



**1st International Symposium of
the Faculty of Mines (İTÜ)
on Earth Sciences and Engineering**



PROGRAMME

16 – 18 May 2002
İstanbul Technical University
Süleyman Demirel Cultural Centre
Maslak – 80626, İstanbul - TURKEY

<http://www.earth.itu.edu.tr>

SPONSORS

The Organising and Executive Committee gratefully acknowledges
the generous support of the following organizations



**MINISTRY
OF
TOURISM**



SERHAM

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WELCOME

Objectives

Istanbul Technical University (ITU) has recently adopted a new strategy to compete favourably with the leading universities of the world. Along this direction the Faculty of Mines has launched a number of international multi-disciplinary research activities. This international Earth Sciences Symposium is an expression of this scope. Our specific goals are to bring together professionals (leading engineers, manager, and scientists) who are interested in diversified fields of earth sciences and engineering; geology, geophysics, mining engineering and petroleum and natural gas engineering, and to provide an environment where such professionals can discuss and exchange new developments in their associated fields.

Venue

Istanbul Technical University (ITU) is a state university established in 1773, during the time of the Ottoman Sultan Mustafa III. With its original name "Mühendishane-i Bahr-i Hümayun", The Royal School of Naval Engineering, its responsibility was to educate chart masters and ship builders. In 1795, the "Mühendishane-i Berr-i Hümayun", The Royal School of Military Engineering, was established to educate the technical staff in the army. In 1847, education in the field of architecture was also introduced. Established in 1883, the School of Civil Engineering assumed the name 'Engineering Academy', with the aim of teaching essential skills needed in planning and implementing the country's new infrastructure projects. Gaining university status in 1928, the Engineering Academy continued to provide education in the fields of engineering and architecture until it was incorporated into ITU in 1944. Finally, in 1946, ITU became an autonomous university that included the Faculties of Architecture, Civil Engineering, Mechanical Engineering, and Electrical and Electronic Engineering.

With a history stretching back 229 years, providing technical education within a modern educational environment and strong academic staff, ITU is strongly identified with architectural and engineering education in Turkey. Since its inception and foundation under Ottoman rule, ITU has constantly lead the way in reform movements, and in the latter era of the Republic of Turkey, ITU has assumed pivotal roles in the reconstruction, modernisation, and administration of the country. The efforts and expertise of ITU graduates have been major contributors in the planning and construction of Turkey's roads, bridges, dams, factories, buildings, energy plants, communication networks, villages and cities. ITU is a state university that defines and continues to update methods of engineering and architecture in Turkey. It provides its students with modern

educational facilities while retaining traditional values, as well as using its strong international contacts to mould young, talented individuals who can compete in the global arena.

The aim of ITU is to rank among leading universities globally. Consequently, ITU's mission is to educate individuals to be competitive not only in Turkey, but all over the world. Within an intensely competitive environment, the university has adopted a dynamic, global, high-quality, creative and communicative approach in education, as well as research and development. Keeping abreast with modern developments, ITU is constantly restructuring itself and renovating its physical infrastructure as well as its research and education facilities. Within this framework, many projects are under way to facilitate various endeavours, such as providing our students with modern accommodation, a continually improving educational environment, creating for them opportunities for scholarships, ensuring a sound future for the university through support given to young and promising faculty members, developing information systems, renovating the laboratory infrastructure and putting research potential to use as well as developing it.

The Faculty of Mines along similar trend to that of ITU, has taken initiatives in developing international co-operations for which geographical position and geological features of Turkey provide unmatched versatility. The Faculty of Mines having all the major branches of the Earth sciences and the related engineering subjects has strong worldwide international links with its counterparts. We would like to increase our international cooperation and therefore wish to encourage the Earth scientists throughout the world to participate to the symposium and enjoy the benefits of this international gathering. We sincerely believe that friendly atmosphere of the symposium will eventually help to initiate future joint studies for the mutual benefits.

Social Events Organised by Symposium Organising and Executive Committee

16th May 2002, Thursday @ 19:00

Welcome Reception / Cocktail Prolounge (Sponsored by Ministry of Tourism)

17th May 2002, Friday @ 19:30

Istanbul - Bosphorous Tour and Cocktail Prolounge

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Robert Reilinger	<i>Massachusetts Institute of Technology - USA</i>
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KEY NOTE SPEECHES

SYMPOSIUM OPENING LECTURE

İhsan Ketin Hall - 16 May 2002 @ 10:00

Geology and Seismotectonics of the Antique City of Troia and its Surroundings
Yücel Yılmaz

SS-B

Akyut Barka Hall - 16 May 2002 @ 11:00

Origin of Eastern Mediterranean Basin
Zvi Garfunkel

Postseismic Deformation from 20th Century Earthquakes and the Eastern Mediterranean GPS Velocity Field
Elizabeth Hearn, Robert Reilinger, Simon McClusky, and Brad Hager

Linking Seismogenic Structures and Tectonic Evolution Along Continental Zones of Convergence
Wang-Ping Chen

The Mechanics of Strike-Slip Faulting: New Insights From Geophysical Imaging
Martyn Unsworth and Paul Bedrosian

SS-C

Sırrı Erinç Hall - 16 May 2002 @ 11:00

Microcontinent–Promontory Interactions: Affinities and Possible Emplacement Mechanisms for Proterozoic Basement in Northern Turkey
John A. Winchester

A Plate Tectonic Model for the Paleozoic and Mesozoic of the Tethyan Domain Constrained by Dynamic Plate Boundaries and Restored Synthetic Oceanic Isochrones
Gerard M. Stampfli and G. D. Borel

SS-D

Okan Tekeli Hall - 16 May 2002 @ 11:00

High-Pressure Rocks From the Lycian Nappe Complex and the Southern Menderes Massif: Implications for Tectonic Evolution of Southwest Turkey
Rimmelé G., Oberhänsli R., Jolivet L., Goffé B., Candan O. and Çetinkaplan M.

SS-E

Okan Tekeli Hall - 16 May 2002 @ 14:00

Granitoids from Western and Northwestern Anatolia Geochemistry and Geochronology
Michel Delaloye, Ergüzer Bingöl and Denis Fontignie

SS-F

İhsan Ketin Hall - 17 May 2002 @ 09:00

Settings of Ophiolite Genesis in the Eastern Mediterranean Region
Alastair Robertson

A Precambrian Metaophiolite in the Basement of Northwestern Anatolia–Turkey and its Exhumation History
Erdinç Yiğitbaş, Robert Kerrich, Yücel Yılmaz, Ali Elmas and Qianli Xie

SS-H

Okan Tekeli Hall - 17 May 2002 @ 09:00

Miocene Paleoeecology and Fossil Apes From Central Anatolia

John Kappelman

SS-I

Sırrı Erinç Hall - 17 May 2002 @ 14:00

Aegean Extension: Tectonics, Volcanism and Basin Development

Yücel Yılmaz

SS-K

Ekrem Göksu Hall - 17 May 2002 @ 09:00/11:00

A Brief Discussion on Integrated Reservoir Management Process

Ömer Gürpınar

Neuro-Simulation–A Panacea or A Hype For Long-Standing Reservoir Engineering Issues?

Turgay Ertekin

SS-L

Kemal Erguvanlı Hall - 17 May 2002 @ 09:00

An Approach for the Estimation of Near-Fault Ground Motions

Eser Durukal and Mustafa Erdik

Estimating Strong Ground Motion in İstanbul Based on an Earthquake Scenario:

Preliminary Results

Nelson Pulido, Anibal Ojeda and Kuvvet Atakan

SS-M

Ekrem Göksu Hall - 16 May 2002 @ 11:00

Trends and Discontinuities in Holocene and Recent Environmental Records in Anatolia:

A Presentation of Some Human Societies Responses to Climate Changes and “Crises”

Catherine Kuzucuoğlu

PROGRAMME

1st International Symposium of the Faculty of Mines (ITU) on Earth Sciences and Engineering <http://www.earth.itu.edu.tr>

HALL	İHSAN KETİN	AYKUT BARKA	SİRRI ERİNÇ	OKAN TEKELİ	KEMAL ERGUVANLI	EKREM GOKSU	NEZİHİ CANTİEZ
OPENING CEREMONY @ İhsan Ketin Hall							
09:00-10:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	SLIDE PREPARATION ROOM
10:30-11:00	MARMARA	SEISMOTECTONICS	REGIONAL GEOLOGY GEOPHYSICS	EXHUMATION	ROCKS AND TUNNELING	ENVIRONMENTAL GEOSCIENCES	
11:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
13:00-14:00	MARMARA	SEISMOTECTONICS	REGIONAL GEOLOGY GEOPHYSICS	GRANITIODS	ROCKS AND TUNNELING	ENVIRONMENTAL GEOSCIENCES	
14:00-15:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
15:30-16:00	MARMARA	SEISMOTECTONICS	REGIONAL GEOLOGY GEOPHYSICS	GRANITIODS			
16:00-18:30							
16 MAY 2002 THURSDAY							
09:00-10:30	OPHOLITES	SEISMOTECTONICS	KARAKAYA	CENTRAL ANATOLIA	SITE EFFECTS	RESERVOIR	SLIDE PREPARATION ROOM
10:30-11:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
11:00-13:00	OPHOLITES	SEISMOTECTONICS	KARAKAYA	CENTRAL ANATOLIA	SITE EFFECTS	RESERVOIR	
13:00-14:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
14:00-15:30	OPHOLITES	SEISMOTECTONICS	AEGEAN EXTENSION		OPEN SESSION		
15:30-16:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
16:00-18:30	OPHOLITES	SEISMOTECTONICS	AEGEAN EXTENSION		OPEN SESSION		
17 MAY 2002 FRIDAY							
09:00	<Field Trip 1> A SECTION THROUGH PRECAMBRIAN BASEMENT AND SURFACE RUPTURES OF 1999 EARTHQUAKES will take place and departure will be promptly at 09:00 o'clock on May 18, 2002. Further information will be announced during the symposium at the Registration Desk accordingly.						
18 MAY 2002 SATURDAY							



