55th Annual

Underground Corrosion Short Course


Purdue University, West Lafayette, Indiana
Who Should Attend

Anyone interested in the causes of corrosion and its control should attend this course. Engineers, corrosion technicians, construction foremen, and maintenance foremen will find that this program fits their needs.

Sections and Offerings

Advanced Section – This section will present advanced techniques, materials, and design; an optional test is offered. Please bring a scientific calculator to class with you, there are some available on a first come basis.

Basic Section – This section will provide a structured course, with an optional test. It is designed to assist in the preparation for the Cathodic Protection Tester Certification test.

Coatings School – Surface preparation and coating fundamentals will be discussed. The course will address inspection techniques in the field and at the coating mill, knowledge of proper coating selection, and hands-on field application procedures.

The Corrosion Roundtable Forum will be conducted Tuesday afternoon, February 23, from 4:30-5:30 p.m. This is an excellent opportunity to ask questions and compare corrosion practices.

Hands-on Training Opportunity – On Tuesday, February 23, from noon-3 p.m., there will be multiple hands-on training stations including ultrasonic instrument and pit gauge measurements, line locating, setting current interrupters in rectifiers, and taking the basic bond measurement. Students will learn how to properly operate the equipment at each station.

Intermediate Section – This section will present NACE and DOT criteria, an overview of pipeline coatings, and interference testing; an optional test is offered.

Internal Corrosion Course – This course will be offered on Wednesday only. It will have industry experts presenting the latest information on internal corrosion.

Pipeline Integrity – This section discusses in-depth the various analytical tools available for determining the cause of pipeline threats such as corrosion, manufacturing and construction defects, third party damage, etc. As it relates to pipeline integrity, interpretation of DOT rule-making from transmission and distribution viewpoints will be discussed.

Practical Applications of Corrosion Control – This course is designed for operators, field laborers, and supervisors that want a basic understanding of the concepts of corrosion. A lot of hands-on training and basic fundamentals will be addressed.

Rectifier School – Corrosion technicians can learn about the fundamentals of troubleshooting, maintenance, and operation of rectifiers. In the class, students will be able to work physically with the equipment. Please bring a multimeter to class with you.

Special Topics – This section will address current issues and problems facing the industry, and will endeavor to find solutions.

Short-Course Registration Fee

The general registration fee is $150 or $175 for rectifier section per person through February 12, 2016. After that, a late fee of $25 will be added. The luncheon on Wednesday is included with registration.

Professional Development Hours (PDH)

PDH are available for the sessions identified as such. PDH are a standardized, nationwide method of recognition for participation in approved, non-credit educational activities. Attendance at the entire session (Basic, Intermediate, Advanced, or Practical Application) is required for credit. Recordkeeping for your PDH requirements is your responsibility.

Program and Registration Information

For registration information, please contact:
Conference Registration
(866) 515-0023
confreg@purdue.edu
www.conf.purdue.edu/corrosion

For course content information, please contact:
Ray Bingman, General Chairman
(812) 568-5236
erbingman@vectren.com

Once you are registered, you will receive an electronic confirmation letter with parking information, links to maps, and other information.

Parking

Parking is available in the Grant Street Parking Garage, which is across the street (east) from the Purdue Memorial Union. The daily fee is $10, with hourly rates for lesser time. Parking is free to Union Club Hotel guests. Please have your garage ticket validated at the Union Club desk prior to leaving the garage.

Refunds

Refunds will be granted upon written request received by February 12, 2016. Purdue University is not responsible for costs incurred due to cancellation.

Vendor Show

The ballroom at the Best Western (4343 State Road 26E, Lafayette) will be the location for the Supplier Hospitality and Information Show. The show will be held Tuesday and Wednesday from 6:30-9:30 pm. Join a number of industry experts in a casual atmosphere to obtain the latest information on CP services and products. Food and beverages will be provided by the exhibitors. For your convenience, a shuttle bus between the Purdue Memorial Union and the Best Western will be provided, starting at 5:50 pm. The last bus will run at 9:30 p.m. (Best Western to Purdue campus). For more information, contact John Williams at j.williams@copperheadwire.com or (586) 747-5437.
Tuesday, February 23

11:00 am – 4:00 pm  Registration | Stewart Center in the East Foyer on the Main Floor
Check-in registration and receive materials and more information about the courses

12:00 – 3:00 pm  Hands-On | Stewart Center 302
This will be an open forum with multiple stations. Several knowledgeable industry professionals will be available to demonstrate, answer questions, and help students use equipment at each station. The following stations will be available:

- Galvanic anode display
- Rectifier
- Impressed current anode display
- Ultrasonic measurement testing
- Coating thickness profile
- Taking pipe-to-soil potentials
- Current interrupter installation
- Bond test station
- Pit depth measurements
- Locating

4:00 – 5:30 pm  Roundtable | Stewart Center 306
Roundtable discussion. This is an open forum for students with any corrosion related question.

