



ASNT  
SAN DIEGO  
SECTION

# Between the Cracks

San Diego Section  
American Society for Non-Destructive Testing, Inc.

NEWSLETTER - Vol. 9, Issue 1 July-August 2019

## Board of Directors:

### Chairman:

Michael Diaz

[mike.diaz05@gmail.com](mailto:mike.diaz05@gmail.com)

### Vice Chairman:

William Harris

[wilwelder41@aol.com](mailto:wilwelder41@aol.com)

### Treasurer:

William Harris

[wilwelder41@aol.com](mailto:wilwelder41@aol.com)

### Secretary:

Erik Roed

[ecroed@gmail.com](mailto:ecroed@gmail.com)

### Past Chairman:

Ramon Thomson

[ramonithomson@gmail.com](mailto:ramonithomson@gmail.com)

### Directors-at-Large:

Gary Bass

[gbass@chromalloy.com](mailto:gbass@chromalloy.com)

Cody Engstrand

[Cody.Engstrand@qa-asi.com](mailto:Cody.Engstrand@qa-asi.com)

Rachel Gilmore

[fosterrp@aol.com](mailto:fosterrp@aol.com)

Denise McKay

[poppydancer@yahoo.com](mailto:poppydancer@yahoo.com)

Larry Olsen

[sd-asnt@cox.net](mailto:sd-asnt@cox.net)

Hans Weber

[hansweber@earthlink.net](mailto:hansweber@earthlink.net)

San Diego Section

of the American Society for

Non-Destructive Testing, Inc.

[sd-asnt@cox.net](mailto:sd-asnt@cox.net)

Website:

[www.sd-asnt.org](http://www.sd-asnt.org)

## Mr. Albert Liang is the Speaker for September 3rd, 2019

**Our Speaker Albert Liang** received his B.S. degree in structural engineering from UC San Diego in 2016. He is currently pursuing a Ph.D. degree with the Department of Structural Engineering at UC San Diego under the guidance of Professor Francesco Lanza di Scalea. Furthermore, he is currently working part-time at Space Exploration Technologies and assisting with NDE related projects. His current research interest includes nondestructive evaluation with focus in passive sensing, ultrasonic imaging, and signal processing.

**Topic Title: "3D Ultrasonic Imaging of Structures Using SAFT and Wave Compounding with Application to Rail Inspections"**.

**Abstract:** Imaging of internal flaws is an important task needed to verify structural integrity and safety. Various applications of ultrasonic imaging require transducer wedges (or in general a transducer-medium coupling path) to impart specific directionality to the ultrasonic beam, in order to maximize the reflection of the wave from internal discontinuities. For example, to detect Transverse Defects (TDs) in railroad tracks, due to their orientation, transducer wedges are required. This is because the ultrasonic array alone cannot guarantee sufficient reflection of the wave from TDs, thus making the imaging process extremely challenging. In this work, the Synthetic Aperture Focus (SAF) technique is used to send and receive the ultrasonic waves in the medium. The final image of the internal flaws is then obtained by back propagating the recorded waveforms using the Delay-Multiply-and-Sum (DMAS) algorithm that accounts for the refraction of the waves at the interface between the wedge and solid medium. Lastly, wave mode compounding can be performed to further increase image contrast by exploiting longitudinal and shear waves propagating in the imaging medium. Validating experiments with 2D and 3D ultrasonic images are presented for rail specimens with simulated and natural internal flaws.

## Meeting Details

**Tuesday, September 3<sup>rd</sup>, 2019**

**Social time 5:00-6:00 PM**

**Dinner 6:00-7:00 PM**

**Presentation begins 7:00PM** in the "Lord Jim Room" of the Best Western Seven Seas' Restaurant.

**BOD Meeting 8:00-8:45PM**

411 Hotel Circle S, San Diego, 92108

**Meals to include:** Green Salad, rolls served in baskets, **Dessert**, Coffee, Decaf, Hot or Iced Tea.

The meal choices for the

**September 3<sup>rd</sup>** meeting are: **Salisbury Steak** w/ Mashed Potatoes and vegetables or **Grilled Salmon** w/rice pilaf and vegetables should you have special dietary need **Vegetarian** or **Vegetarian Plate** is available on request prior to meeting date.

