



# **Sandia National Laboratories Weapon Intern Program**

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# Weapon Intern Program Mission



**Prepare the future  
generation of experts in  
nuclear weapons  
stewardship to assume  
critical positions  
throughout the nuclear  
weapons community**

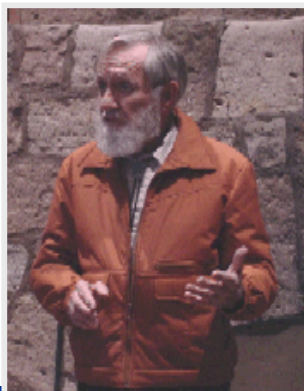


# Goal: Accelerate Development of Engineers and Scientists as Weaponers



## *A one year work/study program covering all aspects of nuclear weapons*

- National security, deterrence, and policy
- Basic nuclear weapon physics and operation
- Systems, subsystems, and components
- Delivery systems
- Nuclear surety principles
- Testing, modeling, and simulation
- Weapon effects
- Nuclear weapons community
- Communication skills
- NW project
- Site visits



# How to Improve Nuclear Weapons Expertise in the New Environment



**Learn the weapons and science-based tools in classroom settings**



**Site visits**



LANL, LLNL, SNL/CA, Y-12,  
SRS, KCP, Pantex, TTR, NTS,  
STRATCOM, SWFLANT,  
VAFB, WAFB, LM D-5 missile



- **Projects**
- **Study with experts**
- **Work as part of a NW team**





# Weapons Intern Program - Developing Future Weaponeers



## STUDENTS

- Sandia (NM and CA)
- LANL
- Y-12
- DOE/NNSA/Site office
- Pantex
- Savannah River
- Kansas City Plant
- Air Force Fellows
- Air Force Nuclear Weapons Center

Through 2011: 266 graduates  
(166 Sandia, 100 non-Sandia)



**Learn the Weapons and  
Science-Based Tools in  
classroom settings**

**Learn the Stockpile  
studying with experts and  
NW project work**



## Site Visits



### 1<sup>st</sup> Half

Highly Structured

- Course work →
- Team building
- Class projects
- Site visits
- Individual research
- Senior mentors and seminars

### 2<sup>nd</sup> Half

NW Project Driven

- Embed in NW project group
- Group meetings
- Site visits
- Final presentation





# Restructured Format

- **Beginning in Sep 2012, we will start a new intern class each September and March**
  - Will double (24 → 48) the number of participants per year
- **Two sessions**
  - First half - coursework
  - Second half - intern is embedded in NW group to gain experience in a current project
- **Intern projects**
  - Nuclear fundamentals, surveillance, weapon system, embedded in NW group

New format ensures that the program is relevant in current NSE environment.





# Air Force WIP Participation

- **Part of Air Force National Laboratories Technologies Fellowship (AFNLTF) program**
  - Air Force selects senior and intermediate developmental educational eligible officers each year to study at major universities and think tanks. It is administered by Air University and sponsored by the Deputy Chief of Staff, Personnel (AF/A1) at Headquarters, United States Air Force (HQ USAF).
  - Typically two-three majors are selected for the program each year
  - [AF graduates of WIP](#) are preferentially directed to NW-related assignments
- **WIP also accepts 1-2 participants per year from the Air Force Nuclear Weapons Center (AFNWC)**
- **As part of Civilian Development Education (CDE), one civilian has participated in WIP (class of 2010)**
  - For class of 2013, three civilians have been selected by the CDE board for the WIP





# Back-up slides







# WIP Travel



- **Core Travel**
  - LANL (2 days)
  - CA (travel + 5 days)
    - Lockheed-Martin D-5 Missile Training (1 day)
    - LLNL (2 days)
    - SNL/CA (2 days)
  - SRS, Y-12, SWFLANT (travel + 5 days)
  - Pantex (travel + 2 days)
  - Kansas City, Whiteman AFB, USSTRATCOM (travel + 5 days)
  - VAFB (travel + ~ 2 days)
- **Supplemental Travel**
  - NNSS/NTS/TTR (travel + 3 days)
  - Washington DC (depending on interest/funding)





