



Society of Petroleum Engineers

1-3 de junio de 2016
HOTEL PANAMERICANO
Buenos Aires, Argentina

**Simposio
Argentino
de Exploración
y Producción
de Recursos
No Convencionales
de la SPE**

“Buscando métodos de desarrollo”

Organizado por
SPE (Society of Petroleum Engineers) de Argentina
Asociación Civil

COMITÉ EJECUTIVO

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Alejandro A. Peña • Schlumberger
Daniel Rosato / Consultor

Agradecemos el apoyo de las siguientes empresas



Contacto por espacios en la EXPOSICIÓN COMERCIAL y alternativas de participación comercial:

Pablo M. Weil • spe2016@itcweb.com.ar



“Buscando métodos de desarrollo”

Cursos previos al Simposio

■ 09:00 a 12:30 y 14:00 a 17:00

1. Pressure and Rate Transient Analysis for Unconventional Reservoirs Evaluation

Instructor: Giovanni Da Prat, Da Prat Consulting
Idioma: Español / Salón: Mocoretá, subsuelo

2. Reserves and Resources Estimations in Unconventional Reservoirs

Instructores: Herman Acuña y Enzo Aconcha, Ryder Scott
Idioma: Español / Salón: Uruguay, subsuelo

Se ofrecerán dos servicios de café. Almuerzo libre.

MIÉRCOLES, 1º de junio

■ 07:30 - 08:30 **Acreditaciones**

Salón Los Jardines

■ 08:30 - 08:50 **Apertura Oficial**

■ 09:00 - 10:30 **Caso de Estudio I**

Moderador: Ricardo Palacios, Consultor

09:00 - 09:30 **Unconventional Reservoirs Fracturing in Latin America. A Regional Integration View from Reservoir Characterization to Completion and Evaluation - What Have We Learned?**

J.C. Bonapace, G.E. Perazzo, Halliburton Energy Services; O. Araujo, Halliburton

09:30 - 10:00 **Qualification and Applications of Multiphase Flowmeters for Production Monitoring in Unconventionals, a Case Study from Argentina**

R.M. Romero, Y-TEC; S. Pérez, YPF; J.V. Ramirez, Y-TEC

MIÉRCOLES, 1º de junio

10:00 - 10:30 TRABAJO N° 180976 **Case History: Hybrid Completion Method Employed for Longest Horizontal Unconventional Well in Vaca Muerta, Argentina**
M. Welch, Baker Hughes; R.M. Allen, Baker Hughes Inc.

Salón Buenos Aires

■ 09:00 - 10:30 **Characterization of Tight and Shale Reservoirs I**
Moderador: Juan Domingo Moreyra, JM Consult

09:00 - 09:30 TRABAJO N° 180950 **Methodology for Petrophysical and Geomechanical Analysis of Shale Plays. Study Case: La Luna and Capacho Formations, Maracaibo Basin**
C. Lobo, PDVSA; G. Rincón, Paradigm Geophysical; A. Molina, A. Faraco, J. Méndez, J. Delgadillo, PDVSA

09:30 - 10:00 **Correlation of Wellbore and Outcrop Geomechanical Properties from Vaca Muerta Formation**
A. Sosa Massaro, Instituto Tecnológico de Buenos Aires; M. Ramos, Department of Petroleum and Geosystems Engineering, The University of Texas at Austin; D. Espinoza, The University of Texas at Austin; S.P. Barredo, Instituto Tecnológico de Buenos Aires; M. Frydman, Schlumberger Argentina; S. Cuervo, Chevron Argentina

10:00 - 10:30 **The Effect of Clays in Gas Shale on the Absorption of Fracturing Fluid**
K. Kai Ren, China University of Petroleum

■ 10:30 - 11:00 Receso de café • Foyer Gran Panamericano

Salón Los Jardines

■ 11:00 - 12:00 **Caso de Estudio II**
Moderador: Diego E. Manfio, Ingeniería Sima

11:00 - 11:30 TRABAJO N° 180955 **Brittleness Analysis: A Methodology to Identify Sweet Spots in Shale Gas Reservoirs**
ML. Fernández Rojas, Universidad Industrial de Santander; Y. Quintero Pea, Ecopetrol SA; Z.H. Calderón Carrillo, Universidad Industrial de Santander