SEISMIC HAZARD AND ACTIVE FAULTS IN THE SEA OF MARMARA REGION

Naci Görür *TÜBİTAK Marine Geology and
Geophysics Projects National Coordinator,
TÜBİTAK-MAM, Gebze, İzmit, Turkey
ITU-Faculty of Mines, Department of Geology,
Maslak, İstanbul-Turkey*

Rolando Armijo, *CNRS-France Marine
Sciences Project Coordinator, IPG-Paris, France*

May 16, 2002 Thursday
1st Day of Symposium
İhsan Ketin Hall* Main Lecture Theatre

INTRODUCTION

11:00 - 11:10

The Marmara Sea Fault Problem

Naci Görür

REGULAR SESSION

11:10 - 11:30

The Active Fault System in the Sea of Marmara Pull-Apart: Submarine
Morphology, Past Earthquakes Scarps and Tectonic Evolution

Rolando Armijo, B. Mayer, S. Navarro, G. King and A. Barka

11:30 - 11:50

Slip Partitioning in the Sea of Marmara Pull-Apart from GPS Velocity
Vectors

F. Flerit, R. Armijo, G.C.P. King, B. Mayer, and A. Barka

11:50 - 12:10

Bends and Basin Formation Along the North Anatolian Transform in the
Marmara Sea Area

L. Seeber, Ö. Emre, A. Polonia, N. Çağatay, N. Görür, M.-H. Cormier, L. Gasperini, and the Scientific
Parties of Expeditions MARMARA2000 and MARMARA2001

12:10 – 12:30

Bends of the North Anatolian Fault in İzmit Gulf, Eastern Marmara Sea: Possible Control on the Structural Evolution of the Fault and the Propagation of Earthquake Ruptures

M. -H. Cormier, A. Polonia, N. Çağatay, L. Seeber, N. Görür, L. Gasperini, Ö. Emre, and the Scientific Parties of Expeditions MARMARA2000 and MARMARA2001

12:30 – 12:50

Results of a Deep-Towed Seismic (PASISAR) and Multi-Beam Bathymetric Survey in the Sea of Marmara, Turkey

Demirbağ, E., Rangin, C., Le Pichon, X. and Şengör, A.M.C.

12:50 – 13:10

Basin Inversion in the Marmara Sea and the Propagation of the North Anatolian Fault Within A Pull Apart Basin System

Rangin, C., Le Pichon, X., Demirbağ, E., İmren, C. and Şengör, A.M.C.

LUNCH BREAK

13:10 - 14:00

14:00 – 14:15

SEISMARMARA 2001: A Marine Seismic Survey and Offshore–Onshore Artificial Source and Natural Earthquakes in the Seismogenic Regions of the Sea of Marmara

Alfred Hirn, and the Scientific Parties of SEISMARMARA 2001

14:15 – 14:30

Reflection-Seismic Images and Evolution at the Scale of the Crust and Active Faults of the Sea of Marmara Trough (SEISMARMARA 2001)

Alfred Hirn, and the Scientific Parties of SEISMARMARA 2001

14:30 – 14:45

3D Geometry of the North Anatolian Fault System in the Çınarcık Basin: Preliminary Results (SEISMARMARA 2001)

Satish Singh, and the Scientific Parties of SEISMARMARA 2001

14:45 – 15:00

Holocene Slip Rate of the North Anatolian Fault in the Gulf of İzmit

Polonia A., M. -H. Cormier, N. Çağatay, L. Gasperini, L. Capotondi, A. Amorosi, N. Görür, Ö. Emre, L. Seeber and Scientific Parties

15:00 – 15:15

Rupture Progression Along Discontinuous Oblique Fault Sets: Implications for the Karadere Rupture Segment of the 1999 İzmit Earthquake, and a Future Rupture in the Marmara Sea

Jordan Muller, Atilla Aydın, and Frantz Maerten

15:15 – 15:30

Fault Interaction and Seismic Hazard Assessment in the Sea of Marmara and Northern Aegean

Papadimitriou, E. E. and Karakostas, V. G.

TEA / COFFEE BREAK

15:30 - 16:00

16:00 – 16:15

Reconstructing Holocene Depositional Environments in the Gulf of İzmit (Marmara Sea, NW Turkey) by Integrated Facies Analysis and High-Resolution Geophysics

Amorosi A., Çağatay M.N., Capotondi L., Colalongo M.L., Cormier M., Gasperini L., McHugh C. and Polonia A.

16:15 – 16:30

Earthquake Related Sedimentation in the Marmara Sea Deeper Basins: First Results of the August 2001 R/V Marion-Dufresne Giant Coring Experiment

B. Mercier-de-Lépinay, L. Labeyrie, and the MARMACORE Scientific Team

16:30 – 16:45

Turbidite And Mass-Transport Deposits as Records of Paleoseismology: Marmara Sea

Cecilia M. G. McHugh, Namik Çağatay, Lucilla Capotondi, Alina Polonia, Milene Cormier, Nano Seeber, Luca Gasparini, Naci Görür, George Lozefszki and the Scientific Party of Marmara Expeditions 2000 and 2001

16:45 – 17:00

Migration of the “Sulphate-Methane-Reduction-Zone” in Sediments From the Deep Marmara Sea, Turkey

Thomas Reichel, E. Holzbecher, P. Halbach and R. Moche

17:00 – 17:15

Spring Water and Soil Radon Gas Monitoring: A Search for Possible Precursors of Earthquake Activity in the Marmara Region

İnan, S., Ergintav, S., Baş, M. et al.

17:15 – 17:30

Chemical, Isotopic and Radioactivity Changes Observed in Thermal Waters Resulted From the 1999 Marmara Earthquakes

Fikret Suner, Werner Balderer, **Tolga Yalçın**, Fanny Leuenberger

17:30 – 17:45

Tectonically Induced Drainage Diversion of the Meriç (Maritsa) River From the Marmara Sea Into the Northeastern Aegean Sea

Nilgün Okay and Aral İ. Okay

17:45 – 18:00

Surface Deformation of the 1999 Gölcük–İzmit Earthquake Determined with SAR Interferometry and

Ziyadin Çakır, J.B. de Chabaliér, R. Armijo, B. Meyer, A. Barka and G. Peltzer

18:00 – 18:15

The Style of Deformation in an Oblique Rift, Northern Gulf of California, From High-Resolution Seismic Images

M.S. Steckler, P. Persaud, J. Stock, A. Martin-Barajas, J. Diebold, A. Gonzalez-Fernandez, G.S. Mountain

18:15 – 18:30

Concluding Remarks

Naci Görür and Rolando Armijo

19:00 –

Welcome Reception
16th May 2002, Thursday
Istanbul Technical University
Süleyman Demirel Cultural Centre

POSTER SESSION

POSTER - SSA-1

Active Faults and Geological Record of Earthquakes in the Gulf of İzmit (Sea of Marmara, NW Turkey)

Gasparini L., McHugh C., Çağatay N., Polonia A., Capotondi L., Amorosi A., Seeber L., Cormier M.-H., Görür N., Emre Ö., and the Scientific Parties

POSTER - SSA-2

Foraminiferal Distribution in Cores From Marmara Sea: Environmental and Paleoceanographical Reconstructions.

