IX INTERNATIONAL

ACID GAS INJECTION SYMPOSIUM

23rd -25th May 2023

Conference Center, Ramada Plaza Downtown Calgary, Alberta, Canada

Sphere Technology Connection Ltd.

www.spheretechConnect.com

Acid Gas Injection, CCS, CCUS, CO_2 EOR, Symposium 2023

Registration Form

The IX International Acid Gas Injection Symposium

May 23rd – 25th, 2023
Ramada Plaza and Conference Center, Downtown Calgary, Alberta, Canada

REGISTRATION FEES

AGIS IX Registration Fee will cover conference materials, daily breakfast & lunch, and reception event.

- Regular registration fee is $1250 each. Speaker Fee is $1000 each. Student Fee is $800 each.
- Group registration fee is $1000 each. (A group of four or more people from same company)

Contact Name		Title	
Work Phone		Cell Phone	
Company Name			
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Contact Email			
Are you a student?	Yes/ No		
Are you speaker at AGIS IX?	Yes/ No		
Where do you hear about us?			
Notes			

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Please send this form to: alicewu@spheretechconnect.com
Contact: Alice Wu
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Acid Gas Injection, CCS, CCUS, CO_2 EOR, Symposium 2023

Registration Information

The Ninth International Acid Gas Injection Symposium (AGIS IX) will be held in the Conference Hall at the Ramada Plaza Downtown Calgary from 23rd to 25th May 2023.

SYMPOSIUM TOPICS

AGIS IX will discuss all processes related to the injection of acid gases – AGI, CO_2 EOR, rich gas injection EOR, CCS and CCUS. All of these processes share common aspects and there are synergies that can be exploited from the more mature processes (EOR) to the emerging processes (CCS and CCUS).

I. Fundamentals

1. Phase Equilibrium: solubility, water content, vapor-liquid equilibrium, hydrates
2. Properties: density, viscosity
3. Corrosion: material selection, monitoring
4. Reservoir Properties: modelling, rock mechanics
5. Health, Safety, Environment (HSE): emergency planning

II. Operations

1. Wells: completions, flow
2. Processing: sweetening, carbon capture, dehydration
3. Compression
4. Pumping
5. Pipelines
6. Case Studies
7. Troubleshooting

III. Disciplines

1. Petroleum Engineering: reservoir modeling, drilling, completions
2. Process Engineering: process modelling, optimization
3. Mechanical Engineering
4. Geology
5. Chemistry and Geochemistry
6. Physics and Geophysics

WHO SHOULD ATTEND?

Anyone who may be interested in AGIS from following companies:

- Oil & gas producers
- Gas processors and midstreamers
- Engineering companies (EPC, EPCM)
- Suppliers: chemicals, compressor, pipe, pumps, services
- Power generators, cement, mineral processing, and others interested in CCS
- Government agencies
- Research organizations and Universities

Including:

- Executives and project managers
- Geologists, chemists, and other scientists
- Engineers in all fields
- Project, facilities, and construction experts
- Field operation and production experts
- Academic researchers
- Company business managers
- University students (Master or Ph.D.)

AGIS IX – SCHEDULE

Day 1

0630 – 0820	BREAKFAST	*Sponsored by Sensia*
0820 – 0830	Introductions	*Welcome to AGIS IX*
0830 – 0915	Cornerstone Paper #1	*Acid Gas Disposal – A View from the Trenches* Kristopher Kruse, ARC Resources Ltd, Calgary, Alberta
0915 – 0945	Paper 1	*Acid Gas Injection Line Optimization for Water Dropout and Hydrate Prevention* Linnea Russell[1], Zayn Aladin[2], and James van der Lee[1] 1. SLB and 2. Sensia
0945 – 1015	Paper 2	*Pipestone Acid Gas Injection System* Rinat Yarmukhametov[1], James R. Maddocks[1], Tim Oldham[1], and Dan Simons[2] 1. Gas Liquids Engineering Ltd., Calgary, AB, Canada and 2. Ovintiv (former Encana Corporation), Calgary, AB, Canada
1015 – 1030	COFFEE	Sponsored by CRA, Houston, TX, USA
1030 – 1100	Paper 3	*Some Result of ERTF Carbon Capture Pilot Plant* Ahmed Aboduheir[a], Neil Rathva[b], Lin Li[b], and Walid ElMoudir[b] a. Aboudheir Consulting Ltd., Regina, SK, Canada and b. Delta CleanTech Inc., Regina, SK, Canada
1100 – 1130	Paper 4	*Case Study for the Application of CCUS to a Waste-to-Energy Italian Plant* Stefania Moioli[a], Giorgia De Guido[a], Laura A. Pellegrini[a], Elisabetta Fasola[b], Davide Alberti[c], Adriano Carrara[c] a. Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milan, Italy; b. Acinque Ambiente Srl – Waste to Energy Plant, Como, Italy; and c. a2a S.p.A, Brescia, Italy
1130 – 1200	Paper 5	*Key Results of Tomakomai CCS Demonstration Project* Yoshihiro Sawada, Jiro Tanaka, Daiji Tanase, Takashi Sasaki, and Chiyoko Suzuki, Japan CCS Co., Ltd., Tokyo, Japan
1200 – 1300	LUNCH	Sponsored by WSP