Please RSVP by the end of business August 30<sup>th</sup>, 2019, the Friday preceding the meeting with your intent to attend and meal choice.

On the email below:

[sd-asnt@cox.net](mailto:sd-asnt@cox.net)

[www.bw7seas.com](http://www.bw7seas.com)

**Meeting Attendance at presentation only is no cost**

**Meeting Dinner Cost:**

San Diego Section

ASNT Student Member,

Military, Lifetime and Retired Members: \$10.00

ASNT Members and Guests: \$25.00

**Credit Cards accepted with a Processing Fee.**

## Year End Cash Raffle \$250.00

will be drawn at the **May 5th, 2020 Meeting**. When you purchase a dinner you will receive a raffle ticket. The more meetings you attend the more possible tickets you will have to be entered into the drawing.

**You must be present at the MAY 5th, 2020 MEETING to win.**

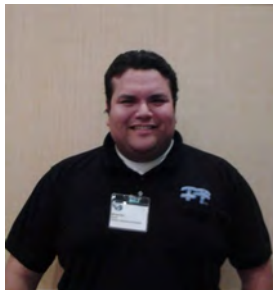


## Between the Cracks

### Incoming Chairman's Message

As the incoming Chairman of the American Society of Non-Destructive Testing, San Diego Section Board of Directors, I am incredibly honored and excited to represent such a thriving and economically important industry in our City. As someone who has spent my entire career in San Diego, working in this field, I am humbled to be able to represent such a fine Board.

I can tell you that our industry is something very special in this city. We are so fortunate to have such a broad array of industries represented in the region, from Aerospace, Commercial, Medical, Military and Water Districts to name a few.



As Vice President of Testing Services & Inspection, Inc., a local materials testing laboratory, I have grown to learn the importance of performing "quality assurance" on behalf of your customer. I have been fortunate to come across others in this field who exemplify the very best of our profession's values and to witness caring individuals that perform high quality work, which is a

true testament to the commitment of each and every person who works in our industry.

Please know, I am all ears as it pertains to insight and feedback related to NDT in Americas Finest City. I want to hear from you about the good, the bad and the ugly. Tell me what's important to you so that I can better serve your interests. To be effective, we need an engaged membership whose priorities are aligned and representative of the entire industry.

There is so much good within our industry in spite of the difficulties we, at times, may face. It is up to us as a culture, to provide guidance to up and coming Technicians, striving to make a name for themselves in this industry.

I would like to thank my Father and former Chairman, Mr. Juan R. Diaz, for getting me involved in this industry, fostering a deep enjoyment for this type of work, and a relentless drive to keep learning more. I am truly grateful for his continued support.

So, as I begin this incredible journey representing you, our valuable and respected members, please know that I pledge to do my very best to ensure that all of our collective interests are well represented. If you're already involved, stay involved. If you haven't had the time, please make time. Get your peers involved. This is important and together, we can ensure that our industry remains vibrant, celebrated and important in our beautiful city.

Respectfully,

Chairman Michael Diaz—San Diego Section of ASNT

### INSPECTION TECHNOLOGIES

INCORPORATED



"Instruments for nondestructive testing and quality control"

Randy Jones ext. 124  
Jay Schraan ext. 123  
2701-A N. Towne Ave., Pomona, CA 91767  
**(909) 626-2600**  
Fax (909) 626-3540  
www.inspectiontechnologies.net

- MT Equipment/Supplies
- PT Equipment/Supplies
- Conductivity Testers/Blocks
- UT/ET Instruments/Probes
- Test Blocks/Standards/Cables
- UT Immersion Systems
- X-Ray Equipment/Supplies
- Image Intensifiers
- Used NDT Equipment
- Fiberscopes/Borescopes
- Video Systems/Accessories