Capotondi L., Çağatay N., McHugh C., Polonia A., Amorosi A., Seeber L., Cormier M.H., Görür N., Emre Ö. and the Scientific Parties

POSTER - SSA-3

Time Dependent Earthquake Probability Calculations for Faults in the Sea of Marmara, NW Turkey

G. Hillers, F. Roth, H.-P. Harjes and J. Zschau

POSTER - SSA-4

Different Crustal Rheology and Seismicity at the Strike-Slip Boundary of the North Anatolian Fault: Earthquake Series and Earthquake Pairs

Osman Bektaş, Yener Eyüboğlu and Nafiz Maden



ACTIVE FAULTING AND CONTINENTAL DEFORMATION IN SEISMOGENIC ZONES OF THE EASTERN MEDITERRANEAN REGION

Tuncay Taymaz, *Istanbul Technical University (ITU), Department of Geophysics, Maslak 80626, Istanbul-Turkey*

Serdar Özalaybey, *TÜBİTAK-MAM, Gebze-Kocaeli, Turkey*

May 16, 2002 Thursday
1st Day of Symposium
Aykut Barka Hall* 3rd Floor

OBITUARY TO AYKUT BARKA

11:00 - 11 : 10

A Photo Synopsis of Aykut Barka

KEY NOTES

11:10 – 11:50

Origin of Eastern Mediterranean Basin

Zvi Garfunkel

11:50 – 12:30

Postseismic Deformation from 20th Century Earthquakes and the Eastern Mediterranean GPS Velocity Field

Elizabeth Hear, **Robert Reilinger**, Simon McClusky, and Brad Hager

12:30 – 13:10

Linking Seismogenic Structures and Tectonic Evolution Along Continental Zones of Convergence

Wang-Ping Chen

LUNCH BREAK

13:10 - 14:00

KEY NOTE

14:00 – 14:20

The Mechanics of Strike-Slip Faulting: New Insights From Geophysical Imaging

Martyn Unsworth and Paul Bedrosian

Regular Session on Eastern Mediterranean and Aegean Dynamics

14:20 – 14:40

Neotectonic Evolution of the Anaximander Mountains at the Junction of the Hellenic and Cyprus Arcs

Johan H. ten Veen and John M. Woodside

14:40 – 15:00

New Insights into the Kinematics of the Dead Sea Fault Zone from Field Observations in Syria: Implications for Mechanisms Governing Changes to the Sense of Crustal Deformation in Southern Turkey During the Late Cenozoic

Rob Westaway

15:00 – 15:20

Precursory Accelerated Deformation, Active Tectonics in the Aegean and Their Significance for Intermediate Earthquake Prediction

Costas Papazachos and B. Papazachos

15:20 – 15:40

Post-Glacial Slip History of the Sparta Fault (Greece) Determined by ³⁶Cl Cosmogenic Dating: a new Technique for Tectonic and Seismic Hazard Studies

Lucilla Benedetti, Geoffrey King, Robert Finkel, Dimitris Papanastassiou, Rolando Armijo, Frederick Ryerson, Daniel Farber and Frederic Flerit

TEA / COFFEE BREAK

15:40 - 16:00

16:00 – 16:20

Inversion for Aegean Dynamics and a new Back-Propagation Technique of Teleseismic Records to Find Crustal Structure

M. Sinan Özeren and A. John Haines

16:20 – 16:40

The Quaternary Evolution of the Gulf of Corinth, Central Greece: Coupling Between Surface Processes and Flow in the Lower Continental Crust

Rob Westaway

16:40 – 17:00

Seismic Imaging Under the Gulf of Corinth: Tectonic and Seismogenic Implications

Alfred Hirn, M. Sachpazi, M. Laigle, C. Clément and N. Roussos

17:00 – 17:20

Seismic Coupling and Structure of the Hellenic Subduction in the Ionian Islands Region

Mireille Laigle, A. Hirn, M. Sachpazi, and C. Clément

17:20 – 17:40

Micro-earthquake Activity and Seismotectonic Regime in the Saronikos Gulf (Greece)

Jannis Makris, **Drakatos, G.**, Papouliá, I. and G. Stavrakakis

17:40 – 18:00

Active Tectonic Deformation and Migration – Distribution of Seismic Activity in the Wider Area of Anatolia and the Middle East

Eythymios L. Lekkas and H.D. Kranis

18:00 – 18:20

Monitoring the Dynamics of Small Seismic Activity as an Important Tool for Hidden Active Fault Revelation

Betim Muço

18:20 – 18:40

Active Faulting in SW Bulgaria: Possible Surface Rupture of the 1904 Struma Earthquakes

Bertrand Meyer, Rolando Armijo and Dimitar Dimitrov

19:00 –

Welcome Reception

16th May 2002, Thursday

Istanbul Technical University

Süleyman Demirel Cultural Centre

May 17, 2002

2nd Day of Symposium

Aykut Barka Hall* 3rd Floor

Caucasian Seismotectonics and Geodynamics

09:05 – 09:25

Expulsion Tectonics in the Black Sea–Caucasus Area

Vladimir G. Kazmin

09:25 – 09:45

Fault Kinematics and Seismotectonics of Georgia

Simon Kuloshvili and I. Bashaleishvili

09:45 – 10:05

Fault Tectonics in the Lower Kura Depression

Aliiev Chingiz

10:05 – 10:25

**Source Parameters of Caucasian, Caspian and Talesh Earthquakes
Obtained From Inversion of Teleseismic P- and SH- Body-Waveforms**

Onur Tan and Tuncay Taymaz

TEA / COFFEE BREAK

10:25 - 11:00

Seismotectonic Studies in Marmara Province

11:00 – 11:25

**Source Rupture Process of the Gölcük–Kocaeli, Turkey, Earthquake of
August 17, 1999 Obtained by Joint Inversion of Near-Field and
Teleseismic Data**

Yuji Yagi and Masayuki Kikuchi

11:25 – 11:50

**Space and Time Evolution of Rupture and Faulting During the 1999
Gölcük, İzmit (Turkey) Earthquake**

Michel Bouchon, M. N. Toksöz, H. Karabulut, M. -P. Bouin, M. Dietrich and M. Aktar

11:50 – 12:15

**Fault Zone Heterogeneity and Variations of Seismicity Parameters
Across 1999 İzmit-Düzce Earthquake Sequence**

Mustafa Aktar, S. Özalaybey, M. Ergin, H. Karabulut, C. Tapırdamaz, A. Yörük, and F. Biçmen

12:15 – 12:40

**Seismogenic Zones of the Sea of Marmara Province: Aftermath of the
1999 Gölcük–İzmit Earthquakes, NW Turkey**

Serdar Özalaybey, H. Karabulut, M. Ergin, C. Tapırdamaz, A. Yörük, F. Biçmen, M. Aktar, and M. Bouchon

12:40 – 13:05

**Investigations of Micro-Earthquake Activity Within the Sea of Marmara
and Surrounding Regions by Using Ocean Bottom Seismometers (OBS)
and Land Seismographs**

Tuncay Taymaz, Toshinori Sato, Junzo Kasahara, Alfred Hirn, M. Ito, Aya Kamimura, Tadaki Hayakawa and Onur Tan

LUNCH BREAK

13:05 - 14:05

14:10 – 14:35

**Crustal Velocity Structure of the Marmara Sea Region from Wide Angle
Seismic Reflection Data Acquired During SEISMARMARA 2001
Experiment**

Hayrullah Karabulut, Serdar Özalaybey, Tuncay Taymaz et al.

14:35 – 15:00

Interseismic Strain Accumulation in the Marmara Sea Region

Mehmet E. Ayhan, Coşkun Demir, Onur Lenk, et al.

15:00 – 15:25

**Comparative Geologic Investigations of ERS and LANDSAT TM Data
From NW Turkey for the Detection of Structural Influence and of Ground
Conditions on Earthquake Damage Intensity and on Secondary Effects**

Barbara Theilen-Willige

TEA / COFFEE BREAK

15:25 - 16:00

Paleoseismology

16:00 – 16:25

**Large Earthquake Sequences Along Main Continental Faults:
Paleoseismic and Historical Constrains of the Faulting Behaviour**

Mustapha Meghraoui

16:25 – 16:50

**Paleoseismology of the Western North Anatolian Fault Near the
Marmara Sea: the Past 400 Years of Surface Ruptures East and West
of Istanbul**

Rockwell, Tom K., G. Seitz, R. Langridge, E. Aksoy, A. Barka, M. Ferry, Y. Klinger, M. Meghraoui, A. Meltzner, D. Ragona, and G. Uçarkuş

16:50 – 17:15

**Paleoseismicity of Düzce Fault in the Last Millennium, North Anatolian
Fault Zone, Turkey**

Ömer Emre, Tamer Yiğit Duman, Shinji Toda, Mitsuru Okuno, Ahmet Dogan, Selim Özalp Hiroyuki Tsutsumi, Fatma Tokay, Tsuyoshi Haraguchi, Hisao Kondo, Nobihiko Sugito, Toshio Nakamura

Seismotectonics Case Studies

17:15 – 17:40

Source Characteristics of Mw=6.5 the February 3, 2002 Çay-Sultandağı Earthquake Sequence (Afyon, SW Turkey) Obtained From Inversion of Teleseismic P- and SH- Body-Waveforms, Strong Motion, and Aftershock Seismicity Survey Data

Tuncay Taymaz, Onur Tan, Serdar Özalaybey and Hayrullah Karabulut

17:40 – 18:05

The Sultandağı Earthquake of February 3, 2002 (Mw=6.5) and its Tectonic Significance in the Western Anatolian Extension Regime in Turkey

Ömer Emre, Tamer Y. Duman, Selim Özalp, Ahmet Doğan, İsmail Kuşçu and Fatma Tokay

