Technical Papers

**Important Dates and Deadlines for Authors**

- **30 January**
  - 200- to 500-word abstracts due; e-mail to Program Chair. See Call for Papers for instructions and details

- **7 February**
  - Notification of paper acceptance; With speaker/author guidelines

- **8 February**
  - Preliminary paper/author/co-author list available; later revisions posted as necessary

- **1 March**
  - Final paper copy due; e-mail to Program Chair

- **8 April**
  - Day 1 of Technical Session

- **9 April**
  - Day 2 of Technical Session

Speakers must e-mail their proposed title with a 200 to 500-word abstract to Eric Busch, 2019 Program Chair, by 30 January 2019. See the Call for Papers for author instructions and details. The preliminary list of selected papers will be posted 8 February online, with later revisions to be posted as necessary.

For further program or author questions, please contact:

**Program Chair 2019**
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Technical Class

**“Mechanical Integrity Testing (MIT) and Techniques in Gas and Liquids Storage Caverns”**

(optional, same subject will be repeated at the Fall 2019 conference in Berlin)

**Sunday, 7 April 2019, 8:00 AM–5:00 PM, Limited Capacity**

See class instructors and topics list on last page of this announcement

Technical Class “Mechanical Integrity Testing (MIT) and Techniques in Gas and Liquids Storage Caverns” is designed as a beginning and refresher course in conducting and analyzing these tests, along with a survey of regulatory drivers. The tentative list of topics includes: fundamentals and physical principles of these tests, techniques, common practices (case histories), analysis and reporting, quality assurance, and needs / requirements of end-users of test results. The course will address testing of gas-filled caverns, and tests that monitor interface depth and amount of a light test medium such as nitrogen or hydrocarbon over brine. The scope of topics will complement with minimal overlap the information presented during the 2017 course “Well Integrity Management for Salt Caverns”. The 2017 course primarily addressed comprehensive programs for integrity management, over the cavern life cycle, while the 2019 class focuses on test techniques and analysis.

SMRI tech classes always allow time for discussions and questions, and there are opportunities for making new friends and having related discussions during breaks and lunch. Each class participant will receive a USB drive of the class papers and conference papers, and has option to order/purchase a printed Class Book during online registration.

For class questions, please contact:

**Technical Class Chair 2019**
Dieter Brückner:
IFG Institut Für Gebirgsmechanik
Friederikenstraße 60
04279 Leipzig, Germany
Phone: +49 341-336-00-223
dieter.bruceckner@ifg-leipzig.de

SMRI Technical Class Organizing Committee: Peter Jordan, Dieter Brückner, and René Schneider.

**Technical Class Registration Fees**

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
<td>Members</td>
<td>$400</td>
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<td>Member Regulator</td>
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<tr>
<td>Non-Members</td>
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<tr>
<td>Non-Member regulator</td>
<td>$400 (must contact John Voigt)</td>
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<tr>
<td>Students, if space is available</td>
<td>no charge (must contact John Voigt)</td>
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CONFERENCE INFORMATION

Schedule of Events

30 January  Authors abstracts due
4 February  Registration for members starts
8 February  Preliminary paper list, author/co-author will be posted
8 February  Deadline for unsolicited research proposals for Research Committee feedback
1 March    Authors final papers due
25 February Non-member registration starts *(starts 1 week earlier than previous plan)*
6 March    Field trip registration last day
22 March   Registration** last day
Saturday, 6 April 8:00 am–12:00 pm: Research Committee Meeting
                  1:00 pm–5:00 pm: Leadership/Executive Committee Meeting
Sunday 7 April  8:00 am–5:00 pm: Technical Class, “Mechanical Integrity Testing (MIT) and Techniques in Gas and Liquids Storage Caverns” *(optional, same class will be repeated in Fall 2019, Berlin)*
                  6:30 pm–8:30 pm: Icebreaker Welcome Reception, optional, no charge
Monday 8 April  8:00 am–10:00 am: SMRI Business Meeting (members only)
                  10:30 am–11:15 am: Oral Research Reports (2)
                  11:15 am–5:00 pm: Technical Papers Session, day 1
                  9:30 am–12:30 pm: Friends and Spouses tour
                  12:00 pm–1:30 pm: Delegates Lunch
                  6:30 pm–10:00 pm: Evening dinner event: Mardi Gras World
Tuesday 9 April 8:00 am–5:00 pm: Technical Papers Session, day 2
                  9:00 am–5:00pm: Friends and Spouses tour of Southern Plantations
                  12:00 pm–1:30 pm: Delegates Lunch
Wednesday 10 April Technical Field Trips (4 choices, optional) times are tentative, and may change, each is an all day field trip.
                 Field Trip #1—Bayou Choctaw Strategic Petroleum Reserve
                 Field Trip #2—Louisiana Offshore Oil Port “LOOP”
                 Field Trip #3—Weeks Island Underground Salt Mine
                 Field Trip #4—Avery Island Underground Salt Mine

