



YEARBOOK
2021-2022



OLYMPUS[®]

OmniScan[™] X3 Flaw Detector

Confidence You Can See

Work efficiently and interpret flaws with confidence using the portable OmniScan X3 flaw detector's powerful weld inspection tools.

Optimize your TFM results before you start inspecting with the Acoustic Influence Map (AIM) tool. It provides a visual map of the TFM focusing effects based on your mode and settings.

Check for proper coverage of the weld using the onboard scan plan and multigroup visualization.

Characterize large indications, such as lack of fusion, with fewer rescans using the extended 800% high amplitude range.



www.olympus-ims.com/omniscan-x3

Olympus, the Olympus logo, and OmniScan are trademarks of Olympus Corporation or its subsidiaries.

Table of Contents

Message from the chair	2
NNE Section Officers, Directors and Committees	3
NNE Award Recipients	4
NNE Past Section Chairs	5
NNE 2021-2022 Event Schedule	6
Meet your Regional Director	7
ASNT Event Calendar	8
ASNT Officers and Directors	
-Mission Statement & Strategic Objectives	9
NNE Member Directory	10 – 16
NNE Section Meeting Schedule	17
ASNT NNE Sponsors	18
Advertisers Section	19 - 26
ASNT Membership Options	28
ASNT Membership Application	29 - 30
What is NDT – NDT Methods Defined	31 - 33
NDT Levels of Qualification	34
Education Outreach	35-36

The NNE ASNT section is not responsible for the unauthorized distribution of the information contained within this yearbook. Contact information is provided for the use of the section members to communicate with others regarding NDT related activities and to conduct section business. No other use of this information is authorized.

Message from the Chair

National Recognition Achieved

This year has been a banner year for our section. We had reached the bronze level for Presidential Award Points last year and set our sights on getting the silver this year. But we goofed and missed the Silver. Fortunately, we goofed in the right direction, overshot the silver, and were awarded the Gold.

The covid -19 situation, rather than holding us back, presented us a golden opportunity. We would master the “Zoom pro” platform and use it for online meetings. It just happened to be very successful. Soon other sections piggybacked on ours, and we to theirs. It was exciting for us to connect with NDT professionals across the country and beyond. I must tell you, the technical presentations this past year have been nothing short of outstanding.

I would like to thank all hands inside and outside of the section whose efforts brought us up to the Gold level. A great deal of this work fell on the shoulders of our secretary Mr. Bill Hinton, without whose efforts this award certainly would not be ours. We also owe a great deal of thanks to Debbie Segor and Heather Cowles at National headquarters for their enthusiastic help. Our vice chair, Mr. Bruce Hunter, will accept the award on behalf of the section at the annual ASNT conference in Phoenix.

Now it is up to us to maintain the momentum and continue to set our goals just as high for the coming years. There is a great need for committees to share the load. I am asking all section members who can, to participate. If you can only do one small thing to help, it will relieve the burden on someone else. Please consider this and contact us at asnt.nne@gmail.com.

This year we set goals to obtain sponsors for the section, create a calendar yearbook, and host our annual awards banquet. Next year, we are aiming for all that plus a shotgun golf outing.

Our section’s particular focus is to introduce youth to the NDT. In our STEM outreach events we see their eyes light up to see what NDT can offer them. Our aim is to show them a pathway to an achievable and financially rewarding career. Our goal is to offer NDT scholarships to as many as possible. We can do it, and we will do it. Become part of the Northern New England section’s dream.

Dana Wilson, Chair (NNE Section) 2020-2021

NORTHERN NEW ENGLAND SECTION OFFICERS

2021-2022

CHAIR

Dana Wilson
Great Bay Community College
MorphyslawCKMT@gmail.com

Vice Chair

Bruce Hunter
Kaman Composites,
bruce.hunter@kaman.com

Secretary

William Hinton
Hinton Technical Services, LLC
wdhinton@gmail.com

Treasurer

Lindsay Warner
Albany Engineered Composites
Lindsay.warner@albint.com

NNE Section Directors, Include the above listed section officers and:

Lawrence Mullins
North Adams, MA
Phone: (518) 281-7989

NNE Committees

Yearbook Dana Wilson/Bruce Hunter/William Hinton
Outing Dana Wilson/open
Website William Hinton/open

Currently looking for members interested in assisting with the 2022-2023 following:
Website/social media Yearbook Annual outing STEM/Education Outreach

**NORTHERN NEW ENGLAND SECTION
AWARDS & HONORS**



NNE Current and Past Section Chairs

Russ Pack

2017 - 2018



Tyler Deschaine

2018 - 2019



Dana Wilson

2019 – 2020
2020 - 2021



NNE Committees

Yearbook Dana Wilson/Bruce Hunter/William Hinton

Golf Outing Open

Website/Social Media William Hinton/Open

STEM/Ed. Outreach William Hinton/Dana Wilson

We need volunteers who want to support our section/members, committees and engage potential future NDT professionals through education and outreach.

2021-2022 NNE ASNT Schedule

<u>Date</u>	<u>Title/Speaker</u>	<u>Location</u>
Thu. Sep 2, 2021	(1) Safety Critical Inspections in Aerospace using X-Ray and CT Technology, Matt Gormley Pinnacle, X-Ray Solutions	Zoom Meeting
Thu. Oct 14, 2021	(2) Aerospace Eddy Current Inspection – Optimizing the Frequency for Non-ferrous materials, Toni Bailey, TB3 NDT Consulting LLC	Zoom Meeting
Thu Nov 4, 2021	(3) NDT in the ski industry – Part 2: bull wheels, Greg Floor, Wasatch NDT LLC	Zoom Meeting
Thu Dec 2, 2021	(4) UT of Large Castings, Jerry Fulin Business Meeting to follow.	Zoom Meeting
Thu Jan 6, 2022	(5) Eddy Current (ET) of aircraft fuselage, Matt Marshall, Air Nat. Guard.	Zoom Meeting
Thu Feb 3, 2022	(6) PAUT of reactor components, Dave Bajula, Acuren Business Meeting to follow	Zoom Meeting
Thu Mar 3, 2022	(7) Remote visual inspection and NDT deployment using a magnetic crawler, Christophe Bordeleau Eddyfi Technologies	Zoom Meeting
Thu Apr 7, 2022	(8) Phased Array UT, PAUT, Robert Feole, Feole Technologies, Inc. Business Meeting – Nominations	Zoom Meeting
Thu May 5, 2022	Business Meeting Section Officer Voting	Zoom Meeting
Thu Jun 2, 2022	Clambake – Vendor Night	Fosters – York, Maine