18:05 – 18:30

DEM Generation From ASTER Images for Tectonic and Geomorphological Analysis

Hilal Yüce and Cihangir Aydöner

18:30 – 18:55

Source Characteristics of Mw=6.0 June 6, 2000 Orta-Çankırı (Central Turkey) Earthquake: A Synthesis of Seismological, Geological and Geodetic (InSAR) Observations, and Internal Deformation of Anatolian Plate

Tuncay Taymaz, Tim Wright, Onur Tan, Eric Fielding and Gürol Seyitoğlu

19:30 –

Istanbul- Bosphorous Tour and Cocktail Prolounge 17th May 2002, Friday

(Departure from Istanbul Technical University Süleyman Demirel Cultural Centre @ 19:00)

POSTER SESSION

POSTER - SSB-1

Interseismic Strain Accumulation From GPS Measurements 1992–2001 Western Turkey

Mehmet E. Ayhan, Coşkun Demir, Onur Lenk, Ali Kılıçoğlu, Y.S. Şengün, Yüksel Altınar and Rob Reilinger

POSTER - SSB-2

Asperities of the 1999 Düzce, Turkey Earthquake: Joint Inversion of Teleseismic and Strong-Motion Waveforms

Nur Umutlu, Kazuki Koketsu and Altan Necioğlu

POSTER - SSB-3

Seismological Analysis of the August 17, 1999 Gölcük–İzmit (Turkey) Earthquake

Polat, O., H. Haessler, P. T. Hoang, A. Cisternas and H Eyidoğan

POSTER - SSB-4

Implementation of an Automatic Moment Tensor Analysis for Earthquakes in Turkey and its Surroundings

Gonca Örgülü and Mustafa Aktar

POSTER - SSB-5

Continuous GPS Monitoring of Postseismic Deformations Around İzmit Earthquake Rupture Zone

Ergintav, S., Çakmak R., McClusky, S., Reilinger R.E., Bürgmann, R., Lenk, O., Barka, A. and Özener, H.

POSTER - SSB-6

Atmospheric Artefacts in InSAR and Implications on Interpretation and Modelling Surface Deformations: A Case Study of Mw = 7.4 August 17, 1999 Gölcük Earthquake Sequence

Ziyadin Çakır, J-B. de Chaballier, R. Armijo, B. Meyer, and A. Barka

POSTER - SSB-7

Palaeoseismology of the 1999 Gölcük (Kavaklı) Normal Fault From Trench Investigation (East Marmara Region, Kocaeli, Turkey)

Spyros B. Pavlides, A. Chatzipetros, Z. Tutkun, V. Özaksoy and B. Doğan

POSTER - SSB-8

A High-Resolution Aftershock Seismicity Image of the February 3, 2002 Çay-Sultandağı-Afyon Earthquake (Mw=6.5), SW Turkey

Cengiz Tapırdamaz, A. Tarancıoğlu, M. Ergin, A. Yörük, F. Biçmen, S. Çetin, E. Tan, O. Selvi, and S. Özalaybey

POSTER - SSB-9

Investigation of Submarine Features in Alaçatı, Sığacık and Kuşadası Bays by Means of Multi-Channel Seismic Reflection Data

Neslihan Ocakoğlu, Emin Demirbağ and İsmail Kuşçu

POSTER - SSB-10

Source Parameters of November 6, 1992 Doğanbey-İzmir (Mw=6.0, Western Turkey) and November 15, 2000 Van (Mw=5.7, Eastern Turkey) Earthquakes

Onur Tan and Tuncay Taymaz

POSTER - SSB-11

Source Parameters of the Cyprian Earthquakes Obtained From Inversion of Teleseismic Body-Waveforms

Seda Yolsal and Tuncay Taymaz

POSTER - SSB-12

South Eastern Bulgaria and Seismic Strikes From Turkey

Rumiana Glavcheva, Irena Tzoncheva and Blagovesta Babachkova

POSTER - SSB-13

Parallel Seismicity and Recent Geodynamics for the Struma, Mesta and Vardar Riverbeds–Balkan Peninsula

Boyko Kirilov Rangelov, Sonia Dimitrova, Snezhina Rizhikova, George Alexiev

POSTER - SSB-14

The Evolution of Regional Seismicity Between Large Earthquakes

Geoffrey C. P. King and David D. Bowman

POSTER - SSB-15

Ground penetrating Radar prospecting across the 1999 Gölçük–Düzce surface ruptures of the North Anatolian Fault

Matthieu Ferry and **Mustapha Meghraoui**



REGIONAL GEOLOGY AND GEOPHYSICS: THE EVOLUTION OF OROGENIC BELTS OF ANATOLIA AND SURROUNDINGS

Aral Okay, *Istanbul Technical University,
Department of Geology, Maslak 80626, Istanbul,
Turkey*

A. H. F. Robertson, *Edinburgh University,
Department of Geology, Edinburgh, Scotland, U.K*

Erdinç Yiğitbaş, *Istanbul Technical
University, Department of Geology, Maslak 80626,
Istanbul-Turkey*

Tuncay Taymaz, *Istanbul Technical
University, Department of Geophysics, Maslak
80626, Istanbul-Turkey*

May 16, 2002 Thursday
1st Day of Symposium
Sırrı Erinç Hall* 2nd Floor

KEY NOTES

11:00 – 11:30

Microcontinent-Promontory Interactions: Affinities and Possible Emplacement Mechanisms for Proterozoic Basement in Northern Turkey

John A. Winchester

11:30 – 12:00

A Plate Tectonic Model for the Palaeozoic and Mesozoic of the Tethyan Domain Constrained by Dynamic Plate Boundaries and Restored Synthetic Oceanic Isochrones

Gerard. M. Stampfli and G. D. Borel

REGULAR SESSION

12:00 – 12:20

Alternative Tectonic Models for the Late Palaeozoic-Early Tertiary
Tectonic Evolution of Anatolia

Alastair Robertson, Timur Ustaömer and Theo Andrew

12:20 – 12:40

Timing of Alpine Obduction, Subduction and Collision From
Stratigraphic Record in Western Anatolia

Aral İ. Okay, İzver Tansel and Okan Tüysüz

12:40 – 13:00

Dextral Arc-Parallel Tectonic Transport Along the Southern Margin of
Eurasian in the Late Palaeozoic-Early Mesozoic

Boris A. Natal'in, Gürsel Sunal and Erkan Toraman

LUNCH BREAK

13:00 - 14:00

14:00 – 14:20

Tectonometamorphic Evolution of the Sivrihisar Massif, Northern Turkey

Donna L. Whitney and Yıldırım Dilek

14:20 – 14:40

Ordovician Glaciation In Southern Turkey

Monod O., Ghienne J-F., Dean W. T., Kozlu H., Günay Y. Paris F., Le Hérissé A., and Rickards R.B.

14:40 – 15:00

Origin of the Çetmi Melange (NW Turkey)

Beccalotto L. and Stampfli G. M.

15:00 – 15:20

Middle Carnian Radiolarians From the Intra-Pillow Limestones of the
Turunç Unit Within The Gülbahar Nappe (Lycian Nappes, Marmaris,
Southern Turkey): Geodynamic Implications

U. Kağan Tekin and **M. Cemal Göncüoğlu**

15:20 – 15:40

Collision-Related Eocene Fold and Thrust Belt North of the İzmir-Ankara
Suture

Burak M. Yıkılmaz, Kenan Akbayram and **Aral İ. Okay**

TEA / COFFEE BREAK

15:40 - 16:00

16:00 – 16:15

Tectonic Setting and Provenance of Mesozoic Basin Clastic Rocks:
Geochemical Evidence of Lower Jurassic and Upper Cretaceous
Sandstones From Yusufeli (Artvin), NE Turkey

Abdurrahman Dokuz

16:15 – 16:30

The Stratigraphy and Tectonic Evolution of the Late Cretaceous
Foreland Basin in the İçel Region (Central Taurides, Turkey)

Erol Özer, Kemal Taşlı and Hayati Koç

16:30 – 16:45

Tectonic Evolution of Central Taurides: Mersin-Bozyazı Perspective

Hayati Koç, Erol Özer and **Ulvi Can Ünlügenç**

16:45 – 17:00

Carbonate Turbidite Sequences Deposits: Upper Cretaceous
Sedimentary Records of the Pontian Volcanic Arc (Trabzon, NE Turkey)

Cemil Yılmaz, Faruk Aydın, Burhan Sadıklar and Raif Kandemir

17:00 – 17:15

Geochemical and Petrological Characteristics of İkizce (Ordu) Area
Volcanic Rocks: Evidences on the Evolution of Eastern Pontides
Tertiary Volcanism, NE Turkey

İrfan Temizel and Mehmet Arslan

17:15 – 17:30

Geodynamics of Central Part of the Lesser Caucasus During Cenozoic

F.M. Shirinov

17:30 – 17:45

Role of Overthrust Sheets Tectonics in Formation of Modern Structure
of Azerbaijan, Greater Caucasus

Talat Kangarli

17:45 – 18:00

Comparative Analysis of Palaeomagnetic Section of the Caucasian
Segment in the Mediterranean Belt

Khalafly A.A

18:00 – 18:15

Correlation of the Pamir, Kunlun and Tibet Structural Zones and
Tectonic Evolution of High Asia