Research Presentations

Depending on research project estimated completion dates, it is likely there will be one or two oral research reports presented Monday morning at this conference: Joe Ratigan's RR2018-2 Companion Report on McGill University Hanging String Vibration Dynamics synthesizes the McGill research findings and explains how the information may be useful to cavern operators.

RESPEC's RR2019-1 Project 'Standard' Salt Core Acquisition for Future Research was to acquire salt core from Avery Island mine for future SMRI research projects. The methods and results will be described.

Registration Fees

Each person attending any part of the technical conference must be in the SMRI database and must register for the conference. If you cannot login to the website and know you have a record to update, please contact John Voigt or John Nadeau. Online registration and payment in advance is required by all persons attending. No registrations will be held or accepted without payment. All attending non-technical spouses and friends must be registered as "guests" before completing your registration's online payment. Space for most events is limited.

Registration fees includes $150/day for breakfast, lunch, coffee breaks, printed materials, AV, and a USB drive of tech paper files, but NOT printed class books.

| Category                | Fee  
|------------------------|------
| Members                | $300|
| Government regulators  | $300|
| Honorary members       | $300|
| Non-members            | $700|

***University students of related subjects must contact SMRI's Executive Director, JVoigt@solutionmining.org for discount details and applications if you wish to attend for zero registration cost. Members- if you know local professors of subjects related to SMRI, please pass this announcement on to them with your invitation.

Spring 2019 Sponsorships

SMRI is happy to accept sponsorships and appreciates financial support of our conference activities and expenses. SMRI's 2019 sponsorship information is available online or you may contact Dawn Langlinais for more information. No commercial advertising will be accepted, but SMRI will acknowledge contributions of all sponsors.

**We thank these sponsors of the Spring New Orleans 2019 SMRI Conference:**

**PLATINUM:** Lane Power & Energy Solutions, Inc.; and WSP USA

**GOLD:** Sonic Surveys, Inc.

**SILVER:** Cavern Solutions, Inc.; CBW Engineering; Fluor Federal Petroleum Operations; and RESPEC

**BRONZE:** Enventure Global Technology, Lonquist & Co., LLC; Ratigan Engineering and Consulting; LLC; Sabine Storage & Operations, Inc.; and Seal-Tite International

*(As of 17 January 2019, 2 Gold sponsorships are available. The deadline for sponsors to sign up for Spring is 8 March, if any remain)*
CONFERENCE INFORMATION

Registration and Important Dates

REGISTER EARLY if you plan to attend! About 250-300 technical delegates are expected to attend the conference. Announcement details are subject to change, and such changes will be posted online or registered individuals will be notified.

- On-line registration for members starts 4 February 2019
- Non-member registration starts 25 February 2019 (EARLIER THAN PREVIOUS PLAN)
- Field Trip** last day to register 6 March 2019
- Registration** ends (last day) 22 March 2019

**Registration for field trips must close early, 6 March, for security checks

Please REGISTER EARLY to ensure your space, especially for optional events such as Tech Class, and for security reasons, all field trips will be closed after 6 March! No refunds or cancellations after 22 March. If space is available, late registrants will pay a $250 late fee, starting 23 March and will not receive USB sticks or optional books. During online conference registration, participants may buy a conference book, and class participants may buy a class book. Attendees who want books must order during registration, as no extras will be printed. This is to conserve resources, recognizing that most members prefer the USB flash drive over large, printed books. See our website for the latest information and any changes necessary. For future updates of this announcement, list of papers, technical class schedule, and field trip information, please see our website in “Spring 2019 New Orleans” menu page under “Conferences”. SMRI nametags must be worn at every function.

