

## Curriculum Vitae

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NAME	<b>Roman Berenblyum</b>
DATE OF BIRTH	7 <sup>th</sup> June 1979
LANGUAGES	Russian, English, Norwegian
CONTACT INFORMATION	<b>Roman Berenblyum</b> PhD, chem.eng. <i>E-mail:</i> <a href="mailto:Roman.Berenblyum@gmail.com">Roman.Berenblyum@gmail.com</a> <i>Cell:</i> +47 98 62 17 51
COMPETENCE	Reservoir simulation, PVT, EOS modelling, IOR/EOR (CO <sub>2</sub> , gas, chemical)
SOFTWARE	CMG (IMEX/GEM/STARS) package, Eclipse package, Reveal, PVTsim, UTCHEM, SQUEEZE, StimPlan (limited experience), Petrel Reservoir Engineering, experienced Linux user
EDUCATION	<b>Technical University of Denmark, Lyngby, Denmark</b> <b>2001-2004</b> Ph.D. in Capillary effects in streamline simulation applied to petroleum engineering problems. Supervised by Prof. E.Stenby, Docent M.L. Michelsen, Associate Prof. A. Shapiro  <b>Stanford University, Stanford, CA, USA</b> <b>2003</b> 6 month stay as a part of PhD. Supervised by Assistan Prof. K. Jessen and Prof. F.M.Orr Jr.  <b>Mendeleev Univ. of Chem. Tech., Moscow, Russia</b> <b>1995-2001</b> Chemical engineer
PROFESSIONAL EXPERIENCE	<b>IRIS AS, Stavanger, Norway</b> <b>since 2006</b> <b>Senior Reservoir Engineer</b> Main responsibilities: <ul style="list-style-type: none"><li>• Reservoir Simulation</li><li>• EOR: chemical and thermal methods, gas injection, CO<sub>2</sub></li><li>• PVT analysis and EOS modelling</li><li>• Fluid Characterization</li><li>• Simulation and interpretation of experimental results</li><li>• Analytical software development</li></ul> Projects involvement in IRIS <ul style="list-style-type: none"><li>• Reservoir engineering support for scale squeeze simulation for ConocoPhillips (SQUEEZE VII / STARS).</li></ul>

- Reservoir engineering support for chemical flooding simulation on Norwegian Continental Shelf (NCS) for Statoil (Eclipse / Reveal) and Hydro (Eclipse / UTCHEM).
- PVT simulation and reservoir engineering support on Heidrun Tjelbergodden project. Reservoir simulation of CO<sub>2</sub> gas and WAG injection to Heidrun Field using Eclipse 300 (Schlumberger).
- Reservoir engineering support on Snorre and Heidrun IOR screening project for Statoil. Concretization of IOR potential methods. Simulation support using Eclipse (Heidrun) sector and STARS cross-section model (Snorre).
- Data analysis, PVT and reservoir engineering consultancy for PDVSA gas EOR project performed in WinPROP, STARS (CMG) and Eclipse 300, Schlumberger.
- Data analysis, PVT modelling, reservoir simulation and support for several gas injection project in Russia. PVTi, Eclipse 300 (Schlumberger), PVTSim (Calsep).
- Data analysis, PVT and reservoir engineering consultancy for PetroEcuador IOR/EOR competence building project.
- Interpretation of experimental measurements of capillary desaturation curves for Hydro. The project included simulation runs in Sendra software (developed in IRIS), analysis and interpretation of experimental and simulation results, recommendation on CDC to be used in numerical simulations.
- Simulating CO<sub>2</sub> at Ekofisk. Laboratory (foam floods, rock dissolution, viscous and gravity fingering experiments) and reservoir scale simulations in preparation to CO<sub>2</sub> pilot.
- Development of in-house analytical simulator. Development of algorithms and testing.
- Development of Open Source code Simulator for EOR / CO<sub>2</sub> simulations.
- CO<sub>2</sub> Geonet - CO<sub>2</sub> sequestration projects. Simulation of CO<sub>2</sub> injection into aquifers involving various physical phenomena.

