

**The 20th International Conference on Mechatronics and
Machine Vision in Practice
(M²ViP 2013)**

CONFERENCE PROGRAM

September 20, 2013

&

**8. Mekatronik Tasarım ve Modelleme Kongresi
(MDM 2013)**

KONGRE PROGRAMI

20 Eylül 2013



RoTAM
RobotTechnologies Research Center
ATILIM UNIVERSITY



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Zühal ERDEN	(Atılım University, Mechatronics Eng. Dept.)	zuehal@atilim.edu.tr
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Çiğdem TURHAN	(Atılım University, Software Eng. Dept.)	cigdem_t@atilim.edu.tr
Hakan TORA	(Atılım University, Electrical and Electronics Eng. Dept.)	tora@atilim.edu.tr
Cahit GÜREL	(Atılım University, Mechatronics Eng. Dept.)	cgurel@atilim.edu.tr

Conference Secretary

Ayşe SUNGUR

Contact Information:

Atılım University
Robot Technologies Research Center (RoTAM)
Kızılcaşar Mahallesi 06836 Incek-ANKARA, TURKEY
Phone: +90 312 586 83 15 Fax:+90 312 586 80 91
Email: m2vip2013@atilim.edu.tr Web:<http://m2vip2013.atilim.edu.tr>

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MDM2013 Organizasyon Komitesi

Zühal ERDEN	(Atılım Üniversitesi, Mekatronik Müh. Bölümü)	zahal@atilim.edu.tr
Aylin KONEZ EROĞLU	(Atılım Üniversitesi, Mekatronik Müh. Bölümü)	akonez@atilim.edu.tr
Cahit GÜREL	(Atılım Üniversitesi, Mekatronik Müh. Bölümü)	cgurel@atilim.edu.tr

Kongre Sekreteri

Ayşe SUNGUR

İletişim:

Adres: Mekatronik Mühendisliği Bölümü, Atılım Üniversitesi
Kızılcaşar Mahallesi, 06836 İncek-Ankara
Tel: +90 312 586 83 15 **Fax:** +90 312 586 80 91
Web: <http://mdm.atilim.edu.tr>
E-Posta: mdm@atilim.edu.tr

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September 20, 2013 - Friday

09:00-09:30	REGISTRATION		
09:30-10:00	OPENING CEREMONY (Kemal Zaim Sunel Conference Hall)		
10:00-10:30	Keynote Speech (Kemal Zaim Sunel Conference Hall) “ Path Planning for Unmanned Aerial Vehicles” Prof. Dr. Kemal Leblebicioğlu Department of Electrical and Electronics Engineering Middle East Technical University		
10:30-10:50	COFFEE BREAK		
10:50-12:10	Room A	Room B	Room C
	Session A1 A1.1, A1.2, A1.3, A1.4	Session B1 B1.1, B1.2, B1.3, B1.4	-
12:10-12:50	SPONSORS SESSION (TAI, FESTO)		
12:50-14:00	LUNCH (Atılım Garden)		
14:00-14:30	Keynote Speech (Kemal Zaim Sunel Conference Hall) “Mechatronics with Fielded Applications in Defense Industry” Bülent Bilgin Manager of the Unmanned Systems Department Aselsan A.Ş.		
14:30-15:50	Room A	Room B	Room C
	Session A2 A2.1, A2.2, A2.3	Session B2 B2.1, B2.2, B2.3, B2.4	-
15:50-16:10	COFFEE BREAK		
16:10-17:30	Room A	Room B	Room C
	Session A3 A3.1, A3.2, A3.3	Session B3 B3.1, B3.2, B3.3, B3.4	Oturum C3 (MDM 2013) C3.1, C3.2, C3.3, C3.4
17:30-18:30	Mechatronics Engineering Laboratory Visit		
19:00-21:30	GALA DINNER (Kuşkonmaz Restaurant)		