Meet your ASNT Regional Director

Region #2

Larry Mullins

North Adams, MA

Phone: (518) 281-7989



Sections Included:

Boston

Connecticut Valley

Connecticut Yankee

Narragansett Bay

Northern New England

Salutations to the ASNT Members of the Northern New England Section:

Congratulations to the Northern New England Section of ASNT. Reaching Gold level in the President's Award category for 2020-2021 places NNE at the highest tier of achievement, aligned with much larger sections and right up there with entire countries! It was great to see the innovation and effort put forth in reaching this level of achievement. I just a few short years and in the face of global turmoil NNE has risen to a leadership role in our region with inter-sectional outreach and strong advocacy for educating tomorrows leaders. Keep it UP.

Again . . . CONGRATUALATIONS

Larry Mullins

Regional Director, ASNT Region 1.

2021-2022 ASNT EVENTS SCHEDULE

15 - 18 November 2021

ASNT 2021: The Annual Conference

Phoenix, AZ

16 - 18 March 2022

International Chemical and Petroleum Industry

Inspection Technology Conference 2022

Sugar Land Marriott Town Square

Sugar Land, TX

26 - 28 April 2022

Digital Imaging for NDT 2022

Westin Westminster (Denver), Colorado

Westminster, CO

20 - 23 June 2022

30th ASNT Research Symposium – 2022

ASNT Officers & Directors 2021-2022

Chairman of the Board	Michael V. McGloin
President	John Iman
Vice President	Danny Keck
Secretary/Treasurer	John Chen
Director at Large	Ahmed Arabi Hassen (Engineering Council)
Director at Large	Anish Poudel (Research Council)
Director at Large	Ricky Morgan (SOC)
Director at Large	Lawrence Gill (T&E)
Director at Large	Timothy Roach (CMC)
Executive Director	Neal Couture

ASNT Mission Statement and Strategic Objectives

ASNT Mission Statement

ASNT exists to create a safer world by advancing scientific, engineering, and technical knowledge in the field of nondestructive testing.™

ASNT Strategic Objectives

Increase participation in society's activities.

Promote an inclusive vision across ASNT's membership and the NDT community.

Be a premier provider of NDT/NDI/NDE/NDC information including publications, references, archives, training, and conferences.

Support national and international acceptance and use of ASNT's services.

Promote advancement of research and implementation of NDE technology.

Grow ASNT through partnership with industry, government, professional organizations, and educational institutions.

Advocate and provide NDT personnel certification.

Maintain ASNT's fiscal stability to fulfill the society's mission.

ASNT will identify paths for lifelong education and career development within the NDT profession including theory, application, and skills for the practitioner, engineer, and researcher



**NORTHERN NEW ENGLAND SECTION
ASNT**

**MEMBER DIRECTORY
2021-2022**

**Photo: IR monitoring
Transformer Connection**

Name / Contact Information	Job Title / Area of expertise	Company Affiliation
Mr. Jeffery Bernier (207) 620-0777 berniers007@gmail.com		904 Bog RD Limestone, ME 04750-6517
Mr. Emerson Bilodeau (603) 474-2547 ebilodeau@revscientific.com		AeroDynamics 142 Batchelder RD Seabrook, NH 03874-4403
Mr. Timothy Birt (207) 438-5402 timothy.birt@navy.mil		47 Kane Street Portsmouth, NH 03801-3693
Mr. Charles Allen Buck Bishop (978)728-7713 bucky235@gmail.com		16 Tracey Street Peabody, MA 01960
Mr. Peter Brooks (800) 879-1964 denise@iranalyzers.com		Infrared Analyzers Inc 65 Lyman Dr Williston, VT 05495-9622
Mr. Jeffery Bryant Jr. jeffrey.m.bryant@navy.mil		Portsmouth Naval Shipyard Code 135 1st Floor Bldg 18 Portsmouth, NH 03831
Mrs. Shari Bugieda (603) 832-8952 Shari.Bugieda@titeflex.com		Smiths Tubular Systems 93 Lexington DR Laconia, NH 03246-2935
Mr. Cleve Burbage III (860) 336-7210 will@BurbageConsultingLLC.com		129 Palmer RD Candia, NH 03034-2619
Mr. Benjamin Chase (207) 438-1410 benjamin.j.chase1@navy.mil		Portsmouth Naval Shipyard Code 135 1st Floor Bldg 18 Portsmouth, NH 03831
Mr. Lukasz Cielezsko (603)610-3000 Lukasz.Cielezsko@sigsauer.com		Sig Sauer Inc 72 Pease Blvd Newington, NH 03801-6801
Ms. Sharon Davis (978) 279-1410 redmonte43@yahoo.com		Northeast Testing & Mfg LLC 100 Sam Fonzo DR Beverly, MA 01915-1059