6:30 – 9:30 pm  Vendor Show | Best Western
Shuttle bus will board at the Grant St. entrance of the Purdue Memorial Union (east side) starting at 5:50 p.m. on a rotating basis. 
Last bus returning to PMU will board at 9:30 p.m.

We want to thank our Corporate Sponsors for their support

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Unconventional Solutions
**Wednesday, February 24, 2016**

Registration begins at 7:00 a.m. in Stewart Center in the East Foyer, Main Floor. | General Session is from 8:00-9:00 a.m. in Fowler Hall (located next to the registration window in Stewart Center).

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<tr>
<th>Period 1</th>
<th>9:15 – 10:30</th>
<th>Period 2</th>
<th>10:45 – 11:45</th>
<th>Lunch</th>
<th>12 – 1</th>
<th>Period 3</th>
<th>1:15 – 2:30</th>
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<td><strong>Ned Gisel, Chair STEW 218AB</strong></td>
<td>Principals of Basic Electricity</td>
<td>Corrosion Fundamentals</td>
<td>PMU</td>
<td>Corrosion Control</td>
<td>Fundamentals of Cathodic Protection, Part 1</td>
<td>Fundamentals of Cathodic Protection, Part 2</td>
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<td>Greg Alexander</td>
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<td>and Greg Alexander, AGL</td>
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<td><strong>Rogelio de las Casas, Chair STEW 214AB</strong></td>
<td>Keith Boswell</td>
<td>National Pipeline Services</td>
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<td>Nathan Wood</td>
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<td><strong>Practical Applications of Corrosion Control</strong></td>
<td>Introduction to Corrosion Control</td>
<td>Coatings</td>
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<td>Coating Hands-On</td>
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<td><strong>Mark James, Chair STEW 306</strong></td>
<td>Phil Eggen</td>
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<td><strong>Rectifier School</strong></td>
<td>Principals of Cathodic Protection</td>
<td>General Safety Practices</td>
<td>PMU</td>
<td>Rectifiers &amp; Their Applications</td>
<td>Basic Rectifier Theory</td>
<td>Installation &amp; Routine Maintenance</td>
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<td><strong>Matt Hoekstra, Chair STEW 202</strong></td>
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<td><strong>Pipeline Coatings</strong></td>
<td>Successful Field Coating Application</td>
<td>Coatings Inspections – Lessons Learned</td>
<td>PMU</td>
<td>Coating Inspection Techniques</td>
<td>Coating Inspection Equipment / Calibrations</td>
<td>Hands On Stations: Coating and Inspection</td>
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<td><strong>Frank Rampton, Chair STEW 302</strong></td>
<td>Scott Feuquay</td>
<td>Neil Pittman</td>
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<td><strong>Special Topics</strong></td>
<td>Monitoring Filled/Unfilled Casings using Electromagnetic Waves</td>
<td>Pipeline Cased Crossing Assessment</td>
<td>PMU</td>
<td>Insulated Joint Protection Criteria</td>
<td>Managing Corrosion Rates &amp; Pipeline Criteria</td>
<td>“Why Fancy Paint Ain’t Sticking, &amp; What To Do About It”</td>
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<td><strong>Gary Walker, Chair STEW 279</strong></td>
<td>John DeWeese</td>
<td>Jim Walton</td>
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<td><strong>Pipeline Integrity</strong></td>
<td>Comprehensive Process for 1st Time Success w/ILI</td>
<td>ILI Tools Update</td>
<td>PMU</td>
<td>NDE for ILI Validation</td>
<td>Unpiggable Pipelines</td>
<td>Johnny Minder</td>
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<td><strong>Mike Mertes, Chair STEW 278</strong></td>
<td>Joe Craycraft, NIPSCO</td>
<td>Jeff Harris</td>
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<td><strong>Internal Corrosion</strong></td>
<td>Internal Corrosion Monitoring Techniques &amp; Selection</td>
<td>Dead Leg Corrosion</td>
<td>PMU</td>
<td>Corrosion In Gas Storage Fields</td>
<td>Microbial Influence Corrosion</td>
<td>Visual Inspection</td>
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<td><strong>Jane Brown, Chair STEW 206</strong></td>
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Refreshments are available in STEW 204 and 307 at 2:30 p.m.
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<tr>
<th>Time</th>
<th>Period 6</th>
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<th>Break</th>
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<th>Period 9</th>
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<tr>
<td>8:00 – 9:15</td>
<td>Basic Section</td>
<td>Cathodic Protection Measurement Basics, Part 1</td>
<td>Cathodic Protection Measurement Basics, Part 2</td>
<td>Snacks &amp; Drinks</td>
<td>Monitoring Catholic Protection</td>
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<td>Ned Gisel, Chair</td>
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<td>Tim Jenkins, Chair</td>
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<td>Rogelio de las Casas, Chair</td>
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<td>Rogelio de las Casas</td>
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<td>Voluntary Exam</td>
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<td>11:15 – 12:15</td>
<td>Practical Applications of Corrosion Control</td>
<td>Electrical Isolation</td>
<td>Rectifier Inspections &amp; Resistivity Measurements</td>
<td>Snacks &amp; Drinks</td>
<td>Test Stations &amp; Potential Measurements</td>
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<td>Mark James, Chair</td>
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<td>12:30 – 1:30</td>
<td>Rectifier School</td>
<td>Troubleshooting Standard Units</td>
<td>Hands-On Troubleshooting Standard Units</td>
<td>Snacks &amp; Drinks</td>
<td>Hands-On Troubleshooting Standard Units</td>
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<td>Matt Hoekstra</td>
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<td>1:30 – 2:30</td>
<td>Pipeline Coatings</td>
<td>Atmospheric Inspection of Piping Attached to Bridges or Spanning Rivers</td>
<td>Critical Application Steps with 2-Part Epoxies</td>
<td>Snacks &amp; Drinks</td>
<td>Liquid Coatings for Above-Ground Structures</td>
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<td>Frank Rampton, Chair</td>
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<td>2:30 – 3:00</td>
<td>Special Topics</td>
<td>AC Mitigation</td>
<td>Aerial Leak and Patrol Surveys</td>
<td>Snacks &amp; Drinks</td>
<td>SCM Modern Approach to Interference Testing</td>
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<td>Gary Walker, Chair</td>
<td>Kurt Lawson</td>
<td>New Era</td>
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<td>STEW 279</td>
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<td>JW Pipeline Services</td>
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<td>3:00 – 4:00</td>
<td>Pipeline Integrity</td>
<td>Smarter Risk Modeling</td>
<td>Hydrotesting and the Importance of Records</td>
<td>Snacks &amp; Drinks</td>
<td>IVP Process &amp; Engineering Analysis</td>
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<td>Mike Mertes, Chair</td>
<td>Tony Alfano</td>
<td>Larry Decker</td>
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<td>Moderator: Kevin Garrity</td>
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Certificates will be available for pick-up outside of STEW 206 at 10:45 a.m.
Fitzgerald Award