MAGNAFLUX

## WEST COAST INSPECTION SERVICES

### SPECIAL INSPECTION, NDT

## OUR SERVICES:

- PROJECT MANAGEMENT
- CERTIFIED WELDING INSPECTION
- NON-DESTRUCTIVE TESTING
- UNDERWATER INSPECTION
- WELDER QUALIFICATION
- & MORE

CALL TODAY AT: +1 (855) 999-WCIS

[WWW.WCIS-CORP.COM](http://WWW.WCIS-CORP.COM)

## TEST NDT

NDT Training, Level I, II, III & Level III Services

"When only the Best is good enough"

**Cathy Harvey, Office Manager**

193 Viking Ave., Brea, CA 92821, USA

Ph. (714) 255-1500

Fax. (714) 255-1580

Email: [ndttrain@aol.com](mailto:ndttrain@aol.com)

Web: [www.testndt.com](http://www.testndt.com)

## PH TOOL REFERENCE STANDARDS Calibration Blocks



267-203-1600 / [www.phtool.com](http://www.phtool.com) 6021 Easton Road / Pipersville, PA 18947



## 2019-2020 Technical / Administrative Program

### San Diego Section of the American Society for NDT, Inc.

#### 2019:

**September 3<sup>rd</sup>:** Albert Liang, **“3D Ultrasonic Imaging of Structures Using SAFT and Wave Compounding with Application to Rail”**.

**October 1<sup>st</sup>:** Randy Jones, .

**November 5<sup>th</sup>:** Flynn Spears, **“Laser Shearography-An Out of Plane Experience”**

**November 18<sup>th</sup>—21<sup>st</sup>,** 2019 ASNT Annual Conference 2019 - Westgate Las Vegas Resort and Casino / Las Vegas, Nevada

**December 3<sup>rd</sup>:** ( Speaker tba) -**Christmas Event-Spouse / Companion / Guest night:** All spouses (significant others) will have dinner provided by the section. Each person in attendance to bring a wrapped white elephant gift (\$10.00 - \$15.00)

#### 2020:

**January 7<sup>th</sup>:** (Dark-No Meeting)

**February 4<sup>th</sup>:** “Past Chairman’s Night”, David Mitchell

**March 3<sup>rd</sup>:** Michael Mc Gloin

**March 23<sup>rd</sup> - 26<sup>th</sup>** ASNT 29<sup>th</sup> Research Symposium 2020.

**April 7<sup>th</sup>:** Mark Bell

**May 5<sup>th</sup>:** “Annual Science Fair Awards” (NDT-related projects).

**June (TBA) :** Michael Diaz, Change of Gavel

## FUJIFILM

Value from Innovation

Dave Waitt

Account Mgr - South Western Region  
Fuji NDT Systems - Huntington Beach CA

### FUJIFILM North America Corporation

Industrial Products Division  
200 Summit Lake Drive  
Valhalla, NY 10595

www.fujifilmusa.com

Cell 714-330-1952  
Phone 714-963-3065  
Fax 714-963-3065  
Email dave.waitt@fujifilm.com

## Western Instruments

Established 1965



PORTABLE  
MPI EQUIPMENT



Phone: 780-459-6920  
info@westerninstruments.com  
www.westerninstruments.com

## BASF

We create chemistry

## Chemetall

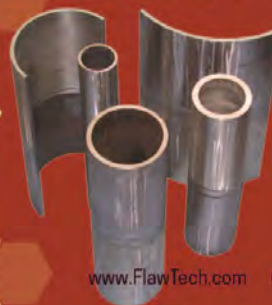
expect more+

Chemetall US, Inc.  
46716 Lakeview Blvd.  
Fremont, CA 94538

Tel: 714-318-2273  
patrick.gagne@BASF.com  
www.chemetallNA.com

Patrick Gagne  
Technical Sales Manager

## FLAWTECH



Global Provider  
of Custom & Code Specific  
Flawed Specimens for Training,  
Qualification, and Procedure  
Development

www.FlawTech.com (704) 795 4401 Concord, NC USA



2019 - 2020 NDT Educational Opportunities

We have posted a list of potential training courses for the 2019-2020 year (August through June).

