

## CURRICULUM VITAE MATTHEW J. WILKE, IAAI-CFI

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### EMPLOYMENT HISTORY:

- 11/2013 to present      Fire Investigator with Fire Cause Analysis  
**Duties** - Fire investigator responsible for conducting fire and explosion investigations to determine the origin and cause.
- 2008 to present      Captain-Bismarck Fire Department – Fire Investigation Training  
**Duties** - Responsible for setting up and conducting quarterly training for department investigation team. Responsible for conducting fire/explosion investigations and moderating case studies within the department.
- 2001 to present      Captain Bismarck Fire Department  
**Duties** – Complete and direct Fire Safety Inspections for a fire company and complete fire investigations assigned to our shift including scene examination and report writing to determine origin and cause.
- 2000 to present      Bismarck Fire Department Investigation team  
**Duties** – Fire investigator responsible for conducting fire and explosion investigations to determine origin and cause
- 1996 to 2001      Firefighter Bismarck Fire Department

### FIRE RELATED TRAINING RELATING TO FIRE INVESTIGATIONS:

#### EDUCATION:

#### **Bureau of Alcohol, Tobacco, Firearms and Explosives:**

12/05/16 - 12/16/16 Advanced Origin & Cause/Courtroom Testimony – 76 tested hours

#### **North Dakota IAAI Annual Investigative Conference**

2018 20th Annual Fire Investigative Conference ND-IAAI - 20 tested hrs

Camera and Lighting Techniques for Fire Scenes; Strategic Social Media Exploitation for Fire Investigations; Fire Origin Pattern Persistence; Electrical Failure Analysis-Arc Melting Identification/Portable Space Heaters

2017 19th Annual Fire Investigative Conference ND-IAAI - 20 tested hrs

2017 921 changes/updates; Accelerant Detection Dog; Application and Use of NFPA 912; Explosion Dynamics

FIRE INVESTIGATION • FORENSICS • FIRE SCIENCE & ENGINEERING

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- 2015 17<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Scene Fire Behavior & Dynamics/Residential Electrical & Gas Systems Crude by Rail/Fatal Fires
- 2014 16<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Scene Complex Arson Investigation/Effects of Multiple Ventilation openings- Post Flashover Compartment Fires/Fire Dynamics
- 2012 14<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Scene Documentation, conducting interviews, building construction
- 2011 13<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Advanced Fire Investigation Techniques
- 2009 11<sup>th</sup> Annual Fire Investigative Conference ND-IAAI - 20 tested hrs Advanced Fire Investigation Techniques
- 2008 10<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Basic Fire Investigation Techniques
- 2007 9<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Courtroom Testimony
- 2006 8<sup>th</sup> Annual Fire Investigative Conference ND-IAAI - 20 tested hrs Vehicle Fire Investigative Techniques
- 2003 5<sup>th</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Fire Investigation Techniques
- 2001 3<sup>rd</sup> Annual Fire Investigative Conference ND-IAAI – 20 tested hrs Fire Investigation Techniques

### **CFI Trainer.net**

Analysis of Station Nightclub Fire - Arc Mapping Basics - Basic Electricity - Charleston Sofa Super Store Fire – Critical Evaluation and Testing of Commonly Reported Accidental Causes - Critical Thinking Solves Cases - Digital Photography & the Fire Investigator – DNA - Documenting the Event - Effective Investigation & Testimony - Electrical Safety – Ethics and the Fire Investigator – Ethics & Social Media - Evidence Examination: What Happens at the Lab? - Explosion Dynamics – Fire & Explosion Investigations: Utilizing NFPA 1033 & 921 – Fire Chemistry - Fire Investigator Scene Safety – Fundamentals of Residential Building Construction - How First Responders Impact the Fire Investigation – Insurance and the Fire Investigation – Intro to Evidence – Intro to Fire Dynamics and Modeling – Intro to Fatal Fires - Investigating Motor Vehicle Fires – Investigating Natural Gas Systems - MagneTek: A Case Study in the Daubert Challenge – Managing Complex Fire Scene Investigations - Physical Evidence at the Fire Scene – Post Flashover Fires – Process of Elimination - Residential Electrical Systems – Residential Natural Gas Systems - Search & Seizure - The Deposition part 1: Format, Content, and Preparation - The Deposition part 2: Questioning Tactics and Effective Responses The fire Investigator & the 2011 NFPA 921 Changes – The Impact of Ventilation in Building Structures on Fire Development - The Scientific Method for Fire & Explosion Investigation - Thermometry, Heat, and Heat Transfer - Understanding Fire Through the Candle Experiments - Understanding Undetermined - Using Resources to Validate your Hypothesis – Vacant and Abandoned Buildings; Hazards & Solutions – Writing the Initial Cause & Origin Report

