

## Profile

Over 40 years of international oil industry experience with oil companies and service providers as a geoscientist, project manager, advisor and teacher with extensive experience in Europe, Asia, and the Middle East. Expert industry advisor and proven technical project manager with detailed, hands-on experience across the value chain in exploration uncertainty & risk reduction and field development streamlining. Successful prospect generator, asset team manager, advisor on data & project QC, interpretation and modeling, including borehole and 3D modeling techniques. Proven oil finder, mentor, communicator, teacher, and reservoir modeling and data interpretation expert.

Directly involved in specification of integrated borehole logging interpretation techniques (FMS/FMI image & dip), and 3D stochastic reservoir modeling softwares (STORM, RMS, Petrel) with methodologies focused on inversion and seismic-to-simulation workflows.

## Specialties

- Technical G&G Project Management & Advisory
- Operations Geology & Planning
- E & P Prospect Generation Workflows & De-risking
- E & P Asset Data Management & Reservoir Modeling Assessment
- Design & implement Geoscience Skills Assessment Programs
- Borehole Log, Dip & Image Interpretation
- Building Training & Technology Adoption Programs to increase efficiency & reduce cycle times
- Certified Schlumberger NExT™ Course Instructor (2011-present):
  - Global Tectonics and Geological Prospecting Tools for Exploration*
  - Petroleum Exploration & Production*
  - Petroleum Exploration and Production with OilSim*
  - Introduction to Geoscience*
  - Introduction to Geology*

## Education

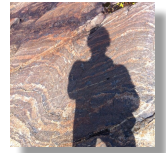
BSc Geology, Oklahoma University (1976). Continuous training thereafter.

## Personal

Nationality: American; DOB: 16.06.1952; Status: Married; Mobility: Global

## Languages

English (native), Spanish (basic), French (basic), Norwegian (basic)



## Summary of Experience

### **KADME AS (Stavanger)**

#### Geoscience Advisor (HQ Stavanger)

2015-

- Geoscience domain guidance and specification for enhanced functionalities within the Knowledge and Data Management system *Whereoil*<sup>™</sup>.
- Development of new Petrophysical LogView and LogQC modules for *Whereoil*<sup>™</sup>.
- Development of Map-to-Data applications
- In-House Geoscience mentor & training for Kadme

### **Shanor GeoSolutions AS (Stavanger)**

2015 -

- Geoscience Advisor, KADME AS
- Instructor and OilSim Facilitator for NExT<sup>™</sup> courses globally
- Tailored Short courses - Reservoir Modeling Fundamentals, Dipmeter & Image interpretation, Depositional Environments, Oil Company start-up Strategy
- MeetUp.com Group Owner - 'Stavanger Oil Patch Rats Survival Group'

### **Schlumberger Information Solutions (SIS)**

#### Global SIS Services Geoscience Workflow Champion (HQ Stavanger)

2012-2014

- Built, budgeted, and managed a geographically dispersed 5-member team to design & deliver Technology Adoption Packages (TAPs) (see <http://www.software.slb.com/services/Pages/tap.aspx>), a new SIS consultancy service
- Responsible for global marketing plan and business development of SIS G&G Services packages. Deliveries in 2014 to Aramco, Wintershall, Woodside, Det Norske, Sonangol, and internally to Schlumberger
- Designed and Project Managed an ongoing 3-Phase comprehensive Training & Technology Adoption Program for Sonangol (Luanda)

#### Geology Domain Lead & Business Development (Stavanger)

2011-2012

- Led Marketing Group in Geology, focus on integrated subsurface G&G & flow simulation workflows.
- Business Development of Petrel Technology Mastery Programs (Wintershall, Talisman, DONG)

#### Principal Geologist Europe Africa/Asia - Centers of Competence (Kuala Lumpur, Stavanger) 2007-2011

- Program and Change Management consultancy projects:
  - Petrom: Major HQ Subsurface Data Clean-up and Reference Project creation.
  - Statoil Int'l: 'Blackbird' Field assessment. Independent Middle East fast-track concession bid analysis.
  - SLB North Sea: Assess & redesign of D&M and Wireline acquisition data QC & Delivery processes
  - Apache Forties Field FDP: 18-month program working together with the Apache Forties subsurface and engineering team. Key liaison and Project Management and subsurface lead of 60 SLB experts. Full field review, re-evaluation & model rebuild significantly increased reserves, with FDP justification for an additional platform and continued development of the field.