Please contact **Education Chair - Gary Bass** with your requests, which he will attempt to accommodate if we obtain sufficient volunteer instructors for **Saturday** lectures. Please note instructors are not paid; however, they get recertification points if they hold ASNT/ACCP Level III.

Contact: Education Chairman Gary Bass

Email - [gbchulavista@AOL.com](mailto:gbchulavista@AOL.com)

Phone - 619-794-6118 mobile

Chairman Michael Diaz

Email - [mike.diaz05@gmail.com](mailto:mike.diaz05@gmail.com)

Phone 619-890-4134 mobile

BOD - [sd-asnt@cox.net](mailto:sd-asnt@cox.net) BOD contact # 619-444-2319

- To promote the general advancement of the [NDT] industry;
- ♦ To educate the public in the area of nondestructive testing;
  - ♦ To provide a forum for exchange of [NDT] technical information;
  - ♦ To facilitate training, education and research in the [NDT] field;
  - ♦ To engage in any and all lawful activities incidental to the foregoing purposes except as restricted herein.

Level I & Level II courses satisfy the requirements of SNT-TC-1A/NAS-410. **Non-member fees** (which includes a one-year ASNT membership). **24, 32, and 40-hour courses:** held **Saturdays, 8:00 to 5:00** unless facility or instructor availability are different.

- ♦ **Visual/Dimensional Level I / Level II** (24hrs)
- ♦ **VT** (24hrs) **Members:** \$425 **Non-member:** \$500
- ♦ **Liquid Penetrant Level I / II** (32 hrs)
- ♦ **PT - I / II** (32 hrs) **Members:** \$750 **Non-member:** \$825
- ♦ **Magnetic Particle Level I / II** (32 hrs)
- ♦ **MT - I / II** (32 hrs) **Members:** \$750 **Non-member:** \$825
- ♦ **Ultrasonic Level I** (40 hrs)
- ♦ **UT - I** (40hrs) **Members:** \$600 **Non-member:** \$675
- ♦ **Ultrasonic Level II** (40 hrs)
- ♦ **UT - II** (40hrs) **Members:** \$600 **Non-member:** \$675
- ♦ **Radiography Level I** (40 hrs)
- ♦ **RT - I** (40hrs) **Members:** \$600 **Non-member:** \$675
- ♦ **Radiography Level II** (40 hrs)
- ♦ **RT - II** (40hrs) **Members:** \$600 **Non-member:** \$675

Credit Cards accepted with a Processing Fee.

- Ultrasonic Testing Including AIRSCAN®
- Eddy Current Testing
- Systems Manufacturing
- Qualified Personnel
- Prime Quality Approvals



Visit us on the Web at [www.qmi-inc.com](http://www.qmi-inc.com)



Quality Material Inspection, Inc.

5442 Oceanus Drive  
Huntington Beach, CA 92649 USA  
Phone: (714) 903-4500  
Fax: (714) 903-4550

Email: [sales@qmi-inc.com](mailto:sales@qmi-inc.com)



Worldwide Training Provider

a Rockwood Company

Michael V. McGloin  
Manager - Pacific

office: +1.714.956.2274  
fax: +1.714.956.2277  
email: [mmcgloin@hellierndt.com](mailto:mmcgloin@hellierndt.com)  
[www.hellierndt.com](http://www.hellierndt.com)

Hellier  
2051-8 East Cerritos Avenue, Suite A  
Anaheim, CA 92806  
USA



PARKER  
Magnetic Particle Inspection Instruments

Parker Research Corporation has been perfecting magnetic particle inspection equipment for 50 years. Our products are used worldwide for every conceivable magnetic inspection application, and our reputation is second to none. Find out how our equipment and accessories can save you time and money. Give us a call today to get more detailed information on our products and for our distributors' locations anywhere in the world.



CA1000 - A.C./D.C. Contour Probe Model 40 is available for AC only operation.

The Parker CA-1000-OR portable magnetic inspection unit provides high speed AC-MPDI for magnetic particle inspection. Current output is adjustable, variable from zero to maximum, and is independent of a new digital LCD display. It operates at 100 Hz, 1000 Hz, 10000 Hz, 100000 Hz, 1000000 Hz, and 10000000 Hz.