**Other:**

- 06/08/20 DCARI - Fire Investigation Report Writing
- 05/31/20 Dane County Arson Response Initiative - Timeline Analysis

05/24/20 Dane County Arson Response Initiative - Fire Alarm Control Panels  
05/14/20 Dane County Arson Response Initiative - Receptacle Fires  
05/12/20 DCARI - Identifying Damage to Electrical Connectors  
10/21/19 NDIAAI Chapter Training - Fire Safer Cigarettes  
07/17/19 NDIAAI Chapter Training - Scene Safety  
01/21/19 NDIAAI Chapter Training - CV-Importance, How To & Advice  
08/21/18 Lead & Asbestos Awareness - 4 hrs - Terracon Consultants  
07/19/17 ND IAAI Chapter training - UL Listing  
04/04/17 FCA Training-NFPA updates; West Texas Explosion; Electric Field Notes  
09/26/16 Asbestos and Lead Awareness – Argus Pacific  
07/20/16 ND IAAI Chapter training - Fire Modeling (2 hrs)  
02-2014 Basic Electricity and the Fire Scene by Hal Lyson and John White / FCA  
09/16/11 Identifying the Source & Fire Debris Analysis – From the Laboratory to the Final Report - Armstrong Forensic Laboratory, Inc.  
02/22/97 Arson Detection for the First Responder  
1989 Bachelor Degree in Communications – University of Mary

**INSTRUCTOR EXPERIENCE:**

01/15/19 Presented @ NDIAAI Chapter Training “Testing your Hypothesis”  
05/07/19 Presented @ ND Claims Seminar “Spoliation & the Clams Adjuster  
05/07/19 Presented @ ND Claims Seminar “Fire & Explosion Invest that Sizzle”  
03/06/19 Presented 2 hrs at ND Claims Mtg - “Fireproofing Your Case”  
09/20/17 Presented 4 hrs at ND-IAAI Conf. - Application and Use of NFPA 921  
09/11/15 Presented 8 hrs at ND-IAAI Conference – Fire Dynamics  
10/07/14 Presented “Live Training Burn” workshop with live burn & discussion on fire development, fire patterns and determining the cause

2008 Responsible for setting up and conducting quarterly training for department investigation team. Responsible for conducting fire/explosion investigations and moderating case studies within the department.

**PROFESSIONAL EXPERIENCE:**

2013 Lead investigator with Fire Cause Analysis conducting fire investigations at fire scenes. This includes site examination, interviews, scene documentation, scene reconstruction and written or oral reports to the clients.  
2014 Successfully renewed the International Association of Arson Investigators Certified Fire Investigator (CFI)  
2009 Successfully tested and passed the International Association of Arson Investigators examination to become Certified Fire Investigator (CFI)  
2001 Promoted to Fire Captain with Bismarck Fire Department  
0 to present I have been the lead investigator and written the investigation reports involving accidental, natural, incendiary and undetermined fires. I have also been involved with SOGs, assisting investigations and technical review of fire reports with the Bismarck Fire Department.  
1998 to 2000 Tested to Firefighter 1 & Firefighter 2 certification

1999 (North Dakota State Fire Association)  
Department of Labor Certified Fire Medic