**University in Stavanger, Stavanger, Norway**  
**Guest lecturer**

**since 2007**

- Lecturing in PVT and reservoir engineering subjects
- Supervising and reviewing M.Sc. and PhD thesis's

**JSC Petroleum Technologies, Moscow, Russia**  
**Reservoir Engineer**

**2004 - 2005**

Main responsibilities:

- EOS modelling for several gas condensate fields in Russia. PVTi (Schlumberger)
- Fluid Characterization
- Reservoir Simulation for several gas condensate fields in Russia. Eclipse 300 (Schlumberger)
- Technical Support for CMG and Wellwhiz software

**Haldor Topsoe A/S, Lyngby, Denmark**

**1999**

Trainee for 6 weeks

Main responsibilities:

- Modelling physical properties of water - steam
- Development of the MS Visio 5.0 Templates using Microsoft Basic

**Russian Research Institute for Organic Synthesis,  
Moscow, Russia**

**1997- 2001**

**Part time researcher**

- Chemical reaction kinetics modelling
- Cellular automata programming
- IT support

**PROFESSIONAL  
INVOLVEMENTS**

Society of Petroleum Engineers (SPE)

Reviewer in SPE Reservoir Evaluation and Engineering, Journal of Canadian Petroleum Technology, International Journal of Greenhouse Gas Control

Guest lecturer in seminars

**CONFERENCES &  
PUBLICATIONS**

1999 Participation in "European Symposium for Computer Aided Process Engineering" in Budapest

May 2002. SPE Petroleum Technology Day, Technical University of Denmark. Oral presentation "Introducing capillary forces into streamline simulator"

September 2002. International Energy Agency Workshop and Symposium, Caracas, Venezuela. Oral presentation "Acidizing injector wells in carbonate oil reservoirs".

May 2003. SUPRI-C Affiliates meeting, Stanford, CA. Oral presentation "Including capillary effects in streamline simulation"

September 2003. International Energy Agency Workshop and Symposium, Regina, Canada. Oral presentation "Black oil streamline simulator with capillary effects"

October 2003. Annual SPE conference and Exhibition in Denver, USA. Oral presentation "Black oil streamline simulator with capillary effects". SPE 84037.

December 2003. Patent application PA 2003 01844. Berenblyum, R.A, Shapiro, A.A., and Stenby E.H. "A method for simulating multiphase flow".

December 2003. "Modeling Acid Restimulation of Carbonate Fractures Injection Wells in the North Sea". Paper accepted for publication in the "Petroleum Science and Technology" journal.

April 2004. SPE/DOE Fourteenth Symposium on Improved Oil Recovery. Tulsa. OK. Oral presentation "Three-phase compositional streamline simulation and it's application to WAG". SPE 89440.

April 2004. SPE Petroleum Technology Day, Technical University of Denmark. Oral presentation "Capillary Effects and Streamline Simulation".

September 2004. Oral presentation on X European Conference on Mathematics of Oil Recovery entitled "Reservoir Streamline Simulations Accounting for the Effects of Capillarity and Wettability".