The B200-MR contains electronic circuitry that is tested within the housing of the instrument. There is no electrical contact between the surface and internal circuit. This unit is rugged, portable, offers exceptional converter safety plus durability and is ideally suited for high resolution steel applications.

AC1000 - A.C./D.C. Contour Probe available in series or 40 series. May be ordered with the 1400 View Light at extra cost.

P.O. BOX 1406, DUNEDIN, FLORIDA 34607 USA  
Phone: 727-706-4066 Fax: 727-707-3941 Email: [sales@parkerndt.com](mailto:sales@parkerndt.com) [www.parkerndt.com](http://www.parkerndt.com)  
1-800-525-3935

Michael L. White



PENETRANT PROFESSOR APPROVED  
NDT Inspection Materials



I'm Retired,  
You're Not,  
nah-nah-nah-nah-nah...

[www.cafepress.com/gmpzntb08](http://www.cafepress.com/gmpzntb08)



Past—Chairman's Message



Past Chairman's  
Message coming  
soon.....

**NDT TRANSDUCERS, LLC**  
**ndt-transducers.com**  
**(480) NDT-2400**



**Ultrasonic Transducers for  
Nondestructive Testing**

**Serban Calciu, Owner**



Products, Equipment, Service & Calibration  
for Non-Destructive Testing

1718 E. Grevillea Court  
Ontario, CA 91761

**Dan Buchanan**

Vice President

danbuchanan@mpmproducts.com

www.mpmproducts.com

Mobile (909) 821-2241

(800) 429-0128

(909) 947-8464

Fax (909) 947-3257



**NDT Seals, Inc.**

**Zac Sebren**

Director

PO Box 52878 Houston, TX 77052-2878 USA  
tel 713.222.7584 cell 281.995.7916 fax 713.222.9404  
zac@ndtseals.com



**Test Equipment Distributors, LLC**

Equipment Accessories & Supplies for Nondestructive Testing

**CHERYL DUFUR/RAMIREZ**

Sales Engineer

WESTERN LOCATION  
1844 W. 11TH STREET  
UNIT. E  
UPLAND, CA 91786

CUSTOMER CARE CENTER  
1959-D PARKER COURT  
STONE MOUNTAIN, GEORGIA 30087  
800-962-1788  
FAX: 770-978-0115  
CELL: 714-366-4744

www.tedndt.com

Email: cheryld@tedndt.com



**Wes Lyons**

Branch Manager

WLyons@pine-environmental.com  
www.pine-environmental.com

8940 Activity Road, Ste. G  
San Diego, CA 92126

Office: 858-368-9197  
Mobile: 858-287-0102

Environmental Monitoring, Health & Safety, NDT/RVI, CEMS  
Rentals • Sales • Service • Repair



**Arnold G Marquez**

Sales Manager

(562) 861-6324  
(562) 923-8370 Fax  
AGMarquezSI@aol.com

5530 Borwick Avenue  
South Gate, CA 90280  
sherwin@sherwininc.com  
www.sherwininc.com



## Between the Cracks

### Call for Awards Nominations to the Board

The Section is looking for your nomination(s) for individuals who may meet any of the following:

#### Lou DiValerio Technician of the Year Award

The *Lou DiValerio Technician of the Year Award* acknowledges those ASNT members who are deserving technicians, to encourage their continued participation in the Society. Nominees for the award must hold a position of employment that corresponds to general guidelines similar to those described by Recommended Practice No. SNT-TC-1A for defining the primary duties and responsibilities of Level I and Level II technicians.

#### Fellow of ASNT

A *Fellow of ASNT* is an individual member of the Society who has 15 years NDT professional experience; 10 years ASNT membership and has supported the Society through contributions and participation at the local and/or national level. A Fellow must have demonstrated outstanding professional distinction, and must have made continued significant contributions to the advancement of NDT in areas such as management, engineering, science, education, administration or planning.