Name / Contact Information	Job Title / Area of Expertise	Company Affiliation
Mr. Tyler Deschaine (715) 923-1805 tyler.deschaine@pccstructurals.com		2902 NW 18th Ave Camas, WA 98607-9314
Mr. Alexander Devine (603)4 40-5239 alex.devine687@gmail.com		9 Glencliff Way Nashua, NH 03063-7008
Mr. Mark Dorley (207)4 38-5742 markdorley@hotmail.com		777 Middle RD Unit 25 Portsmouth, NH 03801-4833
Mr. Keith Doughten (724) 454-7969 kdoughten@Cartech.com		115 Shaley Drive Greensburg, PA 15601
Mr. Kurt Douglas (603) 944-6589 kurtjdouglas23@gmail.com		5 Milton RD Ste 32 Rochester, NH 03867-1329
Mr. Frank Engle (772) 631-3502 bradara@gmail.com		57 Diamond Hill RD North Berwick, ME 03906-6542
Mr. Gary Fieldsend (603) 781-0761 guitran@comcast.net		9 Kelwyn DR Somersworth, NH 03878-1318
Mr. Andrew Fischer (603) 524-0004 afischer@nhbb.com		15 Canterbury Crossing Belmont, NH 03220-4499
Mr. Michael J. Fitzgerald (603_ 527-6835		4 Linden Cir Laconia, NH 03246-2999
Mr. Thomas Flett (603) 442-6971 thomas.flett@timken.com		Timken Aerospace 336 Mechanic St Lebanon, NH 03766-2627
Mr. James Fritz (802) 479-7100 jfritz@thesnellgroup.com		The Snell Group 322 N Main St Ste 8 Barre, VT 05641-4122

Name / Contact Information	Job Title / Area of Expertise	Company Affiliation
Mr. Jason Gagnon (603)324-7786 jason.gagnon@flir.com		37 Greeley St. Hudson, NH 03051-3522
Mr. Russell Georgio (603) 265-0940 russ.georgio@stsaero.com		Scotia Technology 51 Growth RD Laconia, NH 03246-1318
Mr. Thomas Edward Giles (207) 974-4662 tgiles@emcc.edu		Eastern Maine Community Coll. 354 Hogan Road Bangor, ME 04401-4206
Mr. Sheldon Heselton (817) 526-1210 ssheselton@gmail.com		18 Merchant Street Unit 304 Lebanon, NH 03766
Mr. William Hinton (603) 335-9315 wdhinton@gmail.com		Great Bay Community College 1 Strawberry Hill Drive Rochester, NH 03867
Mr. Michael R. Hollow (918) 859-3304 mhollow4444@yahoo.com		PO Box 2824 Seabrook, NH 03874-2824
Mr. Bruce Hunter (802) 430-5640 bruce.hunter@kaman.com		207 Bradford Street Bennington, VT 05201
Mr. Dryver R. Huston (802) 656-1929 dryver.huston@uvm.edu	Univ. of Vermont School of Engineering	33 Colchester Ave Burlington, VT 05405-1712
Dr. Ronnie Ingram (804) 731-0890 rjazz007@comcast.net		PARADIGM FOR EXCELLENCE LLC 10825 Midlothian Turnpike N. Chesterfield, VA 23235
Mr. Dennis Kehl (603)387-9179 dennis.kehl7@gmail.com		21 Sanborn ST Laconia, NH 03246-2846
Mr. William G. Kiesel (603)581-5352 wwldbl@hotmail.com		10 Point Road Sanbornton, NH 03269-2330

Name / Contact Information	Job Title / Area of expertise	Company Affiliation
Mr. Richard H. King (603) 831-3181		96 Greenfield Rd Bennington, NH 03442-4000
Mr. Michael E. Kowalski (207) 442-4002 michael.e.kowalski1@navy.mil	Supervisor of Shipbuilding Conversion and Repair	Navy.mil
Mr. Daniel Labbe (207) 752-0517 labbedp@westinghouse.com		141 Bunganut Pond RD Lyman, ME 04002-6272
Mr. Anthony Leather (603) 988-4987 anthony.leather@gmail.com		477 Prospect ST Rollinsford, NH 03869-5612
Mr. Jeffery Lerch (207) 679-2595 jlerch@cianbro.com		Cianbro PO BOX 1000 Rt 69 Lower Detroit Ave Pittsfield, ME 04967-1000
Mr. Erik A. Lombardo (803) 493-5564 eriklombardo1@outlook.com		PSC 819 box 2374 FPO AE 09649
Mr. Antonio J. Maggio (603) 969-4361 ajm11013@aol.com		22 Mendums Landing RD Barrington, NH 03825-5016
Mr. Stephen Michael McDonough (603) 233-1768 stevemcdonough@msn.com		OKOS Solutions LLC 7036 Tech Cir Manassas, VA 20109-7314
Ms. Janet M. Meader (603) 325-2291 janet_meader@hitchiner.com		Hitchiner Manufacturing Co 594 Elm St Milford, NH 03055-4306
Mr. Milad Mehrkash (857) 971-1295 milad.mehrkash@unh.edu		9 Madbury Rd, Apt 202C Durham, NH 03824

Name / Contact Information	Job Title / Area of expertise	Company Affiliation
Mr. Richard Mills (603) 760-5610 richard.mills@teledyne.com		Teledyne D G O'Brien 162 Corporate Dr Ste 100 Portsmouth, NH 03801-6815
Mr. Russel W. Pack (207) 212-8342 packr@tridentei.com		46 Country Road Turner, ME 04282-4215
Mr. Martin D. Pelletier (603) 528-2838 mdpndt@hotmail.com		PO BOX 568 Holderness, NH 03245-0568
Mr. Michael Polletta (603) 777-6592 polmich1793@gmail.com		18 Grandview RD Windham, NH 03087-1131
Mr. David L. Pratt (603) 339-9141 pratt347@hotmail.com		729 South ST. Biddeford, ME 04005-9310
Mr. Thomas Quinn (207) 442-2172 thomas.j.quinn2@navy.mil	Supervisor of Shipbuilding Conversion and Repair	574 Washington St. Bath, ME 04530-1961
Mr. Archie Ray (207) 357-5986 archie@roadsafellc.com		156 Staples Hill Rd Canton, ME 04221-3028
Mr. Edward S. Reed (860) 322-9943 reed454@gmail.com		PO Box 651 Gales Ferry, CT 06335
Ms. Rachel Reynolds rachel.a.reynolds@navy.mil	Supervisor of Shipbuilding Conversion and Repair	574 Washington St. Bath, ME 04530-1961
Mr. Monte B. Rife (816) 674-2999 bret319@gmail.com		1950 NE Todd George Road Lee's Summit, MO 64086