**PROFESSIONAL ASSOCIATIONS INCLUDE:**

3/1/19 State of Minnesota Licensed Private Investigator  
3/1/2017 State of Montana Licensed Private Investigator  
2002 to present International Association Arson Investigators member  
2001 to present ND International Association Arson Investigators member

**COURTROOM TESTIMONY AND CASES:**

3/26/19 State of ND vs Nicolas Yellowbird (O&C) (08-2018-639)  
Filed: Endangerment by Fire-pled guilty to Endangerment by Fire

11/13/18 State of ND vs Quang Son (O&C) (09-2016-CR-3417)  
Filed: Arson/Insurance Fraud-pled guilty to Arson/Insurance Fraud

4/24/18 State of ND vs Gregory Leingang (O&C) (08-2017-CR-2776)  
Filed: 2 counts of Arson - pled guilty to 2 counts of Arson

1/16/18 State of ND vs Darren Weber (O&C) (08-2017-CR-3825)  
Filed: Endangerment by Fire-pled guilty to Endangerment by Fire

4/17/17 State of ND vs Tanner Wold (O&C) (08-2017-CR-414)  
Filed: Endangerment by Fire-pled guilty to Endangerment by Fire

12/16 ATF Advanced Origin & Cause/Courtroom Testimony

2/15/15 ND US Federal Court - USA vs Anthony DeGroot - 1:14-cr-00191  
Testified as O&C Expert

9/07 ND-IAAI Courtroom Testimony class

12/21/09 State of ND vs James West (O&C) (08-09-K-2120)  
Filed: Endangerment by Fire-pled guilty to Endangerment by Fire

6/18/09 State of ND vs Lawrence Bailey (O&C) (08-07-K-00770)  
Filed: Criminal Mischief – pled guilty to Criminal Mischief  
Compliance with NFPA 1033 Chapter 1 – This chapter identifies the minimum job performance requirements for fire investigators. More specifically section 1.3.7 details what the fire investigator must maintain at a minimum and up-to-date basic knowledge of the following topics beyond a high school level. They fall into 16 categories and they may be maintained by attending formal education courses, workshops and seminars and/or through professional publications and journals. The categories are listed below and are supported by the applicable training that corresponds with each competency. This list is not all inclusive and will not reference all courses that may have provided instruction on a variety of NFPA 1033 related topics simultaneously.

1. Fire Science
  - 02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs
  - 12/08/16 - ATF-AOCCT - Fire Chemistry/Fire Scene Forensics 1 hr
  - 12/05/16 - ATF-AOCCT - Fire Dynamics – 1 hr
  - 09/16/11 - Fire Debris Analysis – Armstrong – 1 hr
  - 09/14/11 - ND-IAAI ATC – Post flashover fires – 8 hrs.
  
2. Fire Chemistry
  - 12/31/19 - CFI - Fire Chemistry - 3 hrs
  - 02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs
  - 04/19/17 - ND-IAAI Quarterly training - Butane Hash Oil Investigations 1 hr
  - 12/12/16 - ATF-AOCCT - Fatal Fire Investigations – 1 hr
  - 12/08/16 - ATF-AOCCT - Fire Chemistry/Fire Scene Forensics 2 hrs
  - 12/05/16 - ATF-AOCCT - Fire Dynamics – 1 hr
  - 09/09/15 - ND-IAAI ATC – 2 hrs
  - 05/07/15 - CFI – Post flashover fires – 1 hr
  - 05/24/10 - CFI – Physical Evidence – 1 hr
  - 01/23/09 - CFI – Fire thru candle experiments – 2 hrs
  - 11/23/06 - CFI – Station Nightclub fire – 1 hr
  
3. Thermodynamics
  - 12/05/16 - ATF-AOCCT - Fire Dynamics – 1 hr
  - 09/09/15 - ND-IAAI ATC – 1 hr
  - 05/07/15 - CFI – Post flashover fires – 2 hrs
  - 05/08/11 - CFI – Sofa Super Store Fire – 1 hr
  - 12/08/10 - CFI – Explosion Dynamics – 1 hr
  - 08/30/08 - CFI – Ventilation & fire investigation – 2 hrs
  - 11/23/06 - CFI – Station Nightclub fire – 1 hr
  