AGIS IX – SCHEDULE

1300 – 1330	Paper 6	*Shell's CANSOLV CO2 Capture. De-risked and Commercially Deployed Technology to Decarbonize Assets* Devin Shaw, Shell Catalysts and Technologies
1330 – 1400	Paper 7	*Anhydrous Triethanolamine as a Solvent for Gases* A. E. Mather[1], F.-Y. Jou[1], and K.A.G. Schmidt[2] 1 Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB and 2. Schlumberger, Calgary, AB
1400 – 1430	Paper 8	*Alkanolamines – What Is Next?* Jörn Rolker, Evonik Operations GmbH, Darmstadt, Germany and Joe Lally, Evonik Corporation, Houston, TX, USA
1430 – 1500	COFFEE	*Sponsored by Compass Energy, Calgary, Alberta, CA*
1500 – 1530	Paper 9	*Comparison of Models to Data for Phase Equilibria and Properties of CO2 + Contaminant Systems* Wayne Monnery, Chem-Pet, Calgary, AB, Canada
1530 – 1600	Paper 10	*Prediction of Acid Gas Density Using GERG-2008* S. Tadvi[a], S. Rathva[b], and John J. Carroll[c] a. University of Calgary, Calgary, Canada; b. Delta Cleantech Inc., Regina, Canada; and c. Gas Liquids Engineering, Calgary, Canada
1600 – 1630	Paper 11	*Numerical Investigation and Prediction of Critical Points of CO2 Binary Mixtures using GERG-2008* Eduardo Luna-Ortiz, Pace CCS Ltd, London, UK

Day 2

0630 – 0820	BREAKFAST	*Sponsored by Halliburton,*
0800 – 0830	Paper 12	*Simulation of multi zone coupling flow with phase change in fractured low permeability condensate gas reservoir* Wengang Bu, Weiyao Zhu, and Debin Kong, University of Science and Technology Beijing, Beijing, China

AGIS IX – SCHEDULE

0830 – 0900	Paper 13	*Down Hole Pressure and Temperature Observations at a CO2 Injector Under Differing Injection Conditions* S. Talman, R. Chalaturnyk and A. Rangriz Shokri, Civil and Environmental Engineering, University of Alberta, Edmonton, AB
0900 – 0930	Paper 14	*Dynamic Miscibility of H2S/CO2 with Oil in a Middle Eastern Triassic Reservoir* Liaqat Ali and Ahmad J. Sultan, XHorizons, Houston, TX
0930 – 1000	Paper 15	*Highlights from the Northeast BC Geological Carbon Capture and Storage Atlas* Natalie Sweet, Alison Gibbs, and John Xie, Canadian Discovery Ltd., Calgary, AB
1000 – 1030	COFFEE	Sponsored by XHorizons
1030 – 1100	Paper 16	*Evaluation of CO2 Storage Potential in the Deep Mannville Coals of Alberta: Vertical Well Injection Testing* Yun Yang and Christopher R. Clarkson, University of Calgary, Department of Geoscience, Calgary, Canada
1100 – 1130	Paper 17	*Up The Success Story of Acid Gas Disposal (AGI) in WCSB - The Past, The Present, The Future* Mohammad Tavallali[1], Robyn Swanson[2], Vadim Milovanov[1], Anuj Popli[1], and Norbert Alwast[1] 1. S&P Global, Calgary, Canada and 2. Benoit Regulatory Compliance Inc., Calgary, Canada
1130 – 1200	Paper 18	*A Practical Approach to Estimating Reservoir Performance Duration at Existing Injection Sites* David White, Santiago Flores, Alberto A. Gutierrez, Karen Flores, and Ghislaine Robin, Geolex, Inc., Albuquerque, NM
1200 – 1300	LUNCH	Sponsored by LEWA
1300 – 1500	Roundtable	Roundtable (part 1)
1500 – 1530	COFFEE	Sponsored by ARIEL

AGIS IX – SCHEDULE

1530 – 1700	Roundtable	Roundtable (part 2)
1700 – 1830		Pre-Gala Mingle
1830 – 2200	Gala Dinner	Sponsored by GLE