Name / Contact Information	Job Title / Area of expertise	Company Affiliation
Mr. Carl S. Roche (603)686-4669 csroche42@yahoo.com		22 Village Dr Dover, NH 03820-9144
Mr. Alvin C. Sarnecki (207) 941-2657 alvin1.sarnecki@ge.com		PO Box 477 Howland, ME 04448-0477
Mr. Karl Schlenker (207) 239-8588 karl.schlenker@gmail.com	Enterprise Engineering Inc	400 US Route 1 North Suite B Falmouth, ME 04105-1319
Ms. Ruthann M. Swaincott (603) 501-8651 rswaincott@comcast.net		14 Mill Street Rochester, NH 03868-5838
Mr. Noel A. Tracy (207) 353-7032 gardgatx@myfairpoint.net		103 Gould Rd Lisbon Falls, ME 04252-9767
Mr. Jacob B. Wallace (603) 377-6113 popham88@hotmail.com		20 Sparrow LN York, ME 03909-5854
Mr. Steve Wentworth (207) 438-4690 stephen.wentworth@navy.mil	Portsmouth Naval Shipyard	Code 135 T Building 171 2nd Floor Portsmouth, NH 03801
Mr. Dana W. Wilson (603) 507-1671 DWwilson@ccsnh.edu	Great Bay Community College	PO Box 927 Milton, NH 03851-0927

ASNT Northern New England Section Meeting Calendar

August						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

December						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Jan-22						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Feb-22						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

Mar-22						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Apr-22						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May-22						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Jun-22						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Jul-22						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

ASNT Northern New England Sponsors

PH Tools

Pipersville, PA

Technologies Consulting Inc.

Matthews, NC

Magnetic Products and Services

Holmdel, NJ

Hinton Technical Services

Rochester, NH

Met-L-Chek

Cleveland, OH



ADVERTISEMENTS AND BUSINESS CARDS

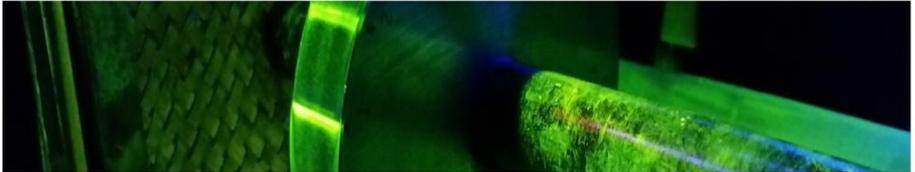
We thank all our advertisers for their continued support

NONDESTRUCTIVE TESTING

Certificate

Your Road
to *Success*

26 CREDITS TO COMPLETE



Nondestructive testing (NDT) is the examination, test, or evaluation of a part without destroying or altering the part in any way, for the purpose of determining whether conditions exist that might have an effect on the usefulness of the part. The goal of this Certificate is to prepare students for employment as high-quality entry-level technicians within the diverse industries that NDT serves. This program will provide technical training in the inspection methods most commonly used including radiography (RT), ultrasonic (UT), and liquid penetrant (PT), as well as visual inspection.



Great Bay
Community College

PORTSMOUTH / ROCHESTER

READY TO TAKE THE NEXT STEP?

Apply today: greatbay.edu/admissions
gbadmissions@ccsnh.edu | (603)427-7600
320 Corporate Drive
Portsmouth, NH 03801

CMM PROGRAMMING & INSPECTION
ISO/IEC 17025 Accredited Lab



MACHINE REPAIR & CALIBRATION
CMM OPERATOR CERTIFICATION
TRAINING & PROGRAMMING
CMM INSPECTION SERVICES



EastCoastMetrology.com | Info@eastcoastmetrology.com | (978) 887-5781



KAMAN

Composite Structures

COMPOSITE REPAIR

MRO SERVICES

COMPOSITE BONDED ASSEMBLIES

Radomes | Doors | Covers | Rotor Blades | Tail Rotor Blades | Fairing Assy | Floor Panels

METAL BONDED STRUCTURES

Control Surfaces | Leading Edge | Fixed Trailing Edges Assemblies



AEROSPACE COMPOSITES SOLUTIONS

AIRFRAME | STRUCTURAL | NDI | TESTING | PROCESSING
FAA REPAIR STATION | CERTIFICATE Q5PR803Y

ISO 9001 / AS9100 & NADCAP ACCREDITED

316.880.9041 | composites@kaman.com | www.kaman.com



BE THE BEST INSPECTOR YOU CAN BE

Gekko® is a field-proven flaw detector offering PAUT, UT, TOFD and TFM.

Designed with inspectors' work-life in mind, it combines high-resolution and speed while reducing training time.

M2M GEKKO



WITH THE MOST ADVANCED
NDT TECHNOLOGIES
IN THE WORLD,
WE ARE HELPING OEMS,
ASSET OWNERS AND
SERVICE COMPANIES
ENHANCE PRODUCTIVITY,
SAVE LIVES, AND PROTECT
THE ENVIRONMENT.

ASSETS

Offshore
Pipelines
Vessels
Heat exchangers
Turbines
Aircraft & Spacecraft

Ships
Railroad
Bolts & Threads
Tanks
Tubes

INDUSTRIES

Aerospace
Offshore & Subsea
Maritime & Shipping
Heavy Industry &
Mining

Energy
Power generation
Food & Beverage
Rail & Automotive

Your One Complete NDT Source



Equipment | Accessories | Supplies | Service | Repair

X-Ray

Equipment
Accessories
Consumables
Cabinets / Vaults
Custom Rooms
Enclosures
Film Processing
Film Viewing

Digital

Flat Panel Detectors
Imaging Plates
Digitizers
Computed Tomography
Accessories

Liquid Penetrant

Equipment
Materials
Accessories
Blacklight
Lamps
Accessories
Ultrasonic
Equipment
Materials
Accessories
Eddy Current
Equipment
Probes & Accessories

Magnetic Particle

Equipment
Materials
Visual
Videoscopes
Borescopes
Gauges
Specialty
Thermography
Shearography
Residual Stress Analysis
Custom X-Ray
Custom FPI lines
Custom Applications

Used Equipment Project Management Supplies Services

Vault & Cabinet Fabrication
Preventative Maintenance
Equipment Installation & Removal
Rental Equipment
Silver Recovery Systems
X-Ray Film Digitizing
Scrap/Outdated X-Ray Film
Recycling
Repair Services

Representing 40+
Leading Industry Vendors

\$5M+ in Product Inventory
Fast, Accurate Order Fulfillment

Custom Applications
Are Our Specialty!