V.S. Burtman

18:15 – 18:30

Concluding Remarks

Aral İ. Okay and **Alastair H.F. Robertson**

19:00 –

Welcome Reception / 16th May 2002, Thursday
Istanbul Technical University
Süleyman Demirel Cultural Centre

POSTER SESSION

POSTER - SSC-1

Preliminary Result From the CELEBRATION 2000 Experiment in Central Europe

A.Guterch, M.Grad, G.R.Keller, K.Posgay, J.Vozar, A.Spacak, E.Brueckl, Z. Hanjal, H.Thybo and **O. Selvi**

POSTER - SSC-2

Collisional-Backtrust Basin Model for the Thrace-Göynük-Safranbolu Basin (NW Turkey)

Şamil Şen

POSTER - SSC-3

Retroarc Foreland Basin Model for Western Black Sea Basin (NW Turkey)

Şamil Şen

POSTER - SSC-4

Stratigraphy, Facies and Depositional Settings of the Miocene Reefs in the Late-Orogenic Fill of the Antalya Basin, Western Taurids, Turkey

Sevim Tuzcu, **Mustafa Karabıyıkoglu**, Atilla Çiner and Sefer Örcen

POSTER - SSC-5

Facies Architecture and Depositional Evolution of the Miocene Coastal Alluvial Fan - Fan Delta Complexes in the Tectonically Active Köprüçay Basin, the Isparta Angle, Turkey

Atilla Çiner, Mustafa Karabıyıkoglu, Max Deynoux, Olivier monod, Gianretto Manatchal, Sevim Tuzcu

POSTER - SSC-6

Tectono-Stratigraphical Investigation of Northern Akdam (Kozan, Adana, Turkey)

Alican Kop, Mustafa Şenel, Cavit Demirkol, **Ulvi Can Ünlügenç**

POSTER - SSC-7

Seismicity and Geodynamic Situation at South Slope of Great Caucasus

Gurban J. Etirmishli

Special Session

EVOLUTION AND EXHUMATION OF METAMORPHIC TERRAINES IN THE TETHYAN REALM

Erdin Bozkurt *Department of Geological Engineering, Middle East Technical University, Ankara, Turkey*

Roland Oberhänsli *Institute of Geosciences, University of Potsdam, PF 601553, D-14415 Potsdam, Germany*

May 16, 2002 Thursday
1st Day of Symposium
Okan Tekeli Hall* 3rd Floor

KEY NOTE

11:00 – 11:30

High-Pressure Rocks From the Lycian Nappe Complex and the Southern Menderes Massif: Implications for Tectonic Evolution of Southwest Turkey

Rimmelé G., Oberhänsli R., Jolivet L., Goffé B., Candan O. and Çetinkaplan M.

REGULAR SESSION

11:30 – 11:45

Mode of Exhumation of Blueschists in the Western Tavşanlı Zone, Turkey

Aral İ. Okay

11:45 – 12:00

Dating of Eclogite and Granulite Facies Relics in the Menderes Massif

Oberhänsli, R., Warkus F. and Candan, O.

12:00 – 12:15

Single Zircon Pb-Pb Ages for Para- and Orthogneisses in the Menderes Massif, Western Turkey: An Approach to the Original Deposition Age of the Paragneisses

O. Ersin Koralay, Osman Candan, O. Özcan Dora, Fukun Chen, Muharrem Satir and Orhan Kaya

12:15 – 12:30

Origin of Augen Gneisses in the Southern Menderes Massif: Field and Geochemical Evidence

Erdin Bozkurt and John A. Winchester

12:30 – 12:45

Fe-Mg Carpholite – Pyrophyllite – Chloritoid - Bearing Triassic Metapelites From Afyon Zone; Turkey: First Evidence for Alpine Low-Grade, High-P / Low-T Metamorphism

Osman Candan, Mete Çetinkaplan, Roland Oberhänsli and Gaëtan Rimmelé

12:45 – 13:00

Petrology of Manganese Rich Eclogite From the Selçuk Olistostrome

Oberhänsli, R., Hamann, E., Partzsch, J., Warkus, F., Çetinkaplan, M. and Candan, O

13:00 – 13:15

Transport Direction of Lycian Nappes Studied by Kinematic Indicators In Milas Region

Arzu Arslan, Burhan Erdoğan and Talip Güngör

13:15 – 13:30

Retrograde P-T Path of Anatectic Migmatites From the Pulur Massif, Eastern Pontides, NE Turkey: Petrological and Microtextural Constraints

Gültekin Topuz

LUNCH BREAK

13:30 - 14:00

Special Session

PETROGENESIS OF GRANITOID ROCKS

Durmuş Boztuğ, *Department of Geological Engineering, Cumhuriyet University, Sivas, Turkey*

May 16, 2002 Thursday
1st Day of Symposium
Okan Tekeli Hall * 3rd Floor

KEY NOTE

14:00 – 14:40

Granitoids from Western and Northwestern Anatolia: Geochemistry and Geochronology

Michel Delaloye, Ergüzer Bingöl and Denis Fontignie

REGULAR SESSION

14:40 – 15:10

Structure, Petrology, and Geochronology of the Agaçören Intrusive Suite and its Tectonic Implications for the Geodynamic Evolution of Central Anatolia

Yusuf K. Kadioğlu, **Yıldırım Dilek**, Nilgün Güleç and Kenneth A. Foland

15:10 – 15:30

Apatite Fission-Track Ages Provide Uplift Rates and Time-Temperature Paths for the Exhumation of Eastern Black Sea Plutons In the Dereli-Şebinkarahisar Area, S Giresun, NE Turkey

Durmuş Boztuğ, Raymond Jonckheere, Gunther A. Wagner, Sabah Yılmaz Şahin and Zehra Yeğinil

TEA / COFFEE BREAK

15:30 - 16:00

16:00 – 16:25

Petrogenesis of Some Shallow-Seated Granitoids from the Eastern Black Sea Plutonism in the South of Araklı Region, East Trabzon, Northern Turkey

Sabah Yılmaz Şahin

16:25 – 16:50

Composite Behrekdağ Batholith: An Igneous Signature for the Collision Between Anatolides and Pontides Along Ankara-Erzincan Suture Zone in Central Anatolia, Turkey

Sibel Tatar and Durmuş Boztuğ

16:50 – 17:15

Rapid Successive Magma Pulses in Space and Time During the Genesis of Monzonitic Association of the Composite Yozgat Batholith, Central Anatolia, Turkey

Durmuş Boztuğ, Sibel Tatar, Bernard Platevoet, and Bernard Bonin

17:15 – 17:40

Petrology and Age of the Saraycık Granodiorite, Pulur Massif, Eastern Pontides, NE Turkey: Preliminary Results

Gültekin Topuz, Yener Eyüboğlu and Abdurrahman Dokuz

17:40 – 18:05

Sphene and Zircon Fission-Track Geochronology Unravelling Subduction- and Collision-Related Magma Surges in the Composite Kaçkar Batholith, Eastern Black Sea Region, Turkey

Durmuş Boztuğ, Günther A. Wagner, A.Ihsan Ercin, Deniz Göç, Zehra Yegingil, Ali Iskenderoğlu, M. Kemal Kuruçelik, İsmail Kömür and Yıldırım Güngör

POSTER SESSION

POSTER - SSE-1

Genesis of the Enclaves in Oymaagaç (Beyazır-İstanbul) Granitoid

Oğuz Zoroğlu and Yusuf Kağan Kadioğlu

Special Session

EASTERN MEDITERRANEAN OPHIOLITES AND THE TETHYAN GEODYNAMICS

Yıldırım Dilek, *Miami University, Oxford,
U.S.A*

Yücel Yılmaz, *Kadir Has University, Istanbul,
Turkey*

May 17, 2002 Friday

2nd Day of Symposium

İhsan Ketin Hall* Main Lecture Theatre

INTRODUCTION

09:00 – 09:15

Outstanding Questions on the Eastern Mediterranean Ophiolites and the Tethyan Geodynamics

Yıldırım Dilek

KEY NOTES

09:15 – 10:00

Settings of Ophiolite Genesis in the Eastern Mediterranean Region

Alastair Robertson

10:00 – 10:30

A Precambrian Metaophiolite in the Basement of Northwestern Anatolia-Turkey and its Exhumation History

Erdinç Yiğitbaş, Robert Kerrich, Yücel Yılmaz, Ali Elmas and Qianli Xie

TEA / COFFEE BREAK

10:30 - 11:00

REGULAR SESSION

11:00 – 11:30

Geochemical Evolution of the Jurassic Mirdita Ophiolite, Albania

H. Furnes, Y. Dilek and M. Shallo

11:30 – 12:00

Petrology of Mafic to Ultramafic Intrusions From the Pulur Massif, Eastern Pontides, NE-Turkey: Preliminary Results

Gültekin Topuz

12:00 – 12:30

Geodynamics of the Transcaucasian Massif and the Ophiolites of the Lesser Caucasus and Its Implications for the Evolution of Paleo-Tethys in the NE Mediterranean