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MIÉRCOLES, 1º de junio

11:30 - 12:00

New Capacities for Integrated Unconventional Reservoir Workflows: Multi-phase Flow Simulations on a Stimulated 3D Fracture Network

M. Delorme, D. Bossie-Codreanu, O. Khebzegga, N. Khvoenkova, O.M. Ricois, IFP Energies Nouvelles

12:00 - 12:30

TRABAJO N° 180997 Successful Dynamic Closure Test Using Controlled Flow Back in the Vaca Muerta Formation

R.A. Varela, YPF; J.L. Maniere, Schlumberger

Salón Buenos Aires

11:00 - 12:30

Characterization of Tight and Shale Reservoirs II

Moderadores: Diego Solís, Pluspetrol; Juan Domingo Moreyra, JM Consult

11:00 - 11:30

TRABAJO N° 180995 Two-phase Flow Model and Well Testing Analysis for Multi-stage Fractured Horizontal Well in Shale Gas Reservoirs

W. Xie, H. Yang, J. Wu, X. Feng, X. Zhang, M. Zheng, Exploration and Development Research Institute, Petrochina Southwest Oil & Gas Field Company

11:30 - 12:00

TRABAJO N° 180965 Comprehensive Determination of the Far-field Earth Stresses for Rocks with Anisotropy in Tectonic Environment

M. Frydman, F. Pacheco, F.C. Canesin, J. Pastor, Schlumberger; J. Caniggia, H. Davey, Wintershall

12:00 - 12:30

TRABAJO N° 180948 Diagnostics and Optimization of ESPs in an Unconventional Oil Reservoir for Current Operation and Future Forecast to Improve Production

W.F. Kenawy, E. Hasanov, R.A. Fraga Figueroa, Schlumberger; L.C. Enriquez, Schlumberger IPM-SPM; A.S. Kulkarni, W. Liang, Schlumberger

Salón Gran Panamericano

12:30 - 14:00

Almuerzo con Disertación I

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MIÉRCOLES, 1º de junio

Salón Los Jardines

■ 14:00 - 15:30

Sesiones Plenarias

Service Companies - Technical Focus

Moderador: Emmanuel d'Huteau, YPF

Panelistas:

- **Integration of Microseismic and Production Data in the Optimization of Unconventional Resources Development.**

Tyler Marc Micheli, Sigma 3

- **Accelerating the Unconventional Learning Curve.**

Craig Young, Cameron

- **Latest Innovative Shale Technologies for Vaca Muerta Development.**

Jim Rangel, Weatherford

■ 15:30 - 16:00

Receso de café • Foyer Gran Panamericano

■ 16:00 - 17:30

Service Companies - Technical Focus

Moderador: Miguel Ángel Lavia, Consultor

Panelistas:

- **Latest Innovative Shale Technologies for Vaca Muerta Development.**

Marcelo Frydman, Schlumberger

- **Use of Natural Sands in High Pressure Wells: How to Choose the Best Application in Argentina.**

Youssef Zotskine, Calfrac Well Services Ltd.

- **Completion Systems in Unconventional - Shale and Tight Gas.**

Rodolfo Alfredo del Castillo, Baker Hughes Argentina SRL

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■ 18:30

Recepción Inaugural

“Buscando métodos de desarrollo”

JUEVES, 2 de junio

07:30 - 08:30 **Acreditaciones**

Salón Los Jardines

08:30 - 10:30 **Stimulations Optimization I**

Moderadores: Emmanuel d'Huteau, YPF. Francisco E. Fragachan, Weatherford

08:30 - 09:00 TRABAJO N° 180999 **Conventional Fracturing vs. Complex Fracturing Network in Tight Turbidite Oil Deposits in Mexico**

G. Gutiérrez Murillo, PEMEX; J. Salguero Centeno, Calfrac Well Services

09:00 - 09:30 TRABAJO N° 180979 **Is Induced Fracture Complexity Always Required in Unconventional Reservoir Stimulation?**