Vendor Partners Include:



Contact Us Today!

(800) 962-1788 | sales@tedndt.com

Test Equipment Distributors LLC

Corporate Office and Service & Repair
1370 Piedmont | Troy, MI 48063 | P: (800) 521-1730 | F: (248) 528-8013 | tedservice@tedndt.com

Customer Care Center

1959-D Parker Ct. | Stone Mountain, GA 30067P: (800) 962-1788 | F: (770) 978-0115 | sales@tedndt.com

Ohio Warehouse
4381 Renaissance Pkwy
Cleveland, OH 44128
P: (800) 992-3024

New Jersey Warehouse
220 West Parkwy, Unit 11B
Pompton Plains, NJ 07444-1060
P: (973) 831-1213

Oregon Warehouse
5470 SE International Way
Milwaukie, OR 97222
P: (503) 659-8161

California Warehouse
12565 Crenshaw Blvd.
Hawthorne, CA 90250
P: (424) 269-0951



www.tedndt.com

PH TOOL REFERENCE STANDARDS

The STANDARD of Excellence



**Demanding Inspections Start
with Excellent Standards**



**Reference Standards and
Calibration Blocks for the
NDT Industry Since 1973**



phtool.com ■ sales@phtool.com ■ 267-203-1600



Hussein M. Sadek
President

Technologies Consulting International, Inc. (TCI)

www.tcindt.com
e: hmsadek@tciintl.com

- Consulting Services (Level I, II, & III)
- Training and specialized inspection services for ET, RFT, ACFM, MFL, UT, VT, MT and PT
- NDT Program Development

TCI, Inc.

2020 Independence Commerce Drive, Suite E & F
Matthews, NC 28105

Ph: (704) 321-7272 Fax: (704) 321-3052

TB3

NDT Education and Training

**Please support our sponsors and advertisers who
kindly support our ASNT section.**

KAMAN

Composite Structures

Emily S. Bouplon

Human Resource Manager
emily.bouplon@kaman.com



P 802.440.7245
F 802.444.8823

Kaman Composites • Vermont, Inc.
25 Performance Drive
Bennington, VT 05201, USA

www.kaman.com

KAMAN

Composite Structures

HIRING NOW!

www.kaman.com/careers



MAC Aircraft

MAINTENANCE

PARTS | AVIONICS
MAINTENANCE

Dan Stevens
Director of Maintenance

Tel: 207-780-1811
dstevens@macairgroup.com

406 Yellowbird Road
Portland, Maine 04102

www.macairgroup.com



Great Bay

Community College
Advanced Technology & Academic Center

Kurt Douglas
Advanced Composites Instructor

5 Milton Road, Unit 32
Rochester, NH 03867
www.greatbay.edu

Tel: (603) 427-7783
Toll Free: (800) 522-1194
Fax: (603) 330-3001
kdouglas@ccsnh.edu

OLYMPUS

Steven Donnelly
Technical Sales Representative
Handheld XRF and
Remote Visual Inspection Products

Olympus Corporation of the Americas

48 Woerd Avenue
Waltham, MA 02453 USA
Toll Free: (800) 225-8330 Cellular: (603) 560-3884
steven.donnelly@olympus.com
www.olympus-ims.com

OLYMPUS

Paul Mespelli
Technical Sales Representative
NDT Products

Olympus Corporation of the Americas

48 Woerd Avenue
Waltham, MA 02453 USA
Tel: (781) 419-3900 | Cellular: (781) 799-7279
paul.mespelli@olympus.com
www.olympus-ims.com

EDM Notches • Flat Bottom Holes • Calibration Blocks • Pipe, Tube, Parts • Custom Test Blocks
RUSH Service • Recertification Service • NIST Traceable



PH TOOL
REFERENCE STANDARDS
The STANDARD of Excellence

Andrew Robinson
Technical Sales

6021 Easton Road • Pipersville, PA 18947 USA • 267-203-1600 • Fax 267-203-1601
Mobile 215-262-0372 • andrew@phtool.com • Buy online at...www.phtool.com

EDM Notches • Flat Bottom Holes • Calibration Blocks • Pipe, Tube, Parts • Custom Test Blocks
RUSH Service • Recertification Service • NIST Traceable



PH TOOL
REFERENCE STANDARDS
The STANDARD of Excellence

Chris Rauch
Technical Sales

6021 Easton Road • Pipersville, PA 18947 USA • 267-203-1600 • Fax 267-203-1601
Mobile 215-718-8290 • chris@phtool.com • Buy online at...www.phtool.com

EDM Notches • Flat Bottom Holes • Calibration Blocks • Pipe, Tube, Parts • Custom Test Blocks
RUSH Service • Recertification Service • NIST Traceable



PH TOOL
REFERENCE STANDARDS
The STANDARD of Excellence

Kurt Hausner
Technical Sales

6021 Easton Road • Pipersville, PA 18947 USA • 267-203-1600 • Fax 267-203-1601
Mobile 215-450-1715 • kurt@phtool.com • Buy online at...www.phtool.com



PARADIGM FOR EXCELLENCE
EXCELLENCE IS ACHIEVABLE
A Workforce & Diversity
Training Company



Dr. Ronnie D. Ingram D.M
Owner

Paradigm for Excellence LLC

10825 Midlothian Turnpike
Richmond, VA 23235

tel. (804) 593-3042
fax. (804) 593-3043

www.paradigm4excellence.net

ASNT Membership Options

Individual Memberships

We offer several different types of memberships to suit your needs and your budget. No matter which membership you choose, you will receive a free subscription to Materials Evaluation, The NDT Technician, and exclusive discounts for conference registration and products in the ASNT Store.