Day 3

0630 – 0820	BREAKFAST	*Sponsored by Geolax*
0830 – 0915	Cornerstone Paper #2	*Acid Gas Injection from Start up to Stability – A Recap of Three Years of Operation and Troubleshooting* Loni van der Lee[1], Jordan Watson[1], and Laura Creanga[2] 1. Tidewater Midstream and 2. SLB
0915 – 0945	Paper 19	*Acid Gas Injection Case Study for the Iraqi Region of Kurdistan* Mariana Alvis and G. Federico, Ad Terra Energy, Geneva, Switzerland
0945 – 1015	Paper 20	*Corrosion Risk Estimation for Carbon Capture Projects, and Questions That Need to be Answered.* Mark McLeod, Brad Healey, Tundzhay Kurtulan, Ivan Gutierrez, OGC Energy, Sheffield, UK
1015 – 1030	COFFEE	Sponsored by STC
1030 – 1100	Paper 21	*Symmetry Process Software Platform: Pushing the Operational Envelope of High CO2 Production Regions of Brazil* Marcelo Amara Da Costa[l], Thiago Koichi Anzai[1]; James van der Lee[2]; Linnea Russell[2]; and Ezequiel Vitriu[3] 1 CENPES – Petrobras; 2 Schlumberger, 3 to be determined
1100 – 1130	Paper 22	*New Developments for Experimental Characterization of Brines Loaded with Carbon Dioxide* M. Cassiède, F. Hevia de Los Mosos, J-Y. Coxam, Y. Coulier, K. Ballerat-Busserolles, Université Clermont Auvergne, Clermont–Ferrand, France

AGIS IX – SCHEDULE

1130 – 1200	Paper 23	*Well Construction Technologies for AGI and CCS Wells* Ben Banack and Ryan Bartko, Halliburton, Calgary, AB
1200 – 1300	LUNCH	Sponsored by ASRL
1300 – 1330	Paper 24	*CCUS via CO2 Compression with Reciprocating Compressors* Patrick Campbell, Ariel Corporation, Mount Vernon, Ohio
1330 – 1400	Paper 25	*Elemental Sulfur in Compression Systems: A Chemist's Look at Sources and Issues.* F. Bernard, P.D. Davis, C.E. Deering, and R.A. Marriott, Alberta Sulphur Research Ltd., University of Calgary, Calgary, Alberta
1400 – 1430	Paper 26	*Process and Design Aspects of Diaphragm Pumps* Rüdiger Bullert, LEWA GmbH, Leonberg, Germany
1430 – 1500	Paper 27	*Material Selection for CO2 Injection* Paul Maxwell, Corrosion Resistant Alloys (CRA), Houston, TX
1500 – 1530	COFFEE	Sponsored by STC
1530 – 1600	Paper 28	*Quantitative Evaluation of Dynamic Solubility of Acid Gases in Deep Brine Aquifers* Liaqat Ali[1], Ahmed J. Sultan[1], and Russell E. Bentley[2] and K. Patel[3] 1. XHorizons, Houston, TX; 2. WSP USA, Houston, TX; and 3. Computer Modelling Group
1600 – 1630	Paper 29	*How Svante is Paving the Way to a Viable CO2 Capture & Removal Industry* Chad Badry, Travis Brookson, and Colleen Nitta, Svante Inc.

1630 – 1700	Paper 30	*Phase Equilibrium Measurements and Modeling of Organic Sulfur Species Propyl Mercaptan, Butyl Mercaptan, and Dimethyl Sulfide in MDEA/DEA Aqueous Solutions*. Javeed A. Awan[1] and Georgios M. Kontogeorgis[2] 1 University of the Punjab, Lahore, Pakistan and 2 Technical University of Denmark, Lyngby, Denmark

Posters

Hydrates of Carbon Dioxide – A Review of Experimental Data

Bogdan Ambrożek[1] and Eugene Grynia[2]
1. West Pomeranian University of Technology, Szczecin, Poland
2. Gas Liquids Engineering Ltd., Calgary, Alberta, Canada

Prediction of Carbon Dioxide Frost Points Using GERG-2008

S. Rathva[a], S. Tadvi[b], and John J. Carroll[c]
a Delta Cleantech Inc., Regina, Canada
b. University of Calgary, Calgary, Canada
c. Gas Liquids Engineering, Calgary, Canada

A Novel Method for Calculating Average Formation Pressure of Gas Reservoir Type Underground Natural Gas Storage

Yubao Gao, Weiyao Zhu, Hongyang Chu, Ming Yue, University of Science and Technology Beijing, Beijing, China

Simulation of multi zone coupling flow with phase change in fractured low permeability condensate gas reservoir

Wengang Bu, Weiyao Zhu, and Debin Kong, University of Science and Technology Beijing, Beijing, China

Phase Equilibrium Measurements and Modeling of Organic Sulfur Species Propyl Mercaptan, Butyl Mercaptan, and Dimethyl Sulfide in MDEA/DEA Aqueous Solutions.