L. Sierra, Halliburton

09:30 - 10:00 TRABAJO N° 180988 **Hydraulic Fractures Behavior Evaluation in Vaca Muerta Formation, Case Studies**

J.D. Moreyra, J.M. Consultor

10:00 - 10:30 TRABAJO N° 180985 **Enhancing Well Performance Via In-Stage Diversion in Unconventional Wells: Physics and Case Studies**

F.E. Fragachan, M. Pordel Shahri, D.M. Arnold, A.G. Babey, C.S. Smith, Weatherford

Salón Buenos Aires

08:30 - 10:00 **Hydrocarbon Recovery Increase**

Moderadores: Gastón Marcelo Conci, YPF. Miguel Lavia, Consultor

08:30 - 09:00 TRABAJO N° 180954 **Analytical Methodology To Optimize Hydraulic Fracturing In Horizontal Multistage Completions Wells In Tight Gas Reservoirs**

H.R. Rodríguez, Baker Hughes

09:00 - 09:30 TRABAJO N° 180984 **Data Driven Production Forecasting Using Machine Learning**

Q. Cao, R. Banerjee, S. Gupta, J. Li, W. Zhou, Schlumberger; B. Jeyachandra, Schlumberger IPM-WCI

09:30 - 10:00 TRABAJO N° 180982 **Reservoir Flow Regime Assisted Multi-segment Production Forecasting**

B. Jeyachandra, A. Sharma, P. Dwivedi, S. Gupta, Schlumberger

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JUEVES, 2 de junio

10:00 - 10:30

Paraffin Wax Mitigation in Vaca Muerta

E.E. Savoy, S. Ucan, S. Bosco, A.E. Larsen, J.F. Martínez, J. Álvarez, L. Monti, YPF SA; L. Savoy, YPF S.A.; J.V. Ramírez, YPF SA

10:30 - 11:00

Receso de café • Foyer Gran Panamericano

Salón Los Jardines

11:00 - 12:30

Stimulations Optimization II

Moderadores: Francisco E. Fragachan, Weatherford. Emmanuel d'Huteau, YPF.

11:00 - 11:30

TRABAJO N° 180956 Completion And Well Spacing Optimization For Horizontal Wells In Pad Development In The Vaca Muerta Shale

M. Suárez, YPF; S. Pichon, Schlumberger

11:30 - 12:00

TRABAJO N° 180963 Eagle Ford Frac Modeling: Integrating Proppant Transport with Geomechanical Properties for Long-Term Results in Liquids-Rich Plays

A.A. Yusuf, JGC Energy Development (USA) Inc; H. Bilgesu, West Virginia University

12:00 - 12:30

TRABAJO N° 180966 Stimulation Optimization Using Engineered Diversion Workflow to Increase Wellbore Contact in Cemented Completions

C. Ohlson, K. Eisele, J.M. Paneitz, B. Rollins, B.C. Betts, Whiting Petroleum; N. Heaton, J.R. Rondon, T.T. Do, A. Valenca, J.M. Bruns, Schlumberger; S. Cleaver, Consultant

Salón Buenos Aires

11:00 - 12:00

Technological Advances

Moderadores: Gastón Conci, YPF. Miguel Lavia, Consultor

11:00 - 11:30

TRABAJO N° 180949 Lessons Learned in Permian Gas-Lift Shale Wells: Dynamic Production Analysis with Downhole Gauge

L.E. González, R.N. Chokshi, R.O. Gonzales, T. Adams, Weatherford

11:30 - 12:00

TRABAJO N° 180974 Comparison of Numerical vs Analytical Models for EUR Calculation and Optimization in Unconventional Reservoirs

A. Moinfar, J.C. Erdle, K. Patel, Computer Modelling Group Ltd.

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JUEVES, 2 de junio

12:00 - 12:30

Successful Implementation of Novel Dissolvable Frac Plug in Horizontal Vaca Muerta Shale Well in Argentina

Marcelo A. Crotti, Inlab

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12:30 - 14:00

Almuerzo con Disertación II

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14:00 - 15:30

Operator Companies - Strategic Focus

Moderadores: Eduardo Mario Barreiro, Consultor. Oscar Vicente, Petrolera Entre Lomas.