Keynote Speech - Kemal Zaim Sunel Conference Hall

10:00-10:30

Chair:

“ PATH PLANNING FOR UNMANNED AERIAL VEHICLES”

Prof. Dr. Kemal Leblebicioğlu
Department of Electrical and Electronics Engineering
Middle East Technical University

Session A1 - Room A

10:50-12:10

Chair:

A1.1 “A SOFT START APPLICATION WITH FUZZY TYPE II FOR HUB MOTORS” (13)
Muammer ALBAYRAK, Raif BAYIR

A1.2 “DEVELOPMENT OF A LOW COST RADIO CONTROLLER FOR TELE OPERATION SYSTEMS: CRANE CONTROLLER DESIGN AS AN INDUSTRY SPONSORED UNDERGRADUATE RESEARCH” (14)
Göktuğ KAYNAKÖZ, Birkan DAĞDEVİREN, Kamil Yavuz KAPUSUZ, Ali KARA

A1.3 “ORIENTATION TECHNIQUES OF MULTI-ROBOT SYSTEM WITH SWARM INTELLIGENCE” (35)
Fuad ALIEW, Furkan KAPLAN, Süleyman Alper KALE

A1.4 “EXPRESSIVE EEG SIGNAL VARIABILITY IDENTIFICATION IN ROBOTIC CONTROL COMMAND DEVELOPMENT” (4)
Chiemela ONUNKA, Glen BRIGHT, Riaan STOPFORTH

Session B1 - Room B

10:50-12:10

Chair:

B1.1 “CHATTER DETECTION USING VIBRATIONAL AND ACOUSTIC EMISSIONS IN TURNING PROCESS” (15)
Süleyman BÜYÜKKOÇAK, Şener KILIÇ, Hakkı Özgür ÜNVER, Mehmet Bülent ÖZER

B1.2 “EXPERIMENTAL INVESTIGATION OF A MAGNETORHEOLOGICAL FLUID DAMPER WITH PERMANENT MAGNET FOR HAPTIC FINGER GRASPING” (26)
Okan TOPÇU, M. Murat AYGÜN, Yiğit TAŞCIOĞLU

B1.3 “DEVELOPMENT OF A SINGLE DEGREE OF FREEDOM INERTIAL MEASUREMENT SYSTEM” (7)
Hassan M.G. ZADEH, Sertaç Emre KARA, Kutluk Bilge ARIKAN

B1.4 “OPEN ARCHITECTURE CONTROLLER FOR MODULAR RECONFIGURABLE MACHINE TOOL” (29)
Abdul Qadir AMRA, Glen BRIGHT, Jared PADAYACHEE

Keynote Speech - Kemal Zaim Sunel Conference Hall

14:00-14:30

Chair:

“MECHATRONICS WITH FIELDED APPLICATIONS IN DEFENSE INDUSTRY”

Bülent Bilgin
Manager of the Unmanned Systems Department
Aselsan A.Ş.

Session A2 - Room A

14:30-15:50

Chair:

A2.1 “SIMULATING THE KINEMATICS AND MOTIONS OF ROBOTIC MANIPULATORS USING 3D GAME DEVELOPMENT TOOLS” (41)

Samuel NACION CUBERO, John BILLINGSLEY

A2.2 “GRAK: A VISUAL ROBOTICS TOOLBOX USING MATLAB GRAPHICAL USER INTERFACE” (25)

Sibel KAPLAN YILDIRIM, Huseyin CANBOLAT

A2.3 “DESIGN AND TESTING OF EARTHQUAKE SIMULATION SYSTEM” (16)

Çağrı KOÇ, Şeyma Nur ÇİZMELİ, Çağrı GÜRPINAR, Süleyman BÜYÜKKOÇAK, Mehmet Bülent ÖZER

Session B2 - Room B

14:30-15:50

Chair:

B2.1 “ DESIGN AND INITIAL FLIGHT TESTS OF A HOLONOMIC QUADROTOR UAV WITH SUB-ROTOR CONTROL SURFACES” (21)