- September 2004. "An Experimental and Numerical Investigation of Crossflow Effects in Two-Phase Displacements", SPE 90568, for the SPE Annual Technical Conference and Exhibition in Houston.
- September 2004. International Energy Agency Workshop and Symposium, Norway. Oral presentation "Capillary effects and streamline simulation"
- April 2005. 13th European Symposium on Improved Oil Recovery, Hungary. Poster "Characterizing Reservoir of Achimovskij Stratum in the Urengoi Fields".
- April 2006. 14th European Symposium on Improved Oil Recovery, Egypt. Oral presentation "Supercritical fluid oil field: EOR potential".
- September 2007. International Energy Agency Workshop and Symposium, Denmark. Oral presentation "Tjeldbergodden CO<sub>2</sub> value chain: gas from onshore power plant for IOR at the Heidrun field".
- March 2008. Guest lecturer. EOR and gas injection methods. Vietnam.
- April 2008. EAGE Saint Petersburg. Oral presentation "Simulation Aspects of the CO<sub>2</sub> Flooding, Sensitivity and Case Study"
- April 2008. SPE IOR Symposium held in Tulsa. Oral presentation "Modeling CO<sub>2</sub> injection: IOR Potential after Waterflooding.
- September 2008. ECMOR XI, Bergen. Oral presentation "Analytical estimation of advanced IOR performance"
- November 2008. International Energy Agency Workshop and Symposium, Beijing, China. Oral presentation "Aspects of the chemical injection simulation"
- April 2009. 15<sup>th</sup> European Symposium on IOR, Paris, France. Oral presentation "Simulation aspects of the CO<sub>2</sub> EOR including foam".
- September 2009. Int. symp. SCA. "Oil recovery during CO<sub>2</sub>-foam injection in fractured chalk rock at reservoir conditions." SCA2009-27 presented in Noordwijk, Netherlands.
- October 2009. Two chapters on IOR / EOR in *Recent Innovations in Oil and Gas Recovery*, ed. Istvan Lakatos, Budapest: Akademiai Kiado.
- November 2009. SPE International conference on CO<sub>2</sub> Capture, Storage and Utilization, San Diego, CA, USA. Oral presentation "Simulating CO<sub>2</sub> EOR Process: Numerical investigation Based on the Experimental Results".
- November 2009. R. Berenblyum *Streamline Simulation with Capillary Effects: Applied to Petroleum Engineering Problems* ISBN-13: 978-3639166514, VDM Verlag Dr. Muller. Germany.
- April 2010. SPE EOR conference at Oil & Gas West Asia. SPE129575 "Experimental and simulation of CO<sub>2</sub>-foam flooding in fractured chalk rock at reservoir conditions: Effect of mode of injection on oil recovery. 11-13 April, Muscat, Oman.
- April 2010. SPE IOR Symposium. "Modelling of Transport of a CO<sub>2</sub>-foaming agent during CO<sub>2</sub>-Foam Process in Fractured chalk Rock. SPE 129601. 24-28 April, Tulsa, Oklahoma, USA.
- July 2010. CMG User Technical Symposium. Oral presentation "Modelling Transport of CO<sub>2</sub> foaming agent in fractured media"
- August 2010. ONS 2010. Oral presentation "Simulating CO<sub>2</sub> pilot. Consistent model accounting for various physical phenomena"

- October 2010. SPE Russian Oil & Gas Technical Conference and Exhibition. SPE 134742 "Improved Oil Recovery Methods: Applicability Screening and Potential Evaluation"
- December 2010. Guest lecturer, session and workshop host at IQPC production optimisation North Africa on EOR topic.
- April 2011. EAGE IOR 2011. Oral presentations "CO<sub>2</sub> EOR and Storage - Lessons Learned from Several Case Studies".
- April 2011. EAGE IOR 2011. "The Stability of Pre-formed Foam and the Effect of Gravity Forces During CO<sub>2</sub>-foam Processes in Fractured Chalk Rock"
- April 2011. EAGE Workshop on Naturally & Hydraulically Induced Fractured Reservoirs "How to Account for Dynamic Fracture Behaviour in Reservoir Simulation"
- June 2011. SPE Brasil Offshore Conference. A Multi-Stage Approach to IOR/EOR Screening and Potential Evaluation, 15-17 June, City of Macae, Brazil.
- November 2011. "Screening and Evaluation of a Saline Aquifer for CO<sub>2</sub> Storage - Central Bohemian Basin, Czech Republic" J. of Greenhouse Gas Control 5(6),pp. 1429-1442.