Javeed A. Awan[1] and Georgios M. Kontogeorgis[2]
1. University of the Punjab, Lahore, Pakistan and
2. Technical University of Denmark, Lyngby, Denmark

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AGIS IX Organization

Sphere Technology Connection Ltd. Calgary, Alberta, Canada

www.spheretechconnect.com

AGIS IX Technical Committees

Chair	**John Carroll**	Gas Liquids Engineering, Calgary, Alberta, Canada
	Alberto Guitierrez	GEOLEX, Albuquerque, NM, USA
	Mingqiang Hao	CNPC, Beijing, China
	Weiyou Zhu	University of Science and Technology Beijing, Beijing, China
	Russell Bently	WSP USA, Houston, Texas, USA
	Karine Ballerat-Busserolles	Université Clermont Auvergne, Clermont–Ferrand, France
	Geert Versteeg	Procede, Enschede, The Netherlands
	James van der Lee	University of Calgary, Calgary, Alberta, Canada
	Paul Maxwell	Corrosion Resistant Alloys, Houston, Texas, USA
	Rui Wang	SINOPEC, Beijing, China
	Robert Marriott	University of Calgary and Alberta Sulphur Research Ltd., Calgary, Alberta, Canada
	Ping Guo	Southwest Petroleum University. Chengdu, China
	Kelly MacKenzie	Gas Liquids Engineering, Calgary, Alberta, Canada
	Michelle Gaucher	BC Oil & Gas Commission, Victoria, BC, Canada
	Liaqat Ali	XHorizons, Houston, Texas, USA
	Ying Wu	Sphere Technology Connection, Calgary, Alberta, Canada

AGIS IX VENUE INFORMATION

AGIS IX will be hold at Ramada Plaza Hotel and Conference center. Come and enjoy the excitement of Calgary downtown at Ramada Plaza Calgary Downtown hotel. It is conveniently located in center of Calgary, walking distance to the major headquarter of production companies, the big shopping centre and Stephen Avenue Walk, Glenbow Museum, and Devonian Gardens etc. It is just a block away from the C train stations which can take you to Calgary Stampede Park, Calgary Zoo and many more Calgary attractions. Ramada Plaza Hotel and Conference Center.

Conference Time: 23rd - 25th May 2023

Location: Ramada Plaza Downtown Calgary, Calgary, Alberta, Canada

Address: 708 – 8 Ave. S.W. Calgary, AB T2P 1H2

Room Rate: $145 + TAX

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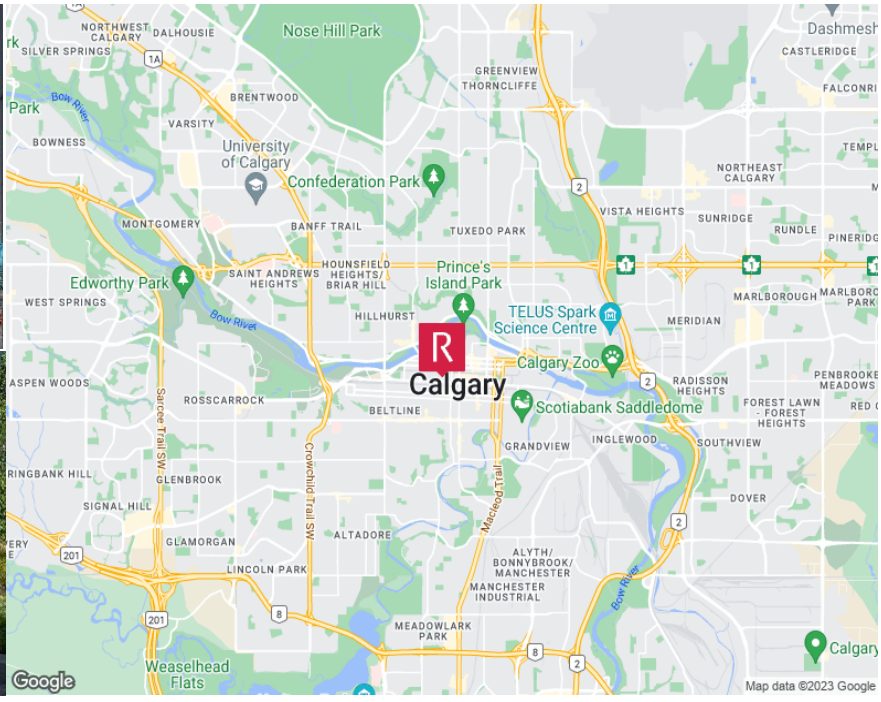

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May 2023

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