G.S. Zakariadze, Y. Dilek, Sh. A. Adamia and R.E. Oberhaensli

12:30 – 13:00

The First Evidence for Boninite-Like Lavas From The SSZ Type Çiçekdağ Ophiolite: Tectonic Significance in the Mesozoic Evolution of the Izmir-Ankara Branch of Neotethys

M. Kenan Yalınız

LUNCH BREAK

13:00 - 14:00

14:00 – 14:30

Geodynamic Significance of Doleritic and Amphibolitic Dikes Near Yeşilova (SW Turkey) Inferred From Major, Trace, REE and Pb Isotopes

Ömer Faruk Çelik, Massimo Chiaradia and Michel Delaloye

14:30 – 15:00

Inverted Metamorphic Zonation Beneath the Yüksekova Ophiolite in SE Anatolia

Osman Parlak, Ayten Önal, Volker Höck, Sevcan Kürüm, Michel Delaloye, Utku Bağcı and Tamer Rızaoğlu

15:00 – 15:30

Different Ophiolitic Tecto/Stratigraphic Units Distinguished From the Southeastern Anatolian Orogen, and Their Tectonic Significance on the Evolution of the Orogenic Belt

Erdinç Yiğitbaş and Yücel Yılmaz

TEA / COFFEE BREAK

15:30 - 16:00

16:00 – 16:30

Ultra-High Pressure Minerals of the Luobusa Ophiolite, Tibet

Paul T. Robinson, Mei-fu Zhou and Wen-ji Bai

16:30 – 17:00

Petrography and Geochemistry of Epidiosites From the Mirdita Ophiolite, Albania

Neil R. Banerjee, Karlis Muehlenbachs, and Yildirim Dilek

17:00 – 17:30

Bioalteration in Fossil Oceanic Crust: A Case Study of Two Tethyan Ophiolites (Troodos, Cyprus And Mirdita, Albania)

H. Furnes, K. Muehlenbachs, T. Torsvik, Y. Dilek, M. Shallo and C. Xenophontos

17:30 – 18:00

Structural and Palaeo-Stress Analysis of the Melange Associated With the Neyriz Suture Zone

Khalil Sarkarinegad

18:00 – 18:30

Flow and Shear Structures Along the Moho in Northern Oman Mountains

Huda Mohamed Allawati and **Yujiro Ogawa**

18:30 – 18:40

Concluding Remarks

Yıldırım Dilek and Yücel Yılmaz

19:30 –

**Istanbul - Bosphorous Tour and Cocktail Prolounge
17th May 2002, Friday**

(Departure from Istanbul Technical University Süleyman Demirel Cultural Centre @ 19:00)

POSTER SESSION

POSTER - SSF-1

Suprasubduction Zone Origin of the Antalya Ophiolite (Southern Turkey) Deduced From the Mineral Chemistry of the Ultramafic-Mafic Cumulate Rocks

Utku Bağcı, Osman Parlak, Volker Höck and Michel Delaloye

POSTER - SSF-2

Geodynamic Conditions of Ophiolite Troughs Formation of Lesser Caucasus

A.T. Hagverdiyev and R. A. Samedova

POSTER - SSF-3

Geochemical Peculiarities of Subalkalines Ultrabasic Magmatism Talysh Zone, Azerbaijan

G.J. Babayeva and M.Y. Hasanguliyeva

POSTER - SSF-4

Isotope-Geochronologic Studies of Magmatic Formations in the East of the Lesser Caucasus Ophiolite Zone

Bagirbekova Ofelia Jafarkisi and Abdullayev Ibadulla Abdullaogly

POSTER - SSF-5

Structural Evidences of the Neyriz Paleo Ridge, Iran

Alireza Nadimi

POSTER - SSF-6

Detailed Mapping of a Mantle Diapir below a Paleo Spreading Center in the Neyriz Ophiolite, Iran

Alireza Nadimi

POSTER - SSF-7

Petrographical and Geochemical Characteristics of the Subophiolitic Metamorphic Rocks Beneath Şarkikarağaç Ophiolite, SW Turkey

Ömer Elitok

POSTER - SSF-8

Vertical Variation of Magnetic Susceptibility in Layered Gabbro in Oman Ophiolite: Younging Direction Determination at Sadam Area

Kiichiro Kawamura, Takashi Hosono, Huda Allawati, Hidetsugu Taniguchi, and Yujiro Ogawa

POSTER - SSF-9

The Lesser Caucasus Ophiolite Gases– Indicators of Deep Conditions of Formation

Ismail-Zadeh A.J and Latifova Y.N.

POSTER - SSF-10

Preliminary Studies on the Geology and Petrography of Mineralization Bearing Ophiolites Around Sivrihisar

Hayrettin Özen, **Ender Sarıfakuoğlu**, Ö.Faruk Gültaşlı, Hüseyin Savak, Aydın Çolakoglu, Fevzi Minareci and Hatice Erdal



ACCRETIONARY COMPLEX OR RIFT DEPOSITS? PALEO-TETHYAN OCEAN OR A SMALL BACK-ARC BASIN ? THE PROBLEM OF THE KARAKAYA COMPLEX

Aral İ. Okay, *Istanbul Technical University, Department of Geology, Istanbul 80626, Turkey*

Cemal Göncüoğlu, *Middle East Technical University, Department of Geology, Ankara Turkey*

May 17, 2002 Friday
2nd Day of Symposium
Sırrı Erinç Hall* 2nd Floor

OBITUARY

09:00 - 09:10

Obituary to Prof. Dr. Okan Tekeli

Aral İ. Okay and M. Cemal Göncüoğlu

REGULAR SESSION

09:10 - 09:30

Karakaya Complex - Definition, Extent and Significance

Aral İ. Okay

09:30 - 09:50

The Karakaya Basin Versus Triassic Basins in Anatolia

Yücel Yılmaz and Erdinç Yiğitbaş

09:50 - 10:10

Rock-units of the Sakarya Composite Terrane in the Armutlu and the Central Sakarya Areas, NW Turkey

M. Cemal Göncüoğlu and Okan Tekeli

10:10 – 10:30

Characteristics of the Karakaya Formation in the Western and Central Anatolia

Behçet Akyürek

TEA / COFFEE BREAK

10:30 - 11:00

11:00 – 11:20

The Karakaya Complex as a Palaeotethyan Subduction / Accretion Complex and the Role of the Triassic Volcanogenic Nilüfer Unit as Fragments of Emplaced Triassic Oceanic Seamounts

E.A. Pickett and A.H.F. Robertson

11:20 – 11:40

Geochemistry and Petrology of “Nilüfer-type” Metabasic Rocks of Eastern Kozak Massif, NW Turkey

M. Kenan Yalıniz and **M. Cemal Göncüoğlu**

11:40 – 12:00

Data on the Subduction-Accretion Origin of the Karakaya Complex: Triassic Blueschists and Eclogites From Northwest Turkey

Aral I. Okay, Olivier Monod and Patrick Monié

12:00 – 12:20

The Karaburun Units: A Remnant of the Palaeotethyan Fore-Arc Basin

François Rosselet

12:20 - 12:30

Concluding Remarks

Aral I. Okay and **M. Cemal Göncüoğlu**

LUNCH BREAK

12:30 - 14:00

19:00 –

17th May 2002, Friday, 19:30

Istanbul - Bosphorous Tour and Cocktail Prolounge

(Departure from Istanbul Technical University Süleyman Demirel Cultural Centre @ 19:00)



CENTRAL ANATOLIAN GEOLOGY

Ali Koçyiğit, Middle East Technical University,
Department of Geology, Ankara, Turkey

May 17, 2002 Friday

2nd Day of Symposium

Okan Tekeli Hall* 3rd Floor

KEY NOTE

09:00 – 09:40

Miocene Paleoeecology and Fossil Apes From Central Anatolia

John Kappelman

REGULAR SESSION

09:40 – 10:10

Some Active Extensional Structures in the Central Anatolian Fault System: Tuzla and Kavak Pull-Apart Basins and Their Western Margins-Boundary Faults

Ali Koçyiğit

10:10 – 10:30

Mio-Pliocene Basin Development in the Eastern Part of the Capadocian Volcanic Province (Central Anatolia, Turkey) and Its Implications to Regional Tectonics

Faruk Ocakoğlu

TEA / COFFEE BREAK

10:30 - 11:00

11:00 – 11:20

Quaternary Rhyolitic Volcanic Complexes From Central Anatolia (Göllü Dağ and Acıgöl): Genesis, Instability And Environmental Constraints

D. Mouralis, J-F. Pastre, C. Kuzucuoğlu, A. Türkecan, Y. Atıcı, M. Fontugne, H. Guillou, S. Kunesch, N. Balkan-Atlı, D. Binder, L. Slimak and H. Roche.