Empresas participantes: Entre Lomas, Esteban Falcigno; Total, Sergio Giorgi; Wintershall, Jorge Ponce; Pluspetrol,

15:30 - 16:00

Receso de café • Foyer Gran Panamericano

16:00 - 16:30

Operator Companies - Technical Focus

Moderadores: Juan Moreyra, JM Consultor. Oscar Vicente, Entre Lomas

Empresas participantes: YPF, Pablo Bizzotto; Pan American Energy, Alejandro López Angriman; Shell, Ed Kujs

VIERNES, 3 de junio

07:30 - 08:30

Acreditaciones

Salón Los Jardines

08:30 - 10:30

Well Testing and Hydrocarbon Recovery Increase

Moderadores: Ricardo Palacios, Consultor. Juan Moreyra, Consultor

08:30 - 09:00

TRABAJO Nº 180970 Pressure Transient Analysis of Complex Fracture Networks in Shale Gas Reservoirs with Multiple-Porosity Transport Mechanisms

W. Teng, SPE, China University of Petroleum; Y. Jiang, University of Oklahoma; R. Jiang, J. He, X. Gao, Z. Liu, China University of Petroleum

“Buscando métodos de desarrollo”

VIERNES, 3 de junio

- 09:00 - 09:30 **CH - Characterize your SRV with EFR typecurves**
Yalda Barzin, L. Mattar, IHS Fekete
- 09:30 - 10:00 **An Integrated Workflow to Derisk the Vaca Muerta Unconventional Play**
V. Jain, H. Hernández, Shell Exploration & Production Co; M.A. Thomas, Sepco;
T. Chen, Shell Exploration & Production Co; J. Veldkamp, Shell Prospectg/Devel
- 10:00 - 10:30 TRABAJO N° 180958 **Gas Lift-Jet Pump Hybrid Completion Reduces Nonproductive Time During Unconventional Well Production**
O.A. Núñez Pino, T.S. Pugh, J. Hubbard, Weatherford International Inc.

Salón Buenos Aires

- 08:30 - 10:30 **Characterization of Tight and Shale Reservoirs III**
Moderadores: Matías Fernández Badessich, YPF. A. Peña
- 08:30 - 09:00 TRABAJO N° 180946 **Unconventional Production Forecast Needs Integration of Field Hydraulic Stimulation Data through Fracture Model Calibration and Optimized Numerical Scheme**
M. Delorme, D. Bossie-Codreanu, I. Ben Gharbia, O. Khebzegga, N. Khvoenkova,
O.M. Ricois, IFP Energies Nouvelles
- 09:00 - 09:30 TRABAJO N° 181000 **Lateral Wellbore Rock Characterization and Hydraulic Fracture Optimization Utilizing Drilling Cuttings and Mud Log in Cleveland Sand, a Case Study**
S.M. Stolyarov, D. Gadzhimirzaev, Baker Hughes; S.D. Sadykhov, BHI; B.P. Ackley, C. Lipp, Peregrine Petroleum; G. Spence, CGG
- 09:30 - 10:00 TRABAJO N° 180969 **Estimating Anisotropic Mechanical Properties and Stress Based on Measurements on Cuttings for Completion Quality: Methodology and Case Study in Vaca Muerta**
R. Prioul, M. Frydman, Schlumberger; J. Caniggia, Wintershall Energía S.A.
- 10:00 - 10:30 TRABAJO N° 180975 **Optimized Completions Design with Integrated LWD and Well Site Geochemistry for Petrophysical Analysis and Enhanced Well Placement**
Z.S. Crosby, C. Mejía, C. Langford, G. Nardi, S.T. Heard, P. Mainali, J.A. Galindo,
Weatherford

VIERNES, 3 de junio

10:30 - 11:00 Receso de café • Foyer Gran Panamericano

Salón Los Jardines

11:00 - 12:30 **Caso de Estudio III**

Moderadores: Gastón Marcelo Conci, YPF. A. Peña, Schlumberger

11:00 - 11:30 **Assessing Vaca Muerta Shale Oil Production Potential in Médano de la Mora Field**

