

DR FERDA AKGUN

Date of Birth: May 23, 1960
Citizen of: Turkey and Australia
Marital status: Married with two kids

The Petroleum Institute
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EDUCATION

1989 Ph.D. Colorado School of Mines, Petroleum Eng., USA
1985 M.Sc. University of Louisiana, Petroleum Eng., USA
1982 B.Sc. Middle East Technical University, Petroleum Eng., TURKEY

EMPLOYMENT

9/2003- **Associate Prof., Petroleum Eng., the Petroleum Institute, UAE**

Taught five courses on different subjects. Developed drilling fluids and drilling simulation laboratories which included the selection and purchasing of equipment, technical evaluation of bids, preparation of lab manuals, communication with ADNOC drilling group to maintain steady supplies necessary to conduct experiments. Involved in the recruiting and hiring of the PI faculty and technical personnel. Established an internationally recognized well control school under the PI banner and led to its accreditation by two accreditation boards; the international association of drilling contractors (IADC), and international well control forum (IWCF). Participated in activities leading to departmental preparation for ABET and UAE ministry of education accreditation. Involved in the development of program curriculum and objectives. Prepared course outlines, files and student outcomes in five departmental courses. Represented the PI in a number of national and international platforms by serving as program committee member in technical conferences and forums; conducting in house courses for national and international operating companies; presenting and publishing technical papers in international conferences and journals; and finally, serving as a referee and editor in international journals. Served in the PI committee which prepared the PI faculty handbook.

2/01-8/03 **Assistant Prof., Chemical & Petroleum Eng., UAE University**

Taught basic science and senior level engineering courses such as; basic math, chemistry, thermodynamics, geology, as well as drilling and production engineering. Advised undergraduate students in their summer internships and graduation projects. Involved in processes which led to the college of engineering's achievement of ABET equivalency for seven years. Participated in funded research projects. Conducted a number of national and international industry courses on various aspects of drilling engineering including conducting a seven weeks of drilling college for British Gas in Kazakhstan. Served in several university committees.

2/95-2/00 **Lecturer, The School of Petroleum Eng., The University of New South Wales, Sydney**

Taught undergraduate courses in drilling and production engineering. Advised undergraduate students in their graduation projects and graduate students in their researches. Participated in funded research projects. Consulted oil companies. Presented industry wide seminars. Participated in research workshops and drilling forums. Established research collaborations with organisations such as; the commonwealth scientific and industrial research council (CSIRO), Australian Petroleum Cooperative Research Centre (APCRC).

11/90-2/95 **Assistant Prof., Petroleum & Natural Gas Eng., The Middle East Technical University, Ankara**

Taught undergraduate and graduate level courses. Advised undergraduate students in their graduation projects. Supervised graduate students. Participated in a research funded by Turkish Scientific Research Council. Established research collaborations with internationally renown institutions such as; Colorado School of Mines (CSM). To raise research funds, organized workshops and delivered seminars to local oil companies such as NTV Shell.