4. Thermometry
  - 12/15/19 - CFI - Thermometry, Heat, and Heat Transfer - 3 hrs
  - 09/09/15 - ND-IAAI ATC – 1 hr
  
5. Fire Dynamics
  - 09/21/18 - ND-IAAI ATC - Fire Origin Pattern Persistence - 8 hrs
  - 02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs
  - 12/05/16 - ATF-AOCCT - Fire Dynamics – 7 hrs
  - 10/15/16 - Fire & Arson Mag; Fire origin pattern persistence – 1 hr
  - 09/09/15 - ND-IAAI ATC – 8 hrs
  - 05/07/15 - CFI – Post flashover fires – 1 hr
  - 10/07/14 - FCA live fire training – 5 hrs
  - 09/14/11 - ND-IAAI ATF – above floor level fires – 4 hrs
  - 05/08/11 - CFI – Sofa Super Store Fire – 2 hr
  - 02/08/10 - CFI – Explosion Dynamics – 1 hr
  - 05/24/10 - CFI – Physical Evidence – 2 hrs

- 01/23/09 - CFI – Fire thru Candle Experiments – 2 hrs
  - 11/23/06 - CFI – Intro to Fire Dynamics & Modeling – 2 hrs
  - 11/23/06 - CFI – Station Nightclub fire – 1 hr
  - 08/23/06 - ND-IAAI ATC – car fires – 20 hrs
- 6. Explosion Dynamics**
- 02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs
  - 09/21/17 - ND-IAAI ATC - Explosion Dynamics Scott Davis - 8 hrs
  - 04/19/17 - ND-IAAI Quarterly training - Butane Hash Oil Investigations 1 hr
  - 04/04/17 - FCA - West Texas Explosion
  - 12/12/16 - ATF-AOCCT - Fuel Air Explosions with Demo – 3 hrs
  - 02/08/10 - CFI – Explosion Dynamics – 2 hr
  - 07/05/09 - CFI – Fire & Explosion; utilize 1033/921 – 2 hrs
- 7. Computer Fire Modeling**
- 09/20/18 - ND-IAAI ATC - Fire Origin Pattern Persistence - 8 hrs
  - 12/12/16 - ATF-AOCCT - Fuel Air Explosions with Demo – 1 hr
  - 07/20/16 - ND-IAAI Fire Modeling 2016 – 2 hrs
  - 11/23/06 - CFI – Intro to Fire Dynamics & Modeling – 2 hrs
  - 11/23/06 - CFI – Station Nightclub fire – 1 hr
- 8. Fire Investigation**
- 09/20/18 - ND-IAAI ATC - Fire Origin Pattern Persistence - 8 hrs
  - 02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs
  - 02/01/18 - CFI - Ethics & Social Media - 1 hr
  - 09/20/17 - ND-IAAI ATC - NFPA 921 Application & Use - 4 hrs
  - 12/09/16 - ATF-AOCCT - Mock Trial – 4 hrs
  - 12/09/16 - ATF-AOCCT - Complex Scene Practical – 2 hrs
  - 12/06/16 - ATF-AOCCT - Complex Scene Walk Through/Demo – 2 hrs
  - 07/08/16 - CFI - Effective Investigation & Testimony - 3 hrs
  - 09/17/14 - ND-IAAI ATC – 3.5 hrs
  - 08/25/14 - FCA – 2 hrs
  - 11/24/13 - CFI - Ethics & Fire investigator – 3 hrs
  - 12/24/12 - CFI - 2011 921 Changes – 4 hrs
  - 09/19/12 - ND-IAAI ATC – Documenting scene 4 hrs
  - 09/14/11 - ND-IAAI ATC – 921/1033 changes – 4 hrs
  - 05/08/11 - CFI – Sofa Super Store Fire – 1 hr
  - 04/21/11 - CFI – First Responder & Investigation – 2 hrs
  - 08/19/09 - ND-IAAI ATC – Appliance fires – 4 hrs
  - 08/30/08 - CFI – Ventilation & Fire Investigation – 2 hrs
  - 08/20/08 - ND-IAAI ATC – Basic Fire Investigation – 20 hrs
  - 02/12/07 - CFI – Motor Vehicle Fires – 4 hrs
  - 08/27/03 - ND-IAAI ATC – Fire investigation – 8 hrs
  - 08/22/01 - ND-IAAI ATC – Fire investigation – 8 hrs
  - 02/20/00 - Arson Detection for the 1<sup>st</sup> Responder – 4 hrs

