, North Cyprus, September 2008.
- Demirel H and Anbarjafari G. "Iris Recognition System Using Combined Histogram Statistics." in *Proceedings of the 23rd International Symposium on Computer and Information Sciences (ISCIS 2008)*, Istanbul, Turkey, 27-29 October 2008.
- Demirel H, Anbarjafari G and Jahromi MNS. "Image Equalization Based on Singular Value Decomposition." in *Proceedings of the 23rd International Symposium on Computer and Information Sciences (ISCIS 2008)*, Istanbul, Turkey, 27-29 October 2008.
- Dosiyev AA, Mazhar Z and Buranay SC. "Block Method for Problems on L-Shaped Domains." in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.
- Hasanbulli M. "Asymptotic Behavior of Nonoscillatory Solutions to n-TH Order Nonlinear Neutral Differential Equations." in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.
- Ilkan M, Gursev H and Alicik S. "Project Management." in *Proceedings of the 5th International Architecture and Engineering Symposium, 5th International Symposium on Electrical and Computer Systems (EECS'08)*, Gemikonağı, LAU, 27-28 November 2008.
- Ilkan M, Doganalp A, Ozerek C and Alicik S. "Evaluating the potential of the renewable energy resources in TRNC." in *Proceedings of the 5th International Architecture and Engineering Symposium, 5th International Symposium on Electrical and Computer Systems (EECS'08)*, Gemikonağı, LAU, 27-28 November 2008.

Mahmudov N, Sabancigil P. “q-parametric Bleimann Butzer and Hahn operators.” in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.

Nadiri H and Tumer M. “Kuzey Kıbrıs Türk Cumhuriyeti’nde Üniversite Öğrencilerinin Çevreye Duyarlı Tüketici Davranışlarını Belirlemeye Yönelik Bir Saha Çalışması.” in *Proceedings of the 13. Ulusal Pazarlama Kongresi, Çukurova Üniversitesi*, pp.130-146, Türkiye, 29 Ekim – 2 Kasım 2008.

Prykarpatsky AK and Taneri U. “Some Aspects of Modern Quantum Mathematics and Nonlinear Dynamical Systems.” in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.

Riza M, Ozyapici A and Kurpinar E. “Multiplicative Least Square Method.” in *Proceedings of the 4th International Conference on Mathematical Analysis, Differential Equations and Their Applications (MADD 2008)*, Eastern Mediterranean University, North Cyprus, 12-15 September 2008.

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Zamanian B, Bayram Z. “Agent Coordination Using Enterprise Java Beans and XML Web Services in a Battlefield Environment.” in *Proceedings of 5th International Symposium on Electrical and Computer Systems (EECS'08)*, pp. 241-246, Gemikonağı, Lefke, Northern Cyprus, 27-28 November 2008.

## ■ Conference Presentations ■

Domboski K, Stevens A, Miller LJ and Mittenberg W. “IQ-Memory Differences in Traumatic Brain Injury.” *National Academy of Neuropsychology*, New York, 21-25 October.

Gazi M, Yilmaz O, Yilmaz E and Bicak N. “Synthesis and swelling behavior of chitosan grafted with poly (N-allyl-maleamic acid).” *2nd European Chemistry Congress*, Torino, Italy, 16-20 September 2008.

Gazi M and Bicak N. “Synthesis of new multi-hydroxy functional polymers and their usage as boron binder.” *12th National Chemistry Congress*, Famagusta, TRNC, 6-10 October 2008.

Inanc G. “Dilemmas of AKP's Foreign Policy.” *TUSIAD Washington Office*, Washington, 24 November 2008.

Inanc G. “Narratives of Diplomats and Turkish Foreign Policy in Iraq.” *Oriental Institute of National Academy of Armenia*, Erivan, 6 November 2008.

Jenkins H. “Microfinance: An Overview.” *ADFIMI Conference on Comparative Study on Microfinance Practices*, Istanbul, Turkey, 17-19 November 2008.

Myers A, Kuemmel A, Miller LJ and Mittenberg W. “Premorbid Memory Prediction using the Wechsler Test of Adult Reading.” *National Academy of Neuropsychology*, New York, N.Y, 21-25 October.

## ■ Keynote Lectures ■

Gosh BN. "Inaugural speech." *International Conference on Health and Development: Issues, Strategies, and Options*, Kannur, India, 22-23 October 2008.

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Tobolczyk M. (2008). "The Birth of Architecture: An Introduction to Ontogenesis of Architecture." Gateshead, The United Kingdom: The Urban International Press.

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Aliev RA, Fazlollahi B, Guirimov BG and Aliev RR. (2008). *Recurrent Fuzzy Neural Networks and Their Performance Analysis*. In Xiaolin Hu and P.Balasubramaniam (Eds.). *Recurrent Neural Networks*. (pp.107-126). Austria: I-Tech.

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