Future Conferences

- **Fall 2019**  SMRI Conference—Berlin, Germany
  - 22-25 September  Class topic will be repeat of Spring 2019 Mechanical Integrity Testing (MIT) and Techniques in Gas and Liquids Storage

- **Spring 2020**  SMRI Conference—Edmonton, Alberta, Canada (tentative)

- **Fall 2020**  SMRI Conference—Krakow, Poland (tentative)

Conference Assistance

For Registration Assistance, Payments, Spouse/Evening Events, Visa Letters:

Dawn Langlinais
Manager of Conferences and Education
20 Sullivan Ridge Way
Townsend, MT 59644 USA
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Fax: +1 888-843-3995
dawnL@solutionmining.org

For SMRI Membership Issues or Technical Field Trip Questions:

John O. Voigt
Executive Director
105 Apple Valley Circle
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Fax: +1 570-585-8091
jvoigt@solutionmining.org

For Login and Database Assistance:

John Nadeau
Assistant Executive Director
Clifton Park, New York, USA (US Eastern time zone)
Phone: +1 518-348-6995
jnadeau@solutionmining.org

Hotel Information

InterContinental New Orleans
444 St. Charles Avenue
New Orleans, LA, 70130 USA

Each SMRI participant is responsible for making their own hotel reservations. SMRI room rate is $239.00 only until our room block is sold out. Hotel reservations may be made now through 14 March 2019, to receive SMRI’s discounted conference rate unless our allotted rooms are full earlier. Make sure you tell reservations that you are with “Solution Mining Research Institute” conference group.

Reservations:
By Phone: +1 (800) 439-4745
(a 72 hour minimum notice of cancellation is required for full refund)

Click Here for Website Reservations
ADDITIONAL ACTIVITIES

SPOUSE AND FRIENDS ATTENDANCE:
Spouses and friends are always welcome at SMRI conferences. Friends will not be technical delegates. Spouses and friends are invited and welcome to the Icebreaker Reception, the Monday Night Dinner, and the Monday and Tuesday Tours. Participation in these activities is OPTIONAL, and spouses and friends must be pre-registered and paid by 22 March. Registration depends on space available. We are sorry but do not offer the option for spouses/friends to join SMRI lunches this meeting. Please dress for the weather, and wear your name badge.

ICEBREAKER WELCOME RECEPTION
Sunday 7 April, 6:30–8:30 pm, Registration Required
To open the conference, SMRI is inviting all participants (including spouses and friends) to this informal reception. Attendance is free for delegates and their first guest, ($40 for each additional guest) so come relax and enjoy an evening of light appetizers and the camaraderie of friends and colleagues to officially begin this conference.

BUSINESS MEETING
Monday Morning 8 April, 8:00–10:00 AM (SMRI Members Only)
The SMRI business meeting will be held Monday morning to transact business of the Institute. All members are welcome, including all staff of member organizations, not only voting representatives.

FRIENDS AND SPOUSES NEW ORLEANS CITY AND FRENCH QUARTER TOUR
Monday 8 April, 9:30 am–12:30 pm (optional, $45 per person)
Optional guided city walking tour, after which you may stay in the French Quarter or continue back to the hotel with the guide.

MONDAY NIGHT DINNER AT MARDI GRAS WORLD AND RIVER OAKS MANSION
Monday 8 April 6:30 pm–10:00 pm (optional, $100 per person)
Dinner, includes bus transport, arrival drink, Fat Tuesday entertainment and self-guided tour of Mardi Gras 'Float Den' before dinner.