Standard Memberships

Out standard memberships are the most common types of memberships. They are offered in 5-year, 3-year, 2-year and 1-year intervals. Our membership prices are very affordable:

5 – Year	3 – Year	2 – Year	1 – Year
Fee: \$425 Savings: 15%	Fee: \$270 Savings: 10%	Fee: \$190 Savings: 5%	Fee: \$100

Student Memberships

Are you a full-time student? Take advantage of our student membership for only \$25. All you need to do is provide proof of your enrollment. The student membership is good for one year.

Active Military Memberships

If you are an active service member, rank E-5 or lower, you can be rewarded for your service with a military membership for only \$40. The military membership is good for one year.

Retired Memberships

Retired memberships are available to ASNT members who have paid full membership dues for at least 15-years and have reached 60 years of age, retired, and are not receiving remunerations of any kind for NDT activity. The retired membership is only \$35 annually.

Lifetime Renewal

If the combined length of your ASNT membership and your age is equal to or greater than 65 years, you may qualify for our lifetime renewal option. This is available to all regular, individual members and is subject to verification by ASNT Member Services, the lifetime membership is a one-time cost of \$800.



ASNT Individual Membership Application

Please complete both sides of this form.

Member Information

Last Name				First Name				M.I.				Mr./Ms.			
Home Address															
City				State				Zip/Postal Code							
Country				Phone				Fax							
Cell Phone				Home E-mail											
Company Name															
Company Address															
City				State				Zip/Postal Code							
Country				Business Phone				Business Fax							
Business E-mail															
Send Materials to: <input type="radio"/> Home <input type="radio"/> Office															
If recruited, by whom?															
Local Section (Chapter) Choice															

Choices posted online at asnt.org/sections

Member Profile

1. Date of Birth

2. Gender Male Female

3. Education (Check highest level)

	Enrolled	Completed
High School	<input type="radio"/>	<input type="radio"/>
Some College	<input type="radio"/>	<input type="radio"/>
2-Year Associate Degree	<input type="radio"/>	<input type="radio"/>
4-Year Bachelor Degree	<input type="radio"/>	<input type="radio"/>
Master's Degree	<input type="radio"/>	<input type="radio"/>
Doctorate Degree	<input type="radio"/>	<input type="radio"/>

If enrolled, expected graduation date

4. Years of Experience in NDT

0-5 6-10 11-15 16-20 21 & over

5. Number of people involved with NDT at your company

1-5 6-20 21-50 51-100 over 100

6. What is your job title?

7. Your Job Function—Choose the one which best describes your role. (select only one)

<input type="radio"/> Academic/Educator	<input type="radio"/> Sales/Marketing
<input type="radio"/> Consultant	<input type="radio"/> Student
<input type="radio"/> Engineer	<input type="radio"/> Technician/Inspector
<input type="radio"/> NDT Management	<input type="radio"/> Trainer/Instructor
<input type="radio"/> Researcher	<input type="radio"/> Quality Management

8. Purchasing Responsibility (select all that apply)

I recommend/approve purchase of equipment/instruments/supplies

I recommend/approve purchase of training & study materials/programs

I recommend purchase of services

I am not involved in purchasing

9. With which NDT method(s) do you work? (select all that apply)

<input type="radio"/> Acoustic Emission	<input type="radio"/> Liquid Penetrant
<input type="radio"/> Alternating Current Field Measurement	<input type="radio"/> Magnetic Flux Leakage
<input type="radio"/> Magnetic Particle	<input type="radio"/> Microwave
<input type="radio"/> Electromagnetic/Eddy Current	<input type="radio"/> Neutron Radiography
<input type="radio"/> Ground Penetrating Radar	<input type="radio"/> Radiography
<input type="radio"/> Guided Wave	<input type="radio"/> Ultrasonics
<input type="radio"/> Infrared & Thermal	<input type="radio"/> Vibration Analysis
<input type="radio"/> Laser	<input type="radio"/> Visual
<input type="radio"/> Leak	

Complete both sides of this form and mail or fax to:
 ASNT, PO Box 28518, Columbus, OH USA 43228-0518
 Fax 614.274.6899
 Join online at asnt.org

For Questions Contact Customer Service:
 Phone 614.274.6003
 Toll Free 800.222.2768 (US/Canada)

Rev 08/2021

Last Name

First Name

Member Profile continued**10. Choose the primary business industry segment that best describes your company.** (select only one)*NDT Utilization Business*

- Aerospace/Aviation/Aircraft
 Amusement Rides & Skiing
 Automotive
 Chemical & Petroleum
 Construction
 Commercial Labs
 Infrastructure (Roads & Bridges)
 Electronics
 Marine
- Medical
 Nuclear
 Optical
 Ordnance
 Pipeline
 Pulp/Paper
 Railroad
 Semi Conductor
 Utilities

NDT Supplier Business

- Consulting
 Distributor/Manufacturers' Representative
 Equipment
 Research
- Robotics
 Supplies
 Training
 Computer Software
 Computer Hardware

11. Choose the primary type of application of NDT that you do? (select only one)

- Design and Failure Analysis
 Field Inspection
 Incoming Inspection
 In-service, Plant/Operation Maintenance & Process Control
 Product Life Extension
 QA/QC Reliability
 None of the above

12. Highest Level of NDT qualification. (select only one)

- None
 Level I
 Level II
 Level III
 Other
- ASNT NDT Level III
 ACCP Level II
 ACCP Level III
 IRRSP

Membership Categories

Student (1 year; requires proof of full-time student enrollment)

New NDT Professional (1 year; early career with less than 5 years in NDT)

NDT Professional (1 year)

NDT Professional (2 years)

NDT Professional (3 years)

NDT Professional (5 years)

Active Military (1 year; active service members)

Retired (1 year; eligibility verification required)

Lifetime (eligibility verification required)

Dues

- \$25.00
 \$40.00
 \$100.00
 \$190.00
 \$270.00
 \$425.00
 \$40.00
 \$35.00
 \$800.00

Dues, plus optional Airmail

- N/A
 N/A
 \$150.00
 \$274.00
 \$390.00
 \$609.00
 N/A
 N/A
 N/A

Dues are nonrefundable, nontransferable. Includes subscription to *Materials Evaluation* and *The NDT Technician*, a quarterly newsletter.