# General Structure (1<sup>st</sup> half)

- General (overview, training, Management, ...) 40 hrs
- Evolution of Nuclear Weapons 27 hrs
- Policy and Strategic Planning 10 hrs
- Fundamentals of Nuclear Detonation 18 hrs
- Fundamental Concepts 101 hrs
- Design Considerations / Weapon Systems 62 hrs
- Major Components / SNL Mission 85 hrs
- Annual Assessment, Customer Interactions, LEP's/ALTS 40 hrs
- Surety 77 hrs
- DoD Mission 9 hrs
- Nuclear Security Enterprise Site Visits 128 hrs (total)
- SNL Facilities 18 hrs
- DoD Facility Site Visits 66 hrs (total)
- Classroom Projects 268 hrs



# USAF WIP Graduates



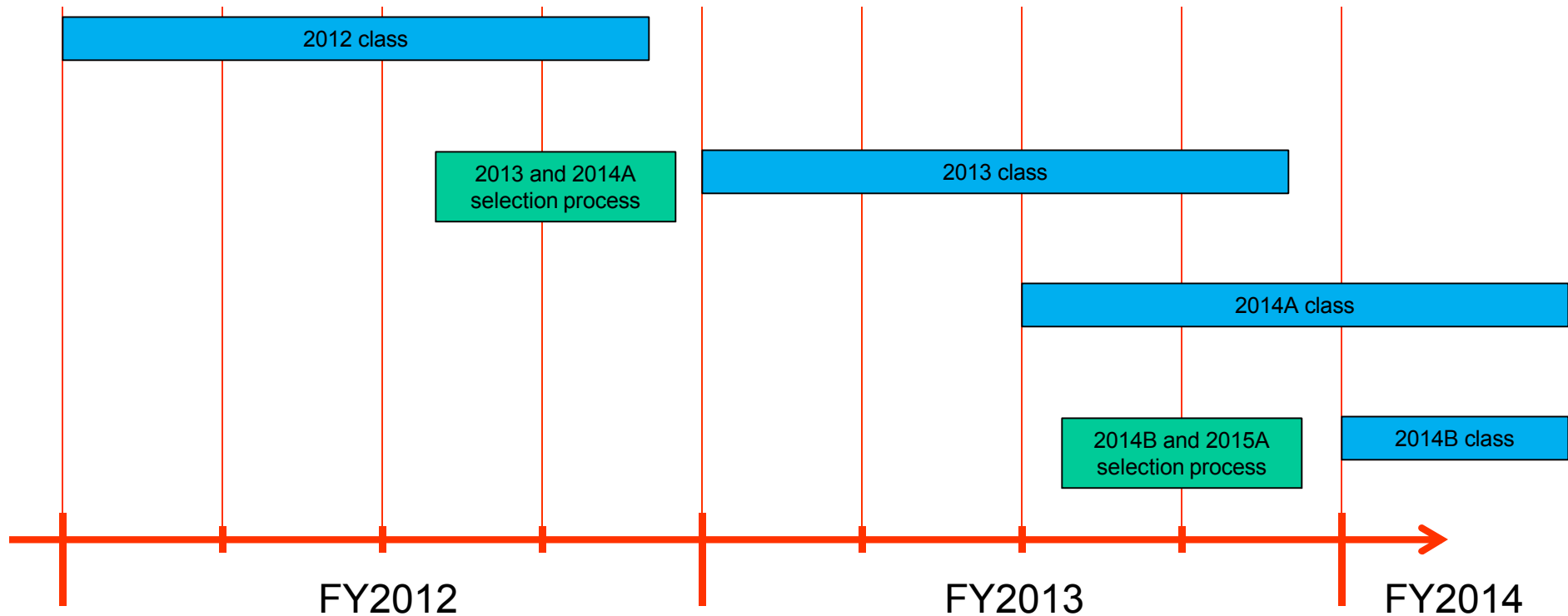
Adams, David (Capt)	Maj, 30 SW/IPM, Vandenberg AFB
Adkins, Lance (Maj)	Lt Col, AFNWC Commander's Action Group (AFNWC/CCX), Kirtland AFB
Brockfeld, Gretchen (Maj)	Lt Col, AFROTC Det 442 Commander, Missouri University of Science and Technology
Brown, Keith (Maj)	Maj, AFGSC ICBM Test (AFGSC/A3IT), Barksdale AFB
Brox, Michael (Maj)	Lt Col, AFNWC/NWIX, Hill AFB
Broyles, Todd (Capt)	Lt Col, AFROTC Det 490 Commander, New Jersey Institute of Technology
Cobb, Tammy (Maj)	Lt Col, ACC Conventional Munitions Branch Chief, ACC/A4WC, Langley AFB
Crocker, Jackson (Capt)	DTRIAC, Kirtland AFB
Ewers, Robert (Maj)	Lt Col, 742nd Missile Squadron Operations Officer (742MS/DO), Minot AFB
Gaude, Brian (Capt)	Lt Col, AFGSC/A4WN, Barksdale AFB
Glissman, Mark (Capt)	NNSA, Sandia Labs
Harris, Glenn (Maj)	Lt Col, 90 Operations Support Squadron Commander (90 OSS/CC), FE Warren AFB
Hillis, Glenn (Maj)	Lt Col, 1st Range Operations Squadron Commander (1 ROPS/CC), Patrick AFB
Holz, David (Maj)	Lt Col, USAFE/A10N, Ramstein AB
Howell, Charles (Capt)	
Jacobs, Scott (Maj)	Lt Col, Air War College Student
Landry, Frank (Maj)	Maj, AF/A10, Pentagon
MacCaffrey, Joseph (Maj)	Lt Col, AFSPC/A5P, Peterson AFB
McGhee, Kenneth (Maj)	Maj, USSTRATCOM/J333, Offutt AFB, NE