### **Schlumberger WG/RSS/DCS Middle East - Business Development Manager (Abu Dhabi) 2006-2007**

- Business Development for Reservoir Seismic Services (RSS) following the purchase of Ødegaard by WesternGeco
- Specified Stochastic Inversion product for improved high-resolution of M.E. Carbonate reservoirs
- Managed major integrated reservoir seismic inversion studies (Saudi, Qatar, UAE)

### **Ødegaard A/S - Manager Middle East/Global Reservoir Modeling Advisor (Copenhagen) 2004-2006**

- Responsible for all Reservoir Characterization Services Project Business Development and Technical Project Management.
- Integration of petrophysics, geology and seismic through 3D and 4D rock physics and inversion studies.
- Built opportunities and staff for major integrated ISIS inversion projects (Saudi, Qatar, UAE)

### **Roxar Ltd. - Global Business Development Manager / Geology Advisor (Dubai) 2002-2003**

- Led software and project services initiatives with Petronas Carigali & Petronas research (PRSS)
- Prepared and managed numerous field studies (Tembungo, Angsi, Baronia, D18, Masa, Seligi, Tinggi)
- Initiated Multi-client Fracture Modeling Consortium to develop new techniques in fracture modeling

### **Jason Geosystems BV - (now a part of Fugro / CGG)**

#### **Manager Middle East (Dubai) 1999-2002**

- Operations setup of Project Services team (10 staff) performing inversions & seismic-to-simulation projects
- Sold and Project Managed giant field projects and workflow developments with PDO Oman, Saudi Aramco, ADCO, ADMA, Dubai Petroleum (DPC), and Kuwait Oil Company.
- 'Salesman of the Year' in 2001 software & services.

#### **Geological Advisor Asia Pacific & Middle East (Singapore) 1998-1999**

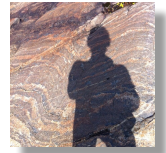
- Technical Advisor responsible for inversion project proposals and peer reviews. Notable Full-field studies completed: Indonesia- Sunda Basin (Conoco, Gulf, Pertamina); Malaysia- Malay Basin (Petronas Carigali, PRSS, Esso, Shell); Brunei- Turbidites (Shell Fletcher); Thailand- Lacustrine (Thai Shell); Australia- shelf deposition (BHP, Mobil), Japan- Basement & Carbonates (Japex, Inpex); China- Basement & Carbonates (CNOOC)

### **Smedvig Technologies (now a part of Roxar)- Chief Geologist (Stavanger, Houston) 1994-1998**

- Chief geologist for start-up company, *Odin*, in Stavanger. Helped develop world's first complete Stochastic Reservoir Modeling system "STORM". *Odin* later merged with *Geomatic*, and was incorporated in *Smedvig Technologies*, which later became called *Roxar*.
- Established and managed the Project Services group (5 staff), providing full stochastic reservoir studies with STORM for British Gas, MÆRSK, Esso Norway, STATOIL, Saga Petroleum, Deminex, Wintershall, & Enterprise Oil.

### **Schlumberger Wireline - Geologist (Singapore, KL, Dhahran, Dubai, Milan) 1984-1994**

- Responsible for geological interpretation of Wireline logs, detailed structural and depositional interpretation, processing requirements and training on geological applications of new logging technology.
- Developed public training courses for Dipmeter and FMI processing & interpretation for Schlumberger Educational Services.



- Provided specifications for new geology tools and interpretation products, notably the Dipmeter Advisor (AI interpretation system), LITHO, SYNDIP, DIPFAN and the Reservoir Modeling (RM) Workstation prototype.
- Major field studies for NIOC Iran (Ahwaz Field; SPE 25657), World Bank / MOC Burma (Payagon Gas Field), Esso Malaysia (Guntong Field), Petronas Carigali Malaysia (Regional LITHO / Dipmeter study) and many key well interpretation studies throughout Asia & the Middle East.