11:20 – 11:40

Neogene Tectonics and Stratigraphy of the Western Part of Tuzgölü,
Central Anatolia-Turkey

Kadir Dirik and Cemal Göncüoğlu

11:40 – 12:00

The Youngest Compressional Palaeotectonic Structures Comprising the
Ankara Section of the İzmir-Ankara-Erzincan Suture Zone (IAESZ): Age
and Kinematic Analysis of the Edige Imbricate Thrust Fault Zone,
Ankara, Turkey

Ali Koçyiğit and Gerçek Saraç

12:00 – 12:20

Ecomorphological Investigation of Equid Metapodials from Akkaşdağı,
Kaman, Turkey

Murat Maga and Robert Scott

12:20 – 12:40

Surface and Subsurface Characteristics of the Çankırı Basin (Central
Anatolia, Turkey): An Integrated Study

Nuretdin Kaymakçı

12:40 – 13:00

Sedimentary Evolution of the Çankırı-Çorum Basin Between Çorum and
Osmancık in the Eocene

Faruk Ocakoğlu

13:00 – 13:20

The Geology of the Southern Part of the Bolkar Mountains

Tayfun Bilgiç and **Ergun Gökten**

13:20 – 13:30

Concluding Remarks

Ali Koçyiğit

Special Session

EXTENSIONAL TECTONICS, BASIN FORMATION AND VOLCANISM IN THE AEGEAN REGION

Gürol Seyitoğlu, Ankara University,
Department of Geology, Ankara, Turkey

Nilgün Güleç, Middle East Technical
University, Department of Geology, Ankara, Turkey

May 17, 2002 Friday
2nd Day of Symposium
Sırrı Erinç Hall* 2nd Floor

KEY NOTE

14:00 – 14:30

Aegean Extension: Tectonics, Volcanism and Basin Development

Yücel Yılmaz

REGULAR SESSION

14:30 – 14:50

Sedimentation, Tectonics and Geomorphology in the Neogene Antalya
Basins: A Synthetic Outlook

Monod O., Karabıyıkoglu, M. et al.,

14:50 – 15:10

Magnetotelluric Images of Southwestern Turkey

Aysan Gürer, M. Bayrak and Ö.F. Gürer

15:10 – 15:30

Pliocene and Quaternary Surface Uplift of Western Turkey Revealed by
Long-Term River Terrace Sequences

Tuncer Demir and **Rob Westaway**

TEA / COFFEE BREAK 15:30 - 16:00

16:00 – 16:20

Geology of the Volcanosedimentary Succession in Lacustrine Environment: An example From the Area Between Soma and Bigadiç, Western Turkey

Fuat Erkül, Cahit Helvacı and **Hasan Sözbilir**

16:20 – 16:40

Extension Crack as a Structural Tool for the Study of Deformation From Ancient to Active Tectonic Settings

Hayrettin Koral

16:40 – 17:00

Consistency Between the Initiation of Magmatism (11.5 Ma) in the Bodrum Peninsula (SW-Turkey) and the Initiation of Both the North Anatolian Fault and the Roll-Back Process of the Hellenic Trench System

Ursula Robert and Raymond Montigny

17:00 – 17:20

Stratigraphic and Volcanic Features of the Northern Part of the Bodrum Magmatic Complex in the Bodrum Peninsula, SW Anatolia

Zekiye Karacık and Yücel Yılmaz

17:20 – 17:40

The Progressive Neogene Volcanism in the Aliğa-Foça Region (İzmir, West Turkey)

Erhan Akay and Burhan Erdoğan

17:40 – 18:00

Petrographical and Volcanological Features of Volcanic Associations of the Foça Area, West Central Turkey

Şafak Altunkaynak and Yücel Yılmaz

18:00 – 18:20

K-Richterite-Olivine-Phlogopite-Diopside-Sanidine Lamproites From Southern Part of the Afyon Volcanic Province, Western Turkey

Cüneyt Akal and Cahit Helvacı

18:20 – 18:40

Oxygen Isotope Variations in Kula Lavas (Western Anatolia)

Pınar Alici, Abidin Temel, Marie-Christine Gerbe, and Alain Gourgaud

18:40 – 18:50

Concluding Remarks

Gürol Seyitoğlu and Nilgün Güleç

19:00 –

17th May 2002, Friday, 19:00

Istanbul Bosphorous Tour and Cocktail Prolounge

(Departure from Istanbul Technical University Süleyman Demirel Cultural Centre @ 19:00)

POSTER SESSION

POSTER - SSI-1

The Study of Relation Structural Geology, Volcanism, Alteration, and Mineralization Around Kozak Horst in Western Anatolia Using Satellite Data and Ground Truth Studies

Ünal Akman and Ramazan Sarı

POSTER - SSI-2

Volcanological Evolution of the Gölcük Area (Isparta, SW Turkey)

Pınar Alici, Abidin Temel, Alain Gourgaud and Guy Kieffer

POSTER - SSI-3

Well-Preserved Neogene Stratovolcanoes of Western Anatolia: the Altınova, Çukurköy and Turgutreis Volcanoes as a Case Study

Şafak Altunkaynak, Can Genç, and Yücel Yılmaz

Special Session

ROCK ENGINEERING AND TUNNELING

Erkin Nasuf, *Istanbul Technical University,
Department of Mining Engineering, Maslak 80626,
Istanbul, Turkey*

May 16, 2002 Thursday
1st Day of Symposium
Kemal Erguvanlı Hall * 3rd Floor

REGULAR SESSION

11:00 – 11:20

A Contribution to the Importance of the Bearing Capacity and the Unite Rock Element Displacement of the Rock Mases at the Design and Dimension of the Slope Tunnels

Mahir Vardar, Halil Karaoğlu, and Cenk Koçak

11:20 – 11:40

Determinative Number “Nd”: A New Methodology for Geotechnical Assesment for Underground Rock Structures

Mehmet Dinçer Köksal

11:40 – 12:00

Investigation of the Planned Route of the Southern Highway Between Darıca (Akçaabat)-Yalı Mahallesi (Trabzon) in Terms of Engineering Geology

Serhat Dağ and Fikri Bulut

12:00 – 12:20

Investigation of Construction Stages and Production Parameters of Uluburun Tunnel Between Giresun and Espiye, NE Turkey

Bayram Ercikdi, Ayhan Kesimal, Ali Osman Yılmaz, Kerim Aydinler and Heybet Çağlayan

12:20 – 12:40

The Useability of Coarseness Index in the Prediction of Penetration Rate of Percussive Blasthole Drills in A Limestone Opencast Quarry

Raşit Altındağ

12:40 – 13:00

Assessment of the Correlation Between Mechanical and Textural Properties of Rocks

C. Atilla Öztürk and Erkin Nasuf

LUNCH BREAK

13:00 - 14:00

14:00 – 14:20

Surface Displacements and Tilts in Anisotropic Medium Due To Shallow Tunnels

Bahattin Kimençe and M. Ertaç Ergüven

14:20 – 14:40

A Mathematical Simulation for Fluid Flow in Rock Mass Environment

Mohammad Faroug Hossain, Morteza Kolahdoozan, Abolfazle Mehinrad and Babak Karimi Dehkordi

POSTER SESSION

POSTER - SSJ-1

Liquefaction Potential of Quaternary Deposits in Istanbul Metropolitan Area

Feyzi Polat and **Yılmaz Mahmutoglu**

POSTER - SSJ-2

Problems of Squeezing and Soft Ground Tunnelling in Ayaş, Central Turkey

Yılmaz Mahmutoglu, Tolga Yalçın and Mahir Vardar

Special Session

RESERVOIR ENGINEERING, CHARACTERIZATION AND FORMATION EVALUATION

Mustafa Onur, *Istanbul Technical
University, Department of Petroleum and Natural
Gas Engineering, Maslak 80626, Istanbul, Turkey*

May 17, 2002 Friday
2nd Day of Symposium
Ekrem Göksu Hall* 3rd Floor

KEY NOTE

09:00 – 09:30

A Brief Discussion on Integrated Reservoir Management Process
Ömer Gurpınar

REGULAR SESSION

09:30 – 09:50

Description of Heterogeneous Reservoir Using Integrated Pressure and
Tracer Data Analysis
Serhat Akın

09:50 – 10:10

Potential Applications of Smart Wells in A Giant Saudi Oil Field
Burak Yeten, Mustafa Şengül, Louis J. Durlofsky, Emad H. BuHulaigah and Khalid Aziz

10:10 – 10:30

A Laboratory Study on Determination of Physical Properties of
Carbonate Rocks
Melih Gökmen, Hasan O. Yıldız and Argun Gürkan

TEA / COFFEE BREAK

10:30 - 11:00

KEY NOTE

11:00 – 11:30

Neuro-Simulation—A Panacea or A Hype For Long-Standing Reservoir
Engineering Issues?
Turgay Ertekin

REGULAR SESSION

11:30 – 11:50

Upscaling Permeability and Relative Permeability to Incorporate
Reservoir Heterogeneities Into Numerical Models
Ekrem Kasap

11:50 – 12:10

Efficient Cuttings Transport in Horizontal and Deviated Well-Bores in
Coil Tubing Drilling: A Flow Pattern Approach
V. C. Kelessidis, G. Mpandelis, A. Koutroulis and T. Mihalakis