TUESDAY SPOUSES AND FRIENDS BUS TOUR OF PLANTATION HOMES, GARDENS
Tuesday, 9 April, 9:00 am–5:00 pm (optional, $145 per person)
Guided bus tour to Laura Plantation and Gardens, Houmas House, and Cajun buffet lunch at Houmas House.

Attire
Casual attire is suggested for the meeting and all associated events. For the Monday and Tuesday spouses/friends tours and the Wednesday field trips, comfortable clothes for outdoor weather, including sturdy shoes appropriate for walking are suggested. Please check the weather forecast and be prepared for variable weather. Field trip attire will be noted for each field trip instruction sheet at the conference.
Registration for some field trips ** will close early, by 6 March for security clearance. Early registration is strongly suggested for all these field trips, and only those on waiting lists and cleared by security will be substituted if cancellations occur! ALL FIELD TRIPS WILL BE ON Wednesday 10 April 2019, each will be full-day plus. For each field trip, security requirements, suggested safety gear to wear/bring, physical condition necessary to tolerate environmental conditions, and any other limitations on participants will be emailed to those registered. Each participant must be in good physical shape, able to walk on rough ground and climb stairs, and understand and follow directions. SMRI reserves final right to limit participants to those passing security checks and screening. Limit 1 person per organization on FTs #3 and #4, please. We are sorry, but due to site restrictions and limited access, spouses and guests may not participate in ANY field trips, which are for technical delegates only. Lunch is included with each field trip.

Field Trip #1—**Bayou Choctaw

50 person capacity, $100 per person
Approximately 7:30 AM to 6:00 PM

US DOE SPR (Operated by Fluor Federal Petroleum Operations) and Boardwalk Pipelines cavern storage facilities related to the strategic petroleum reserve (SPR) program. Bayou Choctaw is located across the Mississippi River about 12 miles (19 km.) southwest of Baton Rouge, Louisiana, and about a 2 hour drive by bus from downtown New Orleans.

The SPR was established after the 1973-74 oil embargo, the federally owned crude oil stocks are stored in 63 underground salt caverns in four locations in Louisiana and Texas. The salt domes with SPR caverns are: In Texas, Bryan Mound and Big Hill; and Louisiana’s two sites are West Hackberry and Bayou Choctaw. The Bayou Choctaw salt dome has been mentioned often in SMRI papers. Each of SPR’s 4 crude oil storage sites is situated with major pipeline access. Boardwalk Pipelines is one of the connecting pipeline and cavern storage neighbors of the SPR at Bayou Choctaw. Participants on this field trip will visit both the Boardwalk facilities and Fluor SPR site.

Security and safety is required for visiting these operations, and each participant must be registered for the SMRI conference and field trip, be paid, and prepared to complete security forms, plus provide SMRI with copies of drivers licenses for US citizens, and passports of non-US citizens. SMRI will submit the forms and ID copies to US DOE security, and each SMRI participant must pass the security check prior to going on this field trip. SMRI has no input for the security clearance, so if someone does not pass they will receive a refund from SMRI.

Field Trip #2—**LOOP, Louisiana Offshore Oil Port

40 person capacity, $100 per person
Approximately 8:00 AM to 5:30 PM

The only US deep water, supertanker, crude oil loading and unloading facility, LOOP’s facility at Galliano, Louisiana, is about 40 miles, (64 km,) south-southwest of New Orleans, about 1 ½ hour bus ride from the hotel.

The field trip will include mandatory security checks and safety training of every SMRI participant, with U.S. Coast Guard regulations applying while on the crewboat or near waterways. Following site orientation, planned are visits to the LOOP field facilities cavern area, the Clovelly tank facility and brine storage, and the ‘incoming – outgoing’ facility.

LOOP, is the only US deepwater oil port, and was constructed specifically for the safe and efficient handling of VLCC oil tankers. The first VLCC crude oil export was in February 2018. LOOP offers its vessel loading service using already-built infrastructure that both minimizes environmental risks and impacts and focuses on sustainability as the best use of our nation’s existing assets. As market demand grows, LOOP will expand vessel loading services in coordination with concerned agencies and stakeholders to ensure its activities remain fully protective of the environment and public health.