### **Statoil - Senior Exploration Geologist (Bergen)**

1983-1984

Exploration geology and initial 3D seismic interpretation between 60° - 62° North. Generated successful new field discovery (Oseberg South, Block 30/9 North Sea) and appraisal well prospects.

### **Reading & Bates Petroleum - Senior Exploration Geologist, International (Tulsa, Malta)**

1980-1983

Responsible for RB Joint Venture interests in Indonesia (offshore IAPCO and ARCO Blocks), and coordination of a West Africa Exploration Consortium of companies to evaluate blocks for potential investment. Operations Geology Manager in Malta for drilling a deep-water exploration well (Gozo-1). Proposed and operated an exploration seismic survey offshore Fortaleza, Brazil.

### **Union Texas Petroleum - Senior Geologist, International Joint Ventures (Houston)**

1979-1980

Responsible for all UTP Joint Venture interests in Indonesia and exploration evaluations in Pakistan.

### **Gulf Oil - Exploration & Development Geologist, (Okla. City, Stavanger, Cabinda)**

1977-1979

Development and Operations geologist for Gulf-operated wells in US Mid-Continent region.

Senior Exploration Operations Geologist (Stavanger) for drilling two wells in Blocks 2/3 and 3/5 North Sea.

Senior Exploration & Development Operations Geologist offshore Cabinda, Angola.

## References

### Professor Howard D. Johnson

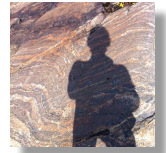
Shell Oil Professor of Petroleum Geology, Imperial College  
London, UK

Email: [h.d.johnson@imperial.ac.uk](mailto:h.d.johnson@imperial.ac.uk)

### Klaas Koster

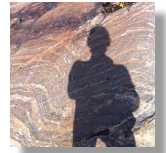
Manager, Geoscience Services at Murphy Oil  
Houston, Texas

Email: [klaas\\_koster@outlook.com](mailto:klaas_koster@outlook.com)