Ertuğrul ÇETİNSOY

B2.2 “AUTONOMOUS TRAJECTORY TRACKING AND IMAGING VIA A QUADROTOR TYPE UAV: A SYSTEM INTEGRATION APPROACH” (3)

Mehmet Önder EFE, Mustafa KAYA, Munir ELFARRA, Rıdvan ÖZDEMİR

B2.3 “DISTURBANCE REJECTION CONTROL OF A QUADROTOR EQUIPPED WITH A 2 DOF MANUPILATOR” (9)

Mete AYDEMİR, Bülent İRFANOĞLU, Kutluk Bilge ARIKAN

B2.4 “SPACE AND SPACE MECHATRONICS” (Special Review Paper)

Sedat NAZLIBİLEK

Chair:

A3.1 “A HISTOGRAM-BASED THRESHOLDING METHOD FOR EXTRACTING NON-URBAN ROADS FROM SATELLITE IMAGES” (17)

Matin GHAZIANI, Yaser MOHAMADI, Erhan Ilhan KONUKSEVEN, A. Bugra KOKU

A3.2. “A COMPARATIVE STUDY ON DISTANCE METRICS IN SELF-SUPERVIS UNSTRUCTURED ROAD DETECTION DOMAIN” (28)

Kadri Bugra OZUTEMİZ, Akif HACINECİPOĞLU, A. Buğra KOKU, Erhan Ilhan KONUKSEVEN

A3.3 “DEVELOPING AN ANALYSIS PROCESS FOR BIOLOGICAL SYSTEMS TO DESIGN BIOROBOTS – A CASE STUDY OF HUMAN HAND GRIPPING MOTION” (36)

Aylin Konez EROĞLU, Zuhale ERDEN, Abdulkadir ERDEN

Chair:

B3.1 “ILLUMINATION INVARIANT FACE RECOGNITION USING PRINCIPAL COMPONENT ANALYSIS-AN OVERVIEW” (39)

Çağrı KAYMAK, Rüya SARICI, Ayşegül UÇAR

B3.2 “CONCEPTUAL DESIGN OF ROSE HARVESTING ROBOT FOR GREENHOUSES” (37)

Cahit GÜREL, Abdülkadir ERDEN

B3.3 “FACE DETECTION ALGORITHM WITH FACIAL FEATURE EXTRACTION FOR FACE RECOGNITION SYSTEM” (38)

Cahit GÜREL, Abdülkadir ERDEN

B3.4 “A MECHATRONIC LOAD TESTING EQUIPMENT” (5)

H. Orhan YILDIRAN, Cahit GÜREL

Oturum Başkanı:

C3.1 “8X8 AĞIR TİCARİ VASITANIN DÜMENLEME SİSTEMİNİN TEK İZLİ ARAÇ MODELİ ÜZERİNDE BENZETİMİ” (4)

Kahraman KÜÇÜK, Yunus GÜDER, Yasin YAMAN, Tamer BOZKIR, Kamil DENİZER, Kutluk Bilge ARIKAN

C3.2 “ÖZEL ŞİFRELİ, TELEFON UYARIMLI VE ANDROİD UYGULAMALI ARAÇ GÜVENLİK SİSTEMİ” (6)

Erdal AĞYOL, Melih KUNCAN, H. Metin ERTUNÇ

C3.3 “OTOMOBİL PASPASI TEMİZLEME VE KURUTMA MAKİNASI TASARIMI: KAVRAMSAL TASARIM VE ŞEKİLLENDİRME TASARIMI ÇALIŞMASI” (7)

Kasım SERBEST, Durmuş KARAYEL, Osman ELDOĞAN

C3.4 “KARMAŞIK ÜRÜN MODELLENME VE OTOMOBİL KAPISI ÖRNEĞİ” (9)

Vedat DEMİRTAŞ, Ahmet GAYRETLİ