During a one week period in December 2018, three VLCC oil tankers all arrived at the LOOP deepwater port completely empty and departed fully loaded with various crude types that can be sourced from LOOP’s Clovelly Hub, including a light sweet grade.

LOOP has been a hub for domestic crude production since 1996 and handles a wide spectrum of domestically produced energy including WTI, LLS, Eagle Ford, Bakken, Mars, THB and specialty grades. Security and safety is required for visiting LOOP’s operations, and each SMRI participant must be registered for the SMRI conference and field trip, be paid, and prepared to complete security forms, plus provide SMRI with copies of drivers licenses for US citizens, and passports of non-US citizens. SMRI may submit the forms and ID copies to LOOP security before the conference, and each SMRI participant must pass the security check to go on the field trip. SMRI has no input for the check, and if someone registered does not meet security approval, they will receive a refund from SMRI. Upon arrival at LOOP facility, A Government issued United States Citizen Identification (USC- Driver’s license, Non USC- Passport) with picture must be physically presented, not a photocopy.
**Field Trip #3—** **Weeks Island Mine, Morton Salt (K+S)**

20 person capacity, 1 person per organization  
$150 per person  
**Approximately 7:00 AM to 6:00 PM**

The bus ride will be about 2 ½ hours. For those on this underground mine field trip, the operating level where geological features are best exposed has air temperatures in the 90°F, (32°C,) range, with high humidity and some salt dust.

The Weeks Island mine started production in 1902, was successfully operated until the US DOE SPR program bought the underground mine in the late 1970’s and converted upper mine levels for crude oil storage. While SPR modification was underway, Morton Salt moved off to the side of the SPR levels and sank 2 new shafts, and salt mining has been progressing deeper and off to the side of the now abandoned, brine filled, SPR levels. There are a number of SMRI papers describing investigation of a surface sinkhole that was caused by a small groundwater water leak into the SPR oil storage, and which lead to the SPR site de-commissioning.

Two objectives of this and the Avery Island mine field trip are 1) to help field trip participants to see and better understand some of the ‘anomalous’ geological features common in Gulf Coast salt domes which are very relevant to domal salt cavern and mine planning, development, production, and abandonment, and 2) to give participants an appreciation of the scale (both mine size and equipment size,) and some challenges of domal salt underground mining. The geologic features encountered on the field trips will depend on the mine’s advancing rooms and accessibility on the date of the field trips.

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**Field Trip #4—** **Avery Island Mine, Cargill Salt**

10 person capacity, 1 person per organization  
$150 per person  
**Approximately 7:00 AM to 6:15 PM**

The bus ride will be about 2 ½ hours. For those on this underground mine field trip, the operating level where geological features are best exposed has air temperatures in the 90°F, (32°C,) range, with high humidity and some salt dust.

Avery Island was the site of the first underground salt mine in North America, in 1867, mined at 80 feet,(26 meters,) depth. The mining unfortunately was begun at too shallow a depth, before domal salt geology was recognized, so repeated flooding of the mine by water and inflowing sand created surface sinkholes and hastened closure of the mine in the late 1890’s. A new shaft was sunk to the southwest in 1898, to a much deeper 500 feet (165 meters,) level, which was also far enough from the abandoned/flooded shallow workings. Mining is still in operation over 120 years later from this same mine, but from progressively greater mine depth. The 500 level of the mine was the host in the late 1970’s and early 1980’s of US ONWI tests performed by RESPEC for nuclear waste storage in rock salt, and last year salt cores were drilled under an SMRI research project for future rock mechanics research.

Two objectives of this and the Weeks Island mine field trip are 1) to help field trip participants to see and better understand some of the ‘anomalous’ geological features common in Gulf Coast salt domes which are very relevant to domal salt cavern and mine planning, development, production, and abandonment, and 2) to give participants an appreciation of the scale (both mine size and equipment size,) and some challenges of domal salt underground mining. The geologic features encountered on the field trips will depend on the mine’s advancing rooms and accessibility on the date of the field trips.