#### Mentoring Award

The *Award for Outstanding Mentor* was established to recognize those people in the Society working to encourage others to reach goals they may have otherwise not sought, and to offer the rest of the membership an example of what they could be accomplishing by acting as mentors.

#### Award for the Advancement of Active Military and Veterans in NDT

The *Award for the Advancement of Active Military and Veterans in NDT* recognizes individuals or organizations who encourages Active Military and Veterans to enter and thrive in the field of NDT, either through creation and/or implementation of programs that provide educational or career advancement opportunities in NDT that may not otherwise be available to Active Military and Veterans or through leading by example of how Active Military and Veterans can not only have a career in NDT but also contribute greatly to NDT, ASNT, and to creating a safer world.

#### Award for the Advancement of Women in NDT

The *Award for the Advancement of Women in NDT* recognizes individuals or organizations who encourage women to enter and thrive in the field of NDT, either through creation and/or implementation of programs that provide educational and/or career advancement opportunities in NDT that may not otherwise be available to women or through leading by example of how women can not only have a career in NDT but also contribute greatly to NDT, ASNT, and to creating a safer world.

**Contact the Awards Committee Chair: Larry Olsen** or any San Diego Section BOD member for further information on how to nominate any individual. Nominations must be sent to ASNT Headquarters and **postmarked by 1 February 2020**

**Please note:** All nominees must be sponsored by an ASNT Section, ASNT Council or ASNT National Committee. ASNT's goal is to recognize the individual member who has taken the NDT/NDE career path and is dedicated to making the world a safer place. Please help to encourage our young ASNT members by nominating someone!



**Richard Ridenour**  
Regional Sales Manager  
rridenour@magnaflux.com  
630-432-5644

[www.magnaflux.com](http://www.magnaflux.com)

### Peter Pelayo

Mgr. Quality Assurance  
ASNT Level 3



PENETRANT PROFESSOR APPROVED  
NDT Inspection Materials



1639 Euclid Street, Santa Monica, CA 90404  
Phone: 310-450-1111 Fax: 310-452-4046  
Email: [info@met-l-chek.com](mailto:info@met-l-chek.com)



### Test Equipment Distributors, LLC

Equipment, Accessories, and Repair for Nondestructive Testing  
[www.tedndt.com](http://www.tedndt.com)

**Jim Lyttle**  
Western Sales Manager

CORPORATE/SERVICE  
P: (800) 521-1730  
C: (602) 708-3960  
[jjml@tedndt.com](mailto:jjml@tedndt.com)

CUSTOMER CARE CENTER  
P: (800) 962-1788 | F: (770) 978-0115

INDUSTRIAL X-RAY IMAGING SYSTEMS SALES, SERVICE AND DESIGN.



**WILLICK**  
ENGINEERING

**DAN GUERRERO**  
PRESIDENT

12516 LAKELAND RD  
SANTA FE SPRINGS, CA 90670  
[DAN@WILLICK.COM](mailto:DAN@WILLICK.COM)  
562-946-4242

RT, DIGITAL LEVEL III, NAS 410



HD-CR 35 NDT Computed Radiography System

# THE BEST CR- RESOLUTION!

## Intuitive handling

Easy transition from film

## DICONDE · ISO · ASTM

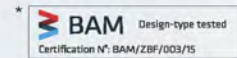
Compliant to all relevant standards

## Unique 30 µm SRb\*

Certified Basic Spatial Resolution

## Lightweight and rugged

Only 38.6 lbs system weight



No matter what type of radiographic testing, the unique TreFoc technology of the HD-CR 35 NDT imaging plate scanner always guarantees the highest image quality. And with the intuitive and powerful D-Tect software, you benefit from an optimal and time-saving workflow. Arrange a free demonstration and convince yourself.