The Fitzgerald Award is the highest honor a Purdue Underground Corrosion Short Course student can receive. It has been awarded to a deserving student since 2004. This award is not given out every year, as some years no student is able to meet the criteria.

John Fitzgerald III, the award’s namesake is a 1955 graduate of Yale University, professional engineer, a NACE Corrosion Specialist, and has been involved with corrosion work since 1959. He is a NACE International Fellow and has authored over 75 technical papers. John served as NACE International president from 1990 to 1991. He continues to be active in several short courses...including this one. You may see him instructing one of your classes this year.

Pierce Award

The Pierce Award is an honor presented to a committee member or an individual that contributes to and adds value to the Purdue Underground Corrosion Short Course. 2013 was its inaugural year.

Jay Pierce began with the Purdue Underground Corrosion Short Course in 1980. He chaired the Power and Communications Section from 1985 and served 7 years as General Chairman. Jay is retired from the University but continues to assist the course committee as an advisor.

55th Annual Purdue Underground Corrosion Short Course Planning Committee and Sponsors

Hands-on Section
Brad Malcolm, NIPSCO

Basic Section
Ned Gisel, (ANR) TransCanada Pipeline

Intermediate Section
Tim Jenkins, Willbros Engineering

Advanced Section
Rogelio de las Casas, R.U.S.T.

Practical Application
Mark James, MTS

Rectifier Section
Matt Hoekstra, Buckeye Pipeline

Coatings School
Frank Rampton, Trenton

Internal Corrosion
Jane Brown, Brown Corrosion

Special Topics
Gary Walker, CPM

Pipeline Integrity Section
Mike Mertes, NISOURCE

Testing
Brad Malcolm, NIPSCO

Vendor Representative
John Williams, Copperhead

Historian
Bill Fields, Ohio Valley Gas Corporation

General Chairman
Ray Bingman, Vectren Energy

Vice Chairman
Brad Malcolm, NIPSCO

Advisers
Josh Brewer, Integrity Solutions
Jeff Brown, Buckeye Pipeline
Jay Pierce
Jim Utley, Denso North America
Bill Fields, Ohio Valley Gas Corporation
Phil Swinhart, Swinhart Corrosion Control
Jim Shank, Miller Pipeline

Associations
Chicago Regional Committee on Underground Corrosion
Indiana Corrosion Society
Michigan Electrolysis Committee
NACE International – Southwest Ohio Section
NACE International – Detroit Chapter
Ohio Corrosion Committee
Purdue Physical Facilities Utilities Department

Sponsors
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Integrity Solutions
Unconventional Solutions
Dairyland
Mears

NOTE: Purdue University, Underground Corrosion Short Course, the planning committee, and the committee officers are not responsible for statements made by the speakers.
Future Dates

February 21-23, 2017
February 27 - March 1, 2018