F. Cafardi, Schlumberger Argentina; G. Díaz, Petrolera Entre Lomas; G. Cavazzoli, Schlumberger

11:30 - 12:00 TRABAJO N° 180971 **Production Decline Analysis in the Vaca Muerta Formation. The Application of Modern Time-Rate Relations Using Public Data**

L. Ruiz Maraggi, M.A. Lavia, G.B. Savioli, Instituto del Gas y del Petróleo, FIUBA, Universidad de Buenos Aires

12:00 - 12:30 **Analysis of the Impact in Performance in Multi-fractured Horizontal Wells in the Vaca Muerta Shale Through the Application of Different Flowback Policies**

D. Rojas, M. Fernández Badessich, YPF

Salón Buenos Aires

11:00 - 12:30 **Characterization of Tight and Shale Reservoirs IV**

Moderadores: Matías Fernández Badessich, YPF. Daniel Rosato, Consultor

11:00 - 11:30 TRABAJO N° 180961 **Characterization of Tight and Shale Unconventional Reservoirs from Logs**

H. Aharipour, Homai Well Services; M. Zeinali, Iranian Central Oil Fields Company (ICOFC)

11:30 - 12:00 TRABAJO N° 180968 **A Utility Discrete Fracture Network Model for Field-Scale Simulation of Naturally Fractured Shale Reservoirs**

L. Mi, China University of Petroleum, Texas A&M University; H. Jiang, China University of Petroleum; L. Tang, RIPED-Langfang ,CNPC; C. Liu, J. Li, China University of Petroleum; Y. Wang, Federal University of Rio de Janeiro; Y. Cao, J.E. Killough, Texas A&M University

“Buscando métodos de desarrollo”

VIERNES, 3 de junio

12:00 - 12:30

TRABAJO N° 180972 **Hybrid Model Application to Predict Permeability in Tight Gas Reservoirs**

E.T. Jiménez Nieves, CORE Energy; R.J. Cervantes Bravo, Universidad Nacional de Ingeniería; L.E. Arcaya, Consultant; D. Magnelli, ExxonMobil

Salón Gran Panamericano

12:30 - 14:30

Almuerzo con Disertación III

Patrocinado por:

Salón Los Jardines

14:30 - 15:00

International Keynote Speaker I

• **Production Management Cycle in Unconventional Resources.**

Ashok B. Dixit, Weatherford

15:00 - 15:30

International Keynote Speaker II

• **Enabling the Viability of Unconventional Reservoirs through Technology Integration.** Mo Cordes, Schlumberger

15:30 - 16:15

Cierre del Simposio

16:15

Café de despedida • Foyer Gran Panamericano

SESIONES DE POSTERS

Foyer Gran Panamericano

Miércoles, 1º de junio

10:30 - 11:00

Sesión I

Moderador: Francisco E. Fragachan, Weatherford

TRABAJO N° 180983 **Analysis of Enhancement Shale Gas Recovery by CO₂ Storage**

Ligen Tang, RIPED-Langfang, CNPC

TRABAJO N° 180229 **Multi-disciplinary Characterization of the Vaca Muerta Resource Play, Sierras Blancas Block, Neuquén Basin, Argentina**

Raúl Notta, Shell Oil Exploration and Production

Foyer Gran Panamericano

Jueves, 2 de junio

10:30 - 11:00

Sesión II

Moderador: Pietro A. Milazzo, Weatherford International Ltd.

TRABAJO N° 180993 **An Effluent Stream Treatment and Analysis System to Counteract Water Availability & Usage Issues for Unconventional Oil & Gas Resources**

A. Alkhawaja, The Petroleum Institute

TRABAJO N° 180987 **Multi-well Stimulation Optimization in Shale Formation: Modeling and Application**

Y. Li, Downhole Service Company, CCDG, CNPC

Foyer Gran Panamericano

Viernes, 3 de junio

11:00 - 11:30

Sesión III

Moderador: Francisco E. Fragachan, Weatherford

TRABAJO N° 180973 **Optimization of Enhanced Coalbed Methane Recovery with CO₂ Injection**

C. Temizel, Aera Energy LLC-EBS; T. Tuna, University of Houston

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