**WILLICK**  
ENGINEERING  
www.willick.com  
562-946-4242

*Digital Intelligence - Ready to Change.*

www.duerr-ndt.com  
info@willick.com





**NDT Training, Scheduled courses for January – December 2019**

**Greatly Expanded Schedule of Classes for 2019**

We will be Scheduling **WEEKEND TRAINING COURSE** please contact Cathy for dates

**NDT Level I and II Courses**

**Magnetic Particle Level I/II SNT-TC-1A**  
(24 hours) \$845  
February 4-6, April 1-3, June 3-5, August 5-7,  
October 7-9, December 2-4

**Penetrant Level I/II SNT-TC-1A**  
(16 hours) \$695  
February 7-8, April 4-5, June 6-7, August 8-9,  
October 10-11, December 5-6

**Ultrasonic Testing Level I**  
(40 hours) \$1295  
February 11-15, April 8-12, June 10-14,  
August 12-16, October 15-18, December 9-13

**Ultrasonic Testing Level II**  
(40 hours) \$1295  
February 18-22, April 15-19, June 17-21,  
August 19-22, October 21-25, December 16-20

**Radiation Safety (IRRSP Preparation)**  
(40 hours) \$1295 (Approved by State of CA)  
January 7-11, April 22-26, August 26-30

**Radiography Testing Level I**  
(40 hours) \$1295  
January 14-18, April 29-May 3, September 9-13

**Radiography Testing Level II**  
(40 hours) \$1295  
January 21-25, May 6-10, September 16-20

**Film Interpretation** (40 hours) \$1295  
January 28-February 1, May 13-17,  
September 23-27

**Eddy Current Testing Level I** (40 hours) \$1295  
March 18-22, July 15-19

**Eddy Current Testing Level II** (40 hours) \$1295  
March 25-29, July 22-26

**Visual Testing Level II** (24 hours) \$845  
January 2-4, July 1-3, Sept 30-Oct 2, Nov 25-27

**Phased Array Training**

These are Level I and II UT PA courses to meet the SNT-TC-1A (2011) certification requirements

**Introduction to Phased Array**, (16 hours) \$1195  
March 4-5, October 28-29

**Ultrasonic Phased Array Level I (SNT-TC-1A)** (40 hours)  
\$1995  
March 4-8, October 28-November 1

**Ultrasonic Phased Array Level II (SNT-TC-1A)** (40 hours)  
\$1995  
March 11-16, November 4-8

**Ultrasonic Phased Array Composite Inspection**  
**New for 2019** (40 hours) \$1995  
July 8-12, November 12-15

**Back for 2019, Scheduled, ASNT NDT Level III Examination, Refresher Courses**

<b>Basic Level III</b> – Includes text book package worth over \$300 (40 hours) \$1395	Feb 25-Mch 1
<b>Eddy Current Level III</b> (24 hours) \$995	July 29-Aug 2
<b>Visual Testing Level III</b> (16 hours) \$795	September 4-5
<b>Magnetic Particle Level III</b> (16 hours) \$795	May 20-21
<b>Penetrant Level III</b> (16 hours) \$795	May 22-23
<b>Radiography Level III</b> (24 hours) \$995	May 28-30
<b>Ultrasonic Level III</b> (40 hours) \$1395	June 24-28

**Additional "Ad Hoc" NDT Training Courses**

*Please call for dates for the below courses*

<b>Magnetic Particle Level II NAS 410</b>	(32 hours) \$1195
<b>Penetrant Testing Level II NAS 410</b>	(32 hours) \$1195
<b>Ultrasonic Thickness Testing</b>	(40 hours) \$1295
<b>Digital Radiography Testing</b>	(40 hours) \$1995
<b>Eddy Current Array Aerospace</b>	(40 Hours) \$1995

**Back for 2019**

**CWI Examination Preparation Course** (40 hours) \$1595  
Note: This will be scheduled over 4 (10 Hour) Saturdays.

**Qualification Examinations prepared, and administered, procedures written, level III outside agency services and contracts available.**

**Any of our courses can also be held at your facility just for your staff. Call for details**

**OUR POLICY IS NOT TO CANCEL COURSES IF YOU ENROLL & PAY 2 WEEKS IN ADVANCE**

For questions or to enroll contact us at [www.testndt.com](http://www.testndt.com), email [ndttrain@aol.com](mailto:ndttrain@aol.com), Ph (714) 255-1500