- 9. Fire Analysis**  
09/20/18 - ND-IAAI ATC - Fire Origin Pattern Persistence - 8 hrs  
12/09/16 - ATF-AOCCT - Review of Burns – 1.5 hrs  
12/09/16 - ATF-AOCCT - Prosecutor Relations – 3 hrs  
12/14/16 - ATF-AOCCT - Surviving the Defense Expert Challenge – 1 hr  
12/13/16 - ATF-AOCCT - Facing the Defense Expert Challenge – 4 hrs  
12/13/16 - ATF-AOCCT - Current Case Law & NFPA 1033/921 – 4 hrs  
12/09/16 - ATF-AOCCT - Complex Scene Practical – 2 hrs  
06/08/16 - CFI – Effective Investigation & Testimony – 3 hrs  
09/17/14 - ND-IAAI ATC – 2.5  
02/18/13 - CFI – Critical Thinking Solves Cases – 2 hrs  
07/08/08 - CFI – Fatal Fires – 4 hrs
- 10. Fire Investigation Methodology**  
05/31/20 - Dane County Arson Response Initiative - Timeline Analysis  
12/22/18 - CFI - Understanding Undetermined - 3 hrs  
09/20/18 - ND-IAAI ATC - Fire Origin Pattern Persistence - 8 hrs  
02/01/18 - CFI - Ethics & Social Media - 1 hr  
09/19/17 - NFPA 921 changes - 8 hrs  
12/09/16 - ATF-AOCCT - Complex Scene Practical – 1 hr  
02/18/13 - CFI - Magnetek/Daubert – 2 hrs  
01/18/13 - CFI - Validating Hypothesis – 2 hrs  
07/05/09 - CFI - Fire & Explosion-utilize 1033/921 – 2 hrs  
09/01/08 - CFI - Complex Fire Scene – 4 hrs  
07/20/07 - CFI - Scientific Method – 3 hrs  
08/27/03 - ND-IAAI ATC – Fire investigation – 8 hrs  
08/22/01 - ND-IAAI ATC – Fire investigation – 8 hrs
- 11. Fire Investigation Technology**  
10/21/19 - ND-IAAI - Fire Safer Cigarettes - 2 hrs  
04/19/18 - ND-IAAI ATC - Strategic Social Media for Fire Invest - 4 hrs  
02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs  
10/16/17 - CFI - DNA - 3 hrs  
09/20/17 - ND-IAAI ATC - Accelerant Detection Dog presentation - 4 hrs  
07/19/17 - ND-IAAI Quarterly training - UL Class - 2 hrs  
10/19/16 - ND-IAAI Quarterly training - Accelerant K-9 course - 2 hrs  
09/17/14 - ND-IAAI ATC – 2 yrs  
02/20/12 - CFI – Insurance & the Fire Investigator – 4 hrs  
09/14/11 - ND-IAAI ATC – Forensic Eval of Lubricants – 4 hrs  
12/13/09 - CFI – Digital photography – 4 hrs
- 12. Hazardous Materials**  
09/26/16 - Argus Pacific - Asbestos Awareness & Lead Awareness  
09/17/14 - ND-IAAI ATC – 1  
09/19/12 - ND-IAAI ATC – Safety/Hazmat – 4 hrs  
06/15/09 - CFI – Vacant/Abandoned Buildings – 4 hrs