Student and New NDT Professional members receive periodical subscriptions electronically only.

For members outside North America: Unless airmail is purchased, all printed periodical subscriptions will be sent sea/ surface mail; allow 3-4 months for delivery.

Research in Nondestructive Evaluation (RNDE®) Subscription**RNDE® is ASNT's bi-monthly research journal.**

Print Subscription

Electronic Subscription

Print and Electronic Subscription — *a savings of \$65***Subscription**

- \$85.00
 \$85.00
 \$105.00

Payment Information**Total Amount Paid \$**

All payments including checks and money orders must be made in U.S. funds (dollars) through U.S. Banks.

Form of Payment AmEx MasterCard Visa Discover Check Funds TransferType of Card Personal Business

Account Number

Exp. Date

CIN*

Name on Card print please

Signature

Cardholder Information

Address, City, State, Zip, Country

* Credit Card Identification Number. For Visa/MasterCard/Discover: The three-digit value is printed on the signature panel on the back of cards immediately following the account number. For American Express: 4 digit, non-embossed number printed above your account number on the face of your card.

Return with payment to The American Society for Nondestructive Testing, Inc., PO Box 28518, Columbus OH 43228-0518; Or join online at asnt.org, Fax 614.274.6899, Phone 614.274.6003 or 800.222.2768 US/Canada. Federal ID# 31-1231529.

Rev 08/2021

Nondestructive Testing - Definitions and Methods

What is Nondestructive Testing?

Nondestructive testing (NDT) is the process of inspecting, testing, or evaluating materials, components or assemblies for discontinuities, or differences in characteristics without destroying the serviceability of the part or system. In other words, when the inspection or test is completed, the part can still be used.

Typical NDT Methods

Magnetic Particle Testing (MT)

Magnetic Particle Testing uses one of more magnetic fields to locate surface and near-surface discontinuities in ferromagnetic materials, The magnetic field can be applied with a permanent magnet or an electromagnet.

Liquid Penetrant Testing (PT)

The basic principle of liquid penetrant testing is that when a very low viscosity (highly fluid) liquid (the penetrant) is applied to the surface of a part. It will penetrate into fissures and voids open to the surface. Once the excess penetrant is removed, the penetrant trapped in those voids will flow back out, creating an indication.

Radiographic Testing (RT)

Industrial radiography involves exposing a test object to penetrating radiation so that the radiation passes through the object being inspected and a recording medium placed against the opposite side of that object. For thinner or less dense materials such as aluminum, electrically generated x-radiation (X-rays) are commonly used, and for thicker or denser materials, gamma radiation is generally used.

Ultrasonic Testing (UT)

Ultrasonic testing uses the same principle as is used in naval SONAR and fish finders. Ultra-high frequency sound is introduced in the part being inspected and if the sound hits a material with a different acoustic impedance (density and acoustic velocity), some of the sound will reflect back to the sending unit and can be presented on a visual display. By knowing the speed of the sound through the part (its acoustic velocity) and the time required for the sound to return to the sending unit, the distance to the reflector (the indication with the different acoustic impedance) can be determined.

Electromagnetic Testing (ET)

Electromagnetic testing is a general test category that includes Eddy Current testing. Alternating Current Field Measurement (ACFM) and Remote Field testing. While magnetic particle testing is also an electromagnetic test, due to its widespread use it is considered a stand-alone test method rather than as an electromagnetic testing technique. All of these techniques use the induction of an electric current or magnetic field into a conductive part, then the resulting effects are recorded and evaluated.

This reprint contains copyrighted property of the American society for Nondestructive Testing, Inc., and may not be duplicated or altered in any manner.

NDT Methods – Continued

Visual Testing (VT)

Visual testing is the most commonly used test method in industry. Because most test methods require that the operator look at the surface of the part being inspected, visual inspection is inherent in most of the other test methods. As the name implies, VT involves the visual observation of the surface of a test object to evaluate the presence of surface discontinuities. VT inspections may be by Direct Viewing, using line-of sight vision, or may be enhanced with the use of optical instruments such as magnifying glasses, mirrors, borescopes, charge-coupled devices (CCDs) and computer-assisted viewing systems (Remote Viewing). Corrosion, misalignment of parts, physical damage and cracks are just some of the discontinuities that may be detected by visual examinations.

Acoustic Emission Testing (AE)

Acoustic Emission Testing is performed by applying a localized external force such as an abrupt mechanical load or a rapid temperature or pressure change to the part being tested. The resulting stress waves in turn generate a short-lived, high frequency elastic wave in the form of small material displacements, or plastic deformation, on the part surface that are detected by sensors that have been attached to the part surface. When multiple sensors are used, the resulting data can be evaluated to locate discontinuities in the part.

Guided Wave Testing (GW)

Guided wave testing on piping uses controlled excitation of one or more ultrasonic waveforms that travel along the length of the pipe, reflecting from changes in the pipe stiffness or cross-sectional area. A transducer ring or exciter coil assembly is used to introduce the guided wave into the pipe and each transducer/exciter. The control and analysis software can be installed on a laptop computer to drive the transducer ring/exciter and to analyze the results. The transducer ring/exciter setup is designed specifically for the diameter of the pipe being tested, and the system has the advantage of being able to inspect the pipe wall volume over long distances without having to remove coatings or insulation. Guided wave testing can locate both ID and OD discontinuities but cannot differentiate between them.

Laser Testing Methods (LM)

Laser Testing includes three techniques, Holography, Shearography and Profilometry. As the method name implies, all three techniques use lasers to perform the inspections.