FUNDED RESEARCH PROJECTS

- 2001-2002 *Drilling Stable Horizontal Wells: A Key Problem in Modern Oil Well Drilling*, Principal Investigator. Funded by UAE University Research Affairs.
- 2002-2003 *Experimental And Theoretical Investigation of Borehole Temperature Profile—A Key Element For Petroleum Operations*, Principal Investigator. Funded by UAE University Research Affairs. Project budget: DRH 23,000.
- 1999/2000 Development of *Genesis Drilling Data Management Systems*. Consultant. Project Manager Dr. Eric Maidla of CSIRO-Petroleum Division, Australia.
- 1999 *Technical and economic benefits of using lightweight tubulars, such as Aluminium alloys in drilling*, Principal Investigator. In collaboration with Dr. Eric Maidla CSIRO-Petroleum Division, Australia and Michael Gelfgat of Aquatic CO. RUSSIA. Funded by APCRC.
- 1998-1999 *Factors Affecting Hydraulic Fracture Initiation in High In-Situ Stress Condition. Co-investigator*. Funded by APCRC and SANTOS Oil Co.
- 1998 *The technical reasons that might have led to uneconomically low penetration rate in Moomba#92 slim drilling practice*, Consultant. Recommended optimum locations for BHA stabilisers to maintain pipe stability. Funded by Santos Oil Company, Adelaide.
- 1997-1998 *Technical Evaluation of the Micro-Grip based slips and tongs on Drill Pipe Stability with Special Reference to Endurance Limit*, Co-investigator. Funded by EVI Weatherford Germany, a collaborative work with Holger Kinzel of EVI Weatherford, Technical University of Hanover/Germany and Un. of NSW.
- 1995-1996 *Micro annulus formation and gas migration behind production casings - A key problem in gas reservoirs*, Principal Investigator. Funded by Australian APCRC.
- 1994-1995 *Drilling Problems encountered in Karadut facies and Bore Hole Instability*, Co-investigator. Funded by Turkish Scientific Research Council.
- 1991-1993 (Summers)-*Finite Elements Analysis of Tubular Deformation and Failure Analysis in Deviated Wells*, Principal Investigator. Funded by CSM and Turkish Scientific Research Council. *Critical Buckling Load of DPs in Inclined and Curved Holes*, Principal Investigator, in collaboration with Dr. Bill Mitchell of CSM. Joint research funded by Drilling Research Centre Colorado School of Mines and Turkish Scientific Research Council.
- 1990-1991 *Setting up a Data Base to monitor upstream petroleum activities in Turkey*, Co-investigator. Funded by the Department of Petroleum Affairs, Turkey.

SHORT COURSES

Horizontal & Multilateral wells, Kuwait Petroleum Co. Jan, 2004; KIVO, Aksai, KAZAKHSTAN, Aug, 2003; Kuwait Oil Company and Saudi Arabian Texaco (Joint operations), Nov, 2001; ADMA-OPCO, Abu Dhabi, UAE, Apr, 2001

Underbalanced Drilling, MOGE & MPRL, Rangoon, MYANMAR, Jun, 2005; KIVO (BG&AGIP), Aksai, KAZAKHSTAN, Aug, 2003; ARAMCO, Dhahran, SAUDI ARABIA, Sep, 2003, Sep, 2005 & Jun, 2006

Drilling Fundamentals, PUT, Tehran, IRAN Feb, 2005 ; KIVO, Aksai, KAZAKHSTAN, Jul, 2003; Kuwait Petroleum Co. Sep, 2002; ZADCO, Abu Dhabi, UAE, Feb, 2002; PT Exspan/Nusantara, Jakarta, INDONESIA, Sep, 2001

Bit Selection, ADMA-OPCO, Abu Dhabi, UAE Dec, 2004

Directional Drilling, ADMA-OPCO, Abu Dhabi, UAE, Nov, 2000; Kuwait Petroleum Co, Feb, 2006(Awarded to be conducted)

Solids Control, KIVO (BG&AGIP), Aksai, KAZAKHSTAN, Aug, 2003,; ARAMCO, Dhahran, SAUDI ARABIA, Jun, 2002 & Feb, 2003

Measurement While Drilling, KIVO (BG&AGIP), Aksai, KAZAKHSTAN, Jul, 2003

Effective Drilling Fluids Control, KIVO, Aksai, KAZAKHSTAN, Jul, 2003; Kuwait Petroleum Co. Dec, 2002

HONOURS & AWARDS

- 2005 Adjunct professor, Curtin University, Petroleum Eng. Perth, Australia
- 2004 Recognized Well CAP instructor by International Association of Drilling Contractors, Houston, TX
- 2004 Recognized instructor of Network of Excellence in Training (NExT), a Schlumberger Oil Co. and Harriet Watt University organization.
- 2003 Outstanding Faculty, the Petroleum Institute.
- 2000 RIKE Services instructor, New Orleans, Louisiana.
- 1994 Nominated to M. Parlar Foundation Best Educator award based on a senior student survey at the Middle East Technical University.

1992 Fellowship to conduct research in the US by Turkish Scientific Research Council (3 months)
1982 Scholarship for post graduate studies in the United States by Turkish Ministry of Education (6 years).