07/07/06 - CFI – Scene Safety – 3 hrs

**13.** Failure Analysis and Analytical Tools

12/31/19 - CFI - Ethical Duties Beyond the Fire Scene - 3 hrs  
09/21/18 - ND-IAAI ATC - Electrical Fire Investigation - 4 hrs  
12/12/16 - ATF-AOCCT - Fatal Fire Investigations – 1 hr  
12/09/16 - ATF-AOCCT - Complex Scene Practical – 1 hr  
03/19/14 - CFI – Basic Electricity – 1 hr  
02/18/13 - CFI – Critical Thinking Solves Cases – 2 hrs

**14.** Fire Protection Systems

05/24/20 - Dane Co. Arson Response Initiative - Fire Alarm Control Panels - 1 hr  
12/12/16 - ATF-AOCCT - Building Construction – 2 hrs  
12/06/16 - ATF-AOCCT - Fire Protection Systems – 4 hrs  
12/21/14 - CFI – Residential Building Construction – 3 hrs  
09/19/12 - ND-IAAI ATC – Building Const – 4 hrs  
10/22/04 – IFC transition from 1997 - .6 hrs

**15.** Evidence Documentation, Collection and Preservation

06/08/20 - DCARI - Fire Investigation Report Writing  
09/19/18 - ND-IAAI ATC - Camera & Lighting Techniques for Fire Scenes - 4

hrs

02/01/18 - CFI - Investigating Natural Gas Systems - 3 hrs  
02/01/18 - CFI - Ethics & Social Media - 1 hr  
09/17/17 - CFI - Evidence Examination: What Happens at the Lab? - 4 hrs  
12/09/16 - ATF-AOCCT - CV/Resume 1 hr  
12/09/16 - ATF-AOCCT - Complex Scene Practical – 1 hr  
12/08/16 - ATF-AOCCT - Fire Chemistry/Fire Scene Forensics 1 hr  
12/06/16 - ATF-AOCCT - Report Writing – 2 hrs  
10/19/16 - Accelerant K-9 2 hrs  
09/10/15 - ND-IAAI ATC – 4 hrs  
09/19/12 - ND-IAAI ATC – interviewing 4 hrs  
09/19/12 - ND-IAAI ATC – report writing 4 hrs  
04/16/12 - CFI – Search & Seizure – 4 hrs  
10/16/11 - Armstrong - Identifying the source – 1.5 hrs  
05/24/10 - CFI – Physical Evidence – 1 hr  
12/13/09 - CFI – Documenting the Event – 4 hrs  
08/19/09 - ND-IAAI ATC – documenting the scene – 4 hrs  
08/19/09 - ND-IAAI ATC – report writing – 4 hrs  
08/19/09 - ND-IAAI ATC – evidence collection – 4 hrs  
08/19/09 - ND-IAAI ATC – interviewing – 4 hrs  
11/09/07 - CFI – Intro to Evidence – 4 hrs  
08/22/07 - ND-IAAI ATF – IAAI Courtroom Testimony – 20 hrs

**16.** Electricity and Electrical Systems

05/14/20 - Dane County Arson Response Initiative - Receptacle Fires - 1 hr



05/12/20 - DCARI - Identifying Damage to Electrical Connectors - 1 hr  
09/21/18 - ND-IAAI ATC - Electrical Fire Investigation - 4 hrs  
12/08/16 - ATF-AOCCT - Appliance Fires with Demo – 4 hrs  
12/07/16 - ATF-AOCCT - Electrical Aspects of Fire Scenes with Lab – 4 hrs  
09/10/15 - ND-IAAI ATC – 4 hrs  
06/14/15 - CFI – Residential Electrical – 4 hrs  
09/17/14 - ND-IAAI ATC – 4  
03/19/14 - CFI – Basic Electricity – 1 hr  
02/11/14 - Electric Car Fires - .2 hrs  
11/22/10 - CFI – Electrical Safety – 3 hrs  
09/29/10 - CFI – Arc Mapping – 4 hr