## Publications & Professional Presentations

1. Integration tools linking Geoscience and Data Management; G. Shanor, presentation & abstract, The E&P Community for Data and Information Management (ECIM), 12-14 September, 2016.
2. Bridging Domains - Solution Workflows for Marginal Field Challenges; G. Shanor, presentation, Geological Society of Norway Production Geoscience 2011, Stavanger, 1-2 November, 2011. Re-presented with permission at Finding Petroleum Conference - New Ideas in Improved Recovery and EOR, London, UK, April 18, 2012.
3. Access to Best Science; G. Shanor, presentation, Schlumberger SIS Summit (Petrel 2011 release), Son, Norway, 22 June, 2011.
4. Forties Re-Development; O. Vaughan (Apache North Sea) and G. Shanor, presentation, Norwegian Petroleum Society (NPF) Conference "Business Opportunities in Mature Fields", Stavanger, Norway, May 10-11, 2011
5. Forties Field: An Updatable Full Field Model; J. Pyle (Apache North Sea) and G. Shanor, *in* Offshore Engineer, December 2010 issue.
6. Seis-to-Sim AVO and Rock Physics Inversion Technologies and Modeling Workflows; G. Shanor, presentation, SPE EGPC & GANOUF Technology Forum, Cairo, Egypt, May 28, 2007
7. 4D Seismic and 4D AVO Rock Property Inversions; an Engineering Workflow: G. Shanor presentation and abstract, SPE/ESG dinner talk, Abu Dhabi Section, December 6, 2006.
8. Integrated Reservoir Modeling Fundamentals Lectures, Imperial College PE MSc. Program, for Professor H.D. Johnson; London, October 9-10, 2006.
9. High Resolution Stochastic Modeling Conditioned to Seismic Rock Property Inversion: Practical Workflows for Middle East Reservoirs: G. Shanor, presentation and abstract, GEO 2006, 7<sup>th</sup> Middle East Geosciences Conference and Exhibition, March 27 - 29, 2006, Bahrain.
10. From AVO Inversion to Reservoir Simulation: Bridging the Gap: G. Shanor and Dr. A. Alexander, Presentation and Abstract, The Geological Society, Bright or Dim Seminar, London, U.K., September 14 - 16, 2005.
11. From Seismic Reservoir Characterization to Reservoir Simulation Models: Bridging the Project Workflow Gaps: G. Shanor and Dr. J. Bown, Presentation and Abstract (# 98797), AAPG International Conference and Exhibition, Paris, September 11-14, 2005.
12. From Seismic Reservoir Characterization to Reservoir Simulation Models: Bridging the Project Workflow Gaps: G. Shanor, Presentation, SPE Offshore Bergen One Day Seminar: Reservoir Engineering and Reservoir Management; Bergen, Norway, 20 April, 2005.
13. A Review of Reservoir Modeling Methodologies: G. Shanor and M. Whelan, Presentation and Paper IPA03-G-155; 29<sup>th</sup> Annual IPA Convention, Jakarta, October 14-16, 2003.
14. Full Integration of Seismic Data into Geostatistical Reservoir Modeling: P. van Riel, P. Mesdag, M. Sams, H. Debeye, and G. Shanor, in *AAPG Memoir: Stochastic Modelling and Geostatistics - Principles, Methods and Case Studies, Volume 2*, in print (2003).
15. From seismic to simulator through geostatistical modeling and inversion: Makarem gas accumulation, Sultanate of Oman: Shanor, G., M. Rawanchaikul, M. Sams, R. Muggli, G. Tiley, and J. Ghulam, *First Break*, v. 20, no. 2, 2001.
16. Advanced Hybrid (Object & Grid-Based) Stochastic Reservoir Modeling Techniques: ARAMCO Forum on Modeling of Super Permeability (Super-K), Dhahran, May, 1997.
17. Advances in Integrated 3D Stochastic Reservoir Modelling: GEO/96 Conference, Bahrain, April, 1996, Abstract & presentation.
18. Advances in Stochastic Modeling of Reservoir Heterogeneities: Poster Session: 1994 AAPG Annual Convention, Houston, TX, USA.
19. An Integrated Reservoir Characterization of a Giant Middle East Oil Field: Part 1: Geological Modelling: 8th SPE Middle East Oil Show, Bahrain, March 1993 (with Samimi, et. al.). SPE # 25657.
20. An Integrated Reservoir Characterization of a Giant Middle East Oil Field: Part 2: Fluid Flow Simulations: 8th SPE Middle East Oil Show, Bahrain, March 1993 (with Bagherpour, et. al.).
21. The Buckled Belt: Schlumberger Middle East Well Evaluation Review, No. 13, 1992.
22. Comparisons of Formation MicroScanner Images to Cores in Reservoirs in Saudi Arabia: 7th SPE Middle East Oil Show, Bahrain, March 1991, (abstract with G. McNaboe, Saudi Aramco).
23. Exploration Applications of Geochemical and MicroScanner Logging in the Middle East: Schlumberger- Doll Research Annual Wireline, Testing & Seismic Symposium, June 1990, Ridgefield, CT, USA.



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24. Formation MicroScanner Image Interpretation: O. Serra, 1989, Schlumberger Educational Services. Contributor.
  24. A new dipmeter provides geological answers in oil-base mud wells [abstract], Shanor, G.G., 1987b. In: Petroleum Geology Seminar, Kuala Lumpur, 7 & 8 Dec. 1987, *Warta Geologi* 13(6):287.
  25. The Dipmeter Advisor - A Dipmeter Interpretation Workstation: Geological Society of Malaysia, Bulletin No. 21, pp 37-54, Special Issue on Petroleum Geology, Volume 2, December, 1987.
  26. Tertiary Paleoshoreline Trends of the Malay Basin: Schlumberger-Doll Research Annual Wireline, Testing & Seismic Symposium, June 1987, Ridgefield, CT, USA.
  27. Litho / Dipmeter Synergy: a geological interpretation technique [abstract], Shanor, G.G. and Ali Mohd. Shariff, 1986, In: Petroleum Geology Seminar, Kuala Lumpur, 9 & 10 Dec. 1986, *Warta Geologi* 12(6):233.
  28. The Dipmeter Advisor: A dipmeter interpretation workstation [abstract], Shanor, G.G., In: Petroleum Geology Seminar, Kuala Lumpur, 6 & 7 Dec. 1985, *Warta Geologi* 11(6):281.
  29. China Well Evaluation Conference (WEC Volume): 1985, Schlumberger Southeast Asia. (co-author).