PROFESSIONAL COMMITTEES & FORUMS

Jan 2005 Member of the Program Committee, SPE Forum: Contracting Strategies and Well Maintenance, EGYPT
Sep 2005 Member of the Program Committee, SPE/IADC Middle East Drilling Technology Conference, Dubai, UAE
Feb 1998 Speaker, *Using Aluminium tubular in Oil Well Drilling*, CSIRO & Un. NSW Drilling Forum, Melbourne, Australia
Feb 1998 Speaker, *Why not use Aluminium in Drilling*, CSIRO & Un. NSW Drilling Forum, Perth Australia
Mar 1989 Speaker, Colorado School of Mines Drilling Forum, Golden, CO, USA.

MEMBERS AND LICENSES

Technical Editor-Turkish Journal of Oil and Gas
Reviewer-ASME-Journal of Energy Resources Technology
Reviewer- Journal of Petroleum Science and Energy
Member of Society of Petroleum Engineers
Member of UCTEA Chamber of Petroleum Engineers
Instructors Licence for Scuba Diving

PUBLICATIONS

1. **Akgun, F.** Shedid A. Shedid, Hamed H. Al-Ghadban, *Simulation Investigation of Casing Eccentricity Estimation for Different Inclination Angles and Tensile Forces Using Finite Element Method* SPE91811, SPE International Petroleum Conference in Mexico, 7-9 November, 2004, Puebla Pue., Mexico
2. **Akgun, F.:** *A finite element model for analyzing horizontal well BHA behaviour*, Vol 42/2-4 pp 121-132, 2004, J of Petroleum Science and Engineering
3. **Akgun, F.**, Eustes, A.: *Tubular imperfections pose design problems in short, ultrashort radius wells*, Oct 14, 2002, Oil & Gas J.
4. **Akgun, F.:** *Drilling Stable Horizontal Wells-A key problem in modern oil well drilling*, Paper 2002-52, Canadian International Petroleum Conference, 11-13 Jun 2002, Calgary, CA
5. **Akgun, F.:** *Drilling Variables at Technical Limit*, Paper 2002-53, Canadian International Petroleum Conference, 11-13 Jun 2002, Calgary, CA
6. **Akgun, F.:** *Technical Limit of Drilling Rate-A Key Parameter In Assessing Drilling Performance*, IADC World Drilling Conference, 5-6 Jun 2002, Madrid, Spain
7. Jawad, R., **Akgun, F.:** *Carrying Capacity Design for Directional Wells*, IADC/SPE77196, Asia Pacific Drilling Technology, 9-11 Sep 2002, Jakarta, Indonesia.
8. **Akgun, F.**, *Optimum Spacing of Multiple Stabilisers to Increase Critical Buckling Load of BHA in Slim Hole Drilling* IADC/SPE54322, SPE Asia Pacific Technology Conference and Exhibition, 20-22 Apr **1999**, Jakarta, Indonesia
9. **Akgun, F.**, Gelfgat, M., Maidla, E., *Aluminium Application in Drilling?* SPE49957, SPE Asia Pacific Oil & Gas Conference and Exhibition, 12-14 Oct **1998**, Perth, Australia
10. **Akgun, F.**, Gelfgat, M., Maidla, E., *Why Not Use Aluminium in Drilling?* IADC/SPE47823, SPE Asia Pacific Technology Conference and Exhibition, 7-9 Sep **1998**, Jakarta, Indonesia.
11. M.M. Hossain, M.K. Rahman, S.S. Rahman, F. **Akgun**, and Kinzel, H.: "Fatigue Life Evaluation: A Key to Avoid Drillpipe Failure Due to Die-marks," SPE 47789, IADC/SPE Asia Pacific Technology Conference, 7-9 Sep **1998**, Jakarta, Indonesia.
12. **Akgun, F.**, Kuru, E., *An Improved Method for Borehole Trajectory Estimation and Target Intersection*, Edgar Kohle - Oil Gas European Magazine, Vol. 23, Dec **1997**.
13. **Akgun, F.**, Yang, Z., Crosby D.G., Rahman, S.S.: *Factors Affecting Hydraulic Fracture Initiation in High In-Situ Stress Conditions: A Wellbore Stress Modelling Approach*, SPE38631, SPE Annual Technical Conference and Exhibitions, 5-8 Oct **1997**, San Antonio, Texas, USA.
14. Yang, Z., Crosby, D.G., **Akgun, F.**, Khurana, A.K., and Rahman, S.S.: *Investigation of the Factors Influencing Hydraulic Fracture Initiation in Highly Stressed Formations*, SPE38043, SPE Asia Pacific Oil and Gas Conference, 14-16 Apr **1997**, Kuala Lumpur, Malaysia.
15. **Akgun, F.**, Estrella, D., Rahman, S., Mitchell, B., Eustes, A.: *Selection of Drill Pipes Based on Critical Loading Conditions for Slim Hole Drilling*, SPE36405, IADC/SPE Asia Pacific Drilling Technology, 9-11 Sep, **1996**, Kuala Lumpur, Malaysia