12:10 – 12:30

Small-Element in Rocks of Oil-Bearing Horizons and Oils
Hasanov F.D

12:30 – 12:50

Effect of Scaling Factors on Spontaneous Imbibition Experiments
Melih Gökmen, Erdem Çatak and Hasan O. Yıldız

12:50 – 13:00

Concluding Remarks
Mustafa Onur

LUNCH BREAK

13:00 - 14:00

19:30 –

17th May 2002, Friday
Istanbul - Bosphorous Tour and Cocktail Polounge
(Departure from Istanbul Technical University Süleyman Demirel Cultural Centre @ 19:00)

Special Session

STRONG GROUND MOTION AND EARTHQUAKE HAZARD

Atilla Ansal and Tuncay Taymaz

Istanbul Technical University (İTÜ)

Maslak 80626, Istanbul, Turkey

May 17, 2002 Friday
2nd Day of Symposium
Kemal Erguvanlı Hall* 3rd Floor

KEY NOTES

09:00 – 09:30

An Approach for the Estimation of Near-Fault Ground Motions

Eser Durukal and **Mustafa Erdik**

09:30 – 10:00

Estimating Strong-Ground Motion in İstanbul Based on an Earthquake
Scenario: Preliminary Results

Nelson Pulido, Anibal Ojeda and **Kuvvet Atakan**

REGULAR SESSION

10:00 – 10:20

Microzonation in Highly Seismic Regions of Marmara Province

Atilla Ansal

TEA / COFFEE BREAK

10:20 – 11:00

11:00 – 11:20

“Merm Project” Microzonation For Earthquake Risk Mitigation: A Project
Sponsored by the Swiss Agency for Development and Cooperation
(SDC)

Mehmet Dinçer Köksal

11:20 – 11:40

Site Effect Problem of Avcılar Province, İstanbul, Turkey

Mehmet Ergin, S. Özalaybey, H. Karabulut, M. Aktar and C. Tapırdamaz

11:40 – 12:00

Investigation of Sedimentary Resonance in Avcılar Region, İstanbul,
Turkey

Çağrı İmamoğlu and Aysun Boztepe-Güney

12:00 – 12:20

Estimation of Earthquake Site Effects by Array Processing of
Microtremors

H. Ebru Bozdağ and Argun H. Kocaoğlu

12:20 – 12:40

The Estimate of Seismic Hazard and Risk in the Oil-Gas-Bearing
Regions

L.N. Solodilov and **L. E. Levin**

LUNCH BREAK

12:40 – 14:00

POSTER SESSION

POSTER - SSL-1

Strong Ground Motions During the September 13, 1999 Earthquake,
the Largest Aftershock of the 17 August 1999 Gölcük – Kocaeli, Turkey
Earthquake (Mw=7.4)

Nurcan Meral Özel

POSTER - SSL-2

Spectral Acceleration Simulation for Bursa City, Northwestern Turkey

Nihal Akyol, Aybige Akıncı and Haluk Eyidoğan

Special Session

ENVIRONMENTAL GEOSCIENCES

Catherine Kuzucuoğlu, *French Institute
of Anatolian Studies (IFEA), Istanbul, Turkey*

May 16, 2002 Thursday
1st Day of Symposium
Ekrem Göksu Hall* 3rd Floor

KEY NOTE

11:00 – 11:25

Trends and Discontinuities in Holocene and Recent Environmental Records in Anatolia: A Presentation of Some Human Societies Responses to Climate Changes and “Crises”

Catherine Kuzucuoğlu

REGULAR SESSION

11:25 – 11:45

Monitoring the Behaviour of Landslides by GPS Measurements

Mualla (Ünver) Yalçinkaya and **Temel Bayrak**

11:45 – 12:05

Properties and Evolution of Thermal Springs in Eastern Black Sea Region

Arzu Fırat Ersoy and Fatma Gültekin

12:05 – 12:25

Monitoring Environmental Changes by Remote Sensing: Land-Cover/Land-Use Change Over 15 Years at Gebze-Kocaeli, NW Turkey

Hülya Yıldırım, Mehmet Emin Özel and Alparslan Akça

12:25 – 12:45

The Social-Economic Aspects of Seismic Hazard: A Case Study of the November 25, 2000 Baku (Azerbaijan) Earthquake

Akhundova Svetlana

12:45 – 13:05

Some Geological Objects of Azerbaijan as the Protected Monuments of Nature

R.G. Babayev and **S.G. Aliyeva**

LUNCH-BREAK

13:05 – 14:00

14:00 – 14:20

Simulation of Coal Preparation Processes–Static and Dynamic Models

Stanislaw Cierpisz

14:20 – 14:40

Procedure of Complex Geophysical Studies For a Search of Local Areas of Concentration of Geothermal Energy Resources

Ahmet Ercan, Y. Konovalov and I. Lipovetsky

14:40 – 15:00

Natural and Anthropogenic Factors of the Contamination of Soils by Heavy Metals in Azerbaijan

Talat Kangarli, S. Gadjiyeva and I. Kangarli

15:00 – 15:20

Organic Carbon and Nitrogen in the Deposits of the Middle Caspian Shelf

S.H. Aliyeva and R.G. Babayev

TEA / COFFEE BREAK

15:20 – 16:00

POSTER SESSION

POSTER - SSM-1

Remote Sensing Applications for Mineral Exploration in Eastern Turkey

Kazuyo Hirose, Yuichi Maruyama, Tomoji Sanga, Susumu Takeda, A. Ural Akman and Temel Topçu

POSTER - SSM-2

The Map of Natural Radioactivity of Absheron Peninsula

Aliyeva Sabina

POSTER - SSM-3

Natural Glass Raw Materials: Cost and Quality Aspects

Eşref Aydın

POSTER - SSM-4

Fluid Inclusions Study and REE Geochemistry at Kamar-Mehdi Mine, Tabas Region, Iran

Mahmood Sadeghi and Farid Moore

POSTER - SSM-5

Genetic Model and Stable Isotope Study of Angooran Pb-Zn Deposits,
NW Iran

Mahmood Sadeghi and Farid Moore

POSTER - SSM-6

Prospects of Searching for Ore Deposits in Azerbaijan: The Role of Flat
Thrusts and Tectonic Overlaps

Telman N. Nasibov and Vagif G. Ramazanov

POSTER - SSM-7

Distribution and Geochemical Behavior of Rare Earth Elements in
Surficial Sediments of Karkheh River System, Iran

Alireza Zarasvandi and Sassan Liaghat

POSTER - SSM-8

Prospecting and Economical Evaluation of Heavy Minerals in Karkheh
River Sediments, Khuzestan Province, Iran

Alireza Zarasvandi and Sassan Liaghat

POSTER - SSM-9

Karst Hydrology Around Kalecik Village (Torul-Gümüşhane), NE Turkey

Hakan Ersoy and Arzu Firat Ersoy

POSTER - SSM-10

Geotectonic Setting of Volcanogenic Massive Sulfide Deposits in
Tirebolu-Doğankent (Giresun), NE Turkey

Yener Eyüboğlu, Necati Tüysüz and Sadettin Korkmaz

Special Session

OPEN POSTER SESSION

May 16 - 17, 2002 Thursday - Friday

Main Poster Hall* 3rd Floor

OPEN POSTER SESSION

POSTER - SSN-1

International Project "Deep Structure, Petroleum Potential and
Seismicity of the Azov-Black Sea Sedimentary Basin"

L.E. Levin, Ya.P. Malovitsky, N.V. Miletenko, L.N. Solodilov, V.E. Khain, S.S. Krasovsky, I.S. Chuprina
and P.F. Shpa

POSTER - SSN-2

Earthquake Forecast by Monopolar Electric Field Measurement

Berk Üstündağ, Mehmet Sıraç Özerdem and Haluk Eyidoğan

POSTER - SSN-3

The Influence of the Catastrophic Earthquakes of Turkey on
Geochemical Fields of Shemakha Seismoactive Zone in Azerbaijan
During 1999-2002

A.G.Gasanov, **R.A. Keramova** and G.O.Allakhverdiyeva

POSTER - SSN-4

Additional Criteria of Efficient Earthquake Forecast

A.G.Gasanov and **R.A. Keramova**

POSTER - SSN-5

The Identification of the Seismic Epicenter's Vector by Intensity of the
Hydrogeochemical Field of Sheky Seismoactive Zone in Azerbaijan

R.A.Keramova

POSTER - SSN-6

The Use of Complex Thermal Mineral Waters in Azerbaijan: An
Evaluation of Economical Feasibility

Irada Sh. Ibrahimova

POSTER - SSN-7

Tectonic Significance of the Eastern Marmara Shear Zone and Relation with the Karamürsel – Yalova – Çınarcık Strike Slip Fault System

Şener Üşümezsoy and Namık Aysal

POSTER - SSN-8

Strike Slip Tectonic Related with the Crustal Detachment in the Marmara Sea

Şener Üşümezsoy and Namık Aysal

Field Trip 1

A Section Through Precambrian Basement and Surface Ruptures of 1999 Earthquakes

This field trip will take place and departure will be promptly at 09:00 o'clock on May 18th, 2002. Further information will be announced during the symposium at the registration desk accordingly.