Mills, Frank (Maj)	Lt Col, Air Force Inspection Agency (AFIA/IA), Kirtland AFB
Moret, F. Jay (Maj)	Maj, 90th Munitions Squadron Commander (90 MUNS/CC), FE Warren AFB
Mowles, Don (Maj)	Civ, AFNWC/NWIBB, Hill AFB
Northrop, Christopher (Maj)	
Nuibe, Warren (Maj)	Lt Col, AFNWC/NWIE, Hill AFB
Oder, Joseph (Maj)	NNSA/NA122
Opela, Phillip (Capt)	Lt Col, 12th Missile Squadron Operations Officer (12 MS/DO), Malmstrom AFB
Paeth, Brian (Maj)	Lt Col, Physics Instructor (USAFA/DFP), US Air Force Academy
Rand, Dennis (Maj)	Lt Col, AF/A10-A, Pentagon
Samuel, Michael (Maj)	Maj, Joint Chiefs of Staff J3, Pentagon
Sole, Jennifer (Maj)	Maj, 91 Munitions Maintenance Squadron Commander, Minot AFB, ND (effective summer 2012)
Sukla, Antonio (Maj)	Civ, AFGSC/A3IN, Barksdale AFB
Tate, Allen (Maj)	DOE/NNSA/SSO, Kirtland AFB (Bldg 802, rm 1324)
Tembreull, Ray (Maj)	
Templin, Kevin (Maj)	Maj, AF/A8PN, Pentagon
Walters, Demetrius (Maj)	Lt Col, 10th Missile Squadron Commander (10 MS/CC), Malmstrom AFB
Wright, Andrew (Maj)	
Wright, Rasheem (Maj)	Lt Col (s), NNSA/NA10





# Calendar



Sandia  
National  
Laboratories