16. **Akgun**, F., Gurakin, G., Mitchell, B. J., Eustes, A., Rahman, S.: *Theoretical and Experimental Evaluation of DrillPipe Stability Conditions in Slim Holes*, SPE36405, SPE Asia Pacific Oil & Gas Conference, Adelaide, 28-31 Oct, **1996**, Adelaide, Australia.
17. **Akgun**, F., Mitchell, B., et.al.: *Application of Pipe Stability Model For Predicting Critical Loading Conditions in Slim Holes*, OSEA96003, 11th Offshore South East Asia Conference, 24-27 Sep, **1996**, Singapore
18. **Akgun**, F., Rahman, S., et.al.: *Prediction of Microannulus Behind Casings Due to Ballooning Effect-A Key Problem in Gas Wells*, Australian Petroleum Production & Exploration Assoc. J., APPEA 1996, page 575-579. Paper presented on APPEA conference in Darwin, Australia, 16-21 Jun, **1996**.
19. **Akgun**, F., Kuru, E.: *Borehole Trajectory Estimation and Target Intersection with Second Degree Space Curve Technique*, 11th. International Petroleum Congress and Exhibition, Apr **1996**, Ankara, Turkey.
20. **Akgun**, F., Mitchell, B. J.: *The Combined Effects of Curvature, Tension, and Pressure on the Ovality and Collapse of Oilfield Tubulars*, SPE27881, Western Regional Meeting, Mar, **1994**, Long Beach CA.
21. **Akgun**, F. Mitchell, B.J. and Huttelmaier, H.P.: *Ovality and Stresses of API Tubulars in Horizontal Wells with FEM*, SPE24613, SPE Drilling & Completion J., Jun **1994**.
22. Kuru, E. and **Akgun**, F.: *Borehole Stability Analysis-A Study of Karadut Formation Difficulties*, 10th. International Petroleum Congress and Exhibition of Turkey, Apr 11-15, **1993**, Ankara, Turkey.
23. **Akgun**, F. Mitchell, B.J. and Huttelmaier, H.P.: *Oil Field Tubular Bending Stresses in Horizontal Wells*, 9th International Petroleum Congress and Exhibition, Proceeding Pg. 14-18, Feb **1992**, Ankara, Turkey.
24. **Akgun**, F. Mitchell, B.J. and Huttelmaier, H.P.: *Ovality and Stresses of API Tubulars in Horizontal Wells with FEM*, SPE24613, SPE 69th. Annual Meeting, Oct **1992**, Washington D.C.
25. **Akgun**, F. Mitchell, B.J. and Huttelmaier, H.P.: *Oil Field Tubular Deformation in Highly Deviated Oil Wells*, 8th International Petroleum Congress and Exhibition, Pg. 30-36, Apr **1990**, Proceeding Ankara, Turkey.
26. Ghalambor, A., **Akgun**, F., et. al.: *Intermittent Nozzle Fluid Flow and its Application to Drilling*, SPE14984, J of Petroleum Technology, Pg. 1021-1027, Aug **1988**.
27. Ghalambor, A., **Akgun**, F., et.al.: *Intermittent Nozzle Fluid Flow and its Application to Drilling*, SPE14984, Deep Drilling and Production Symposium, Apr 6-8, **1986**, Amarillo, TX