Leak Testing

Leak Testing, as the name implies, is used to detect through leaks using one of the four major LT techniques: Bubble, Pressure Change, Halogen Diode and Mass Spectrometer Testing. These techniques are described below.

Magnetic Flux Leakage (MFL)

Magnetic Flux Leakage detects anomalies in normal flux patterns created by discontinuities in ferrous material saturated by a magnetic field. This technique can be used for piping and tubing inspection, tank floor inspection and other applications.

This reprint contains copyrighted property of the American society for Nondestructive Testing, Inc., and may not be duplicated or altered in any manner.

NDT Methods – Continued

Neutron Radiographic Testing (NR)

Neutron radiographic uses an intense beam of low energy neutrons as a penetrating medium rather than the gamma or X-ray radiation used in conventional radiography. Generated by linear accelerators, betatrons and other sources, neutrons penetrate most metallic materials, rendering them transparent, but are attenuated by most organic materials (including water, due to its high hydrogen content) which allows those materials to be seen within the component being inspected. When used with conventional radiography, both the structural and internal components of a test piece can be viewed.

Thermal/Infrared Testing (IR)

Thermal/infrared Testing, or infrared thermography, is used to measure or map surface temperatures based on the infrared radiation given off by an object as heat flows through, to or from that object. The majority of infrared radiation is longer in wavelength than visible light but can be detected using thermal imaging devices, commonly called “infrared cameras”. For accurate IR testing, the part(s) being investigated should be in direct line of sight with the camera, i.e., should not be done with panel covers closed as the covers will diffuse the heat and can result in false readings. Used properly, thermal imaging can be used to detect corrosion damage, delaminations, desponds, voids, inclusions as well as many other detrimental conditions.

Vibration Analysis (VA)

Vibration analysis refers to the process of monitoring the vibration signatures specific to a piece of rotating machinery and analyzing that information to determine the condition of that equipment. Three types of sensors are commonly used: displacement sensors, velocity sensors and accelerometers.

This reprint contains copyrighted property of the American Society for Nondestructive Testing, Inc., and may not be duplicated or altered in any manner.

Levels of Qualification

The Three basic levels of qualification are as follows ¹:

NDT Level I

An NDT Level I individual should be qualified to properly perform specific calibrations, specific NST, and specific evaluations for acceptance or rejection determinations according to written instructions and to record results. The NDT Level I should receive the necessary instruction and supervision from a certified NDT Level II or III individual.

NDT Level II

An NDT Level II individual should be qualified to set up and calibrate equipment and to interpret and evaluate results with respect to applicable codes, standards, and specifications. The NDT Level II should be thoroughly familiar with the scop[e and limitations of the methods for which qualified and should exercise assigned responsibility for on-the-job training and guidance of trainees and NDT Level I personnel. The NDT Level II should be able to organize and report the results of NDT tests.

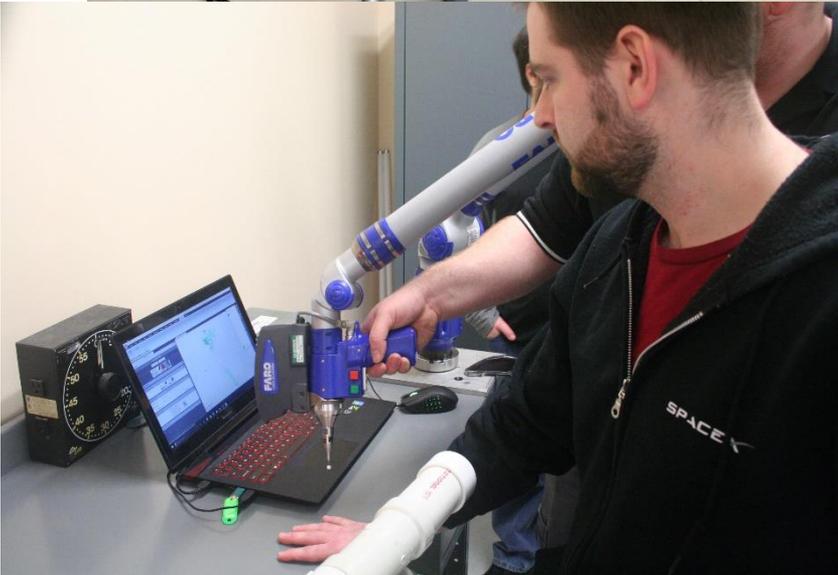
NDT Level III

An NDT Level III individual should be capable of developing, qualifying, and approving procedures, establishing, and approving techniques, interpreting codes, standards and specifications, and procedures; and designating the particular NDT methods, techniques, and procedures to be used. The NDT level III should be responsible for the NDT operations for which qualified and assigned and should be capable of interpreting and evaluating results in terms of existing codes, standards, and specifications. The NDT Level III should have sufficient practical background in applicable materials, fabrications, and product technology to establish techniques and to assist in establishing acceptance criteria when none are otherwise available. The NDT Level III should have general familiarity with other appropriate NDT Methods, as demonstrated by and ASNT Level III Basic examination or other means. The NDT Level III, in the methods in which certified, should be capable of training and examining NDT Level I and II personnel for certification in those methods.

This reprint contains copyrighted property of the American society for Nondestructive Testing, Inc., and may not be duplicated or altered in any manner.

¹ "Recommended Practice No. SNT-TC-1A (2020)", ASNT, 2020

Education Outreach



Education Outreach





NDT Power from Auto Degauss Full-Wave DC

(732)
264-6651

Portable,
MT Inspections



Automatic
DC Down-Cycle
Demagnetizing



Welding ARC BLOW Problems?

Magnetism
Controlled



Magnetism
Not Controlled





ASNT-NNE 2021-2022 Meeting Schedule

Thursday, September 2, 2021

Thursday, October 14, 2021

Thursday, November 4, 2021

Thursday, December 2, 2021

Thursday, January 6, 2022

Thursday, February 3, 2022

Thursday, March 3, 2022

Thursday, April 7, 2022

Thursday, May 5, 2022

June 2022 - Clambake

<https://asnt-nne.org/>



Checkout the additional content on our website.