

# UNITED STATES MILITARY ACADEMY West Point, New York



## PROJECTS DAY

29 April 2010

Projects Day promotes academic excellence by providing cadets with a public forum in which to present their senior theses or design projects. The Dean encourages all cadets to attend Projects Day events.

### Presentations will be held in the following locations:

<b>WPC</b> = West Point Club, Ballroom	<b>LH</b> = Lincoln Hall
<b>MH</b> = Mahan Hall	<b>TH</b> = Thayer Hall
<b>BH</b> = Bartlett Hall	<b>WH</b> = Washington Hall
<b>H</b> = Jefferson Hall	<b>CH</b> = Cullum Hall
<b>TAY</b> = Taylor Hall	<b>LAW</b> = Building 606
<b>ACPDC</b> = Arvin Cadet Physical Development Center	

### Thanks to the following staff & faculty for Projects Day

LTC James Merlo, BS&L	Dr. Thomas Spudich, C&LS	MAJ Mark DeRocchi, C&ME
LTC Joe Hanus, C&ME	Dr. Brock Barry, C&ME	Dr. Gunnar Tamm, C&ME
Dr. Bill Brechue, DPE	MAJ Alexander Mentis, EE&CS	Dr. Patrick Query, Eng. & Phil.
Col Dave DiMeo, FL	MAJ Dave Roux, G&EnE	Prof. Steve Waddell, History
Prof. Tim Bakken, Law	LTC Darryl Ahner, MATH	Dr. Amanda Beecher, Math
MAJ John DeLong, Phys. & Nuc.	MAJ JC Mikits, SOSH	MAJ Mark Crow, SOSH
MAJ Faith Chamberlain, SOSH	MAJ Will Hemphill, SOSH	MAJ John Hiltz, Sys. Eng.
MAJ Shannon Whiteman, Sys. Eng.	MAJ Ryan Keating USCC	Ms. Michelle Gerdes, AAD



## Welcome to Projects Day 2010!

Projects Day began in 2000 and has grown each year. With fourteen USMA departments and students from three other colleges participating in over 250 presentations, we are excited about this display of intellectual capital at this year's event.

Senior class members present their senior thesis, capstone projects, or research activities in either an individual or collective capacity. Students present to fellow cadets, faculty, clients, and, in some instances, to a group of guest evaluators. Highlights include the capstone design projects, competition projects, poster displays, an English department presentation of Academy Idol, and presentations on various topics relevant to the Army and our social world.

The public is invited to attend any and all of the presentations, which are scheduled from 7:30 am to 4:00 pm in various academic buildings throughout the post, including the Arvin Cadet Physical Development Center, Taylor Hall, West Point Club Ballroom, Mahan Hall, Washington Hall, Thayer Hall, Cullum Hall, Jefferson Hall, Bartlett Hall, Building 606 (Law) and Lincoln Hall.

Although students from the United States Military Academy comprise the largest group of presenters, students from visiting schools have become more pronounced in the event during recent years. Presently, students hail from a variety of schools, including Bard College, Clarkson University, George Mason University, United States Air Force Academy, and the University of Arkansas.

Cadets will be competing for the second annual Scott R. Clark (USMA 1985) Innovation for Soldiers Award. The award is presented to a cadet project that will demonstrate an innovative approach to solving a problem of direct application to the Army.

We welcome all guests who will be attending Projects Day, especially the guest evaluators and judges, students, and faculty from visiting schools. Additionally, we welcome special guests of the Academy and the West Point Association of Graduates. They have all made significant gifts to West Point and the Long Gray Line. We also welcome guests from the Department of the Army Senior Professional Meeting.

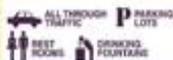
Students' presentations are identified in the program by time of day and affiliated department. A map of West Point and a map of the central area buildings where the presentations will be held is also provided in the program.

We hope you enjoy the day!



### RESTAURANT INFORMATION

- Ike Hall Café – cafeteria style/ seating available
- West Point Club – luncheon buffet/ seating available
- Grant Hall – cafeteria style/ seating available
- Hotel Thayer – buffet luncheon/formal dining room
- Burger King/ Post Exchange – fast food/ seating available
- The Bistro – gourmet coffees/sandwiches/ take-out (K Lot)
- Subway – subs and salads (K Lot)
- Lil' Skeeters - barbecue - in Bowling Alley (bldg 622)



POST EXCHANGE/BURGER KING  
LOT H

ONLY for cars with DoD stickers  
AND at least one person in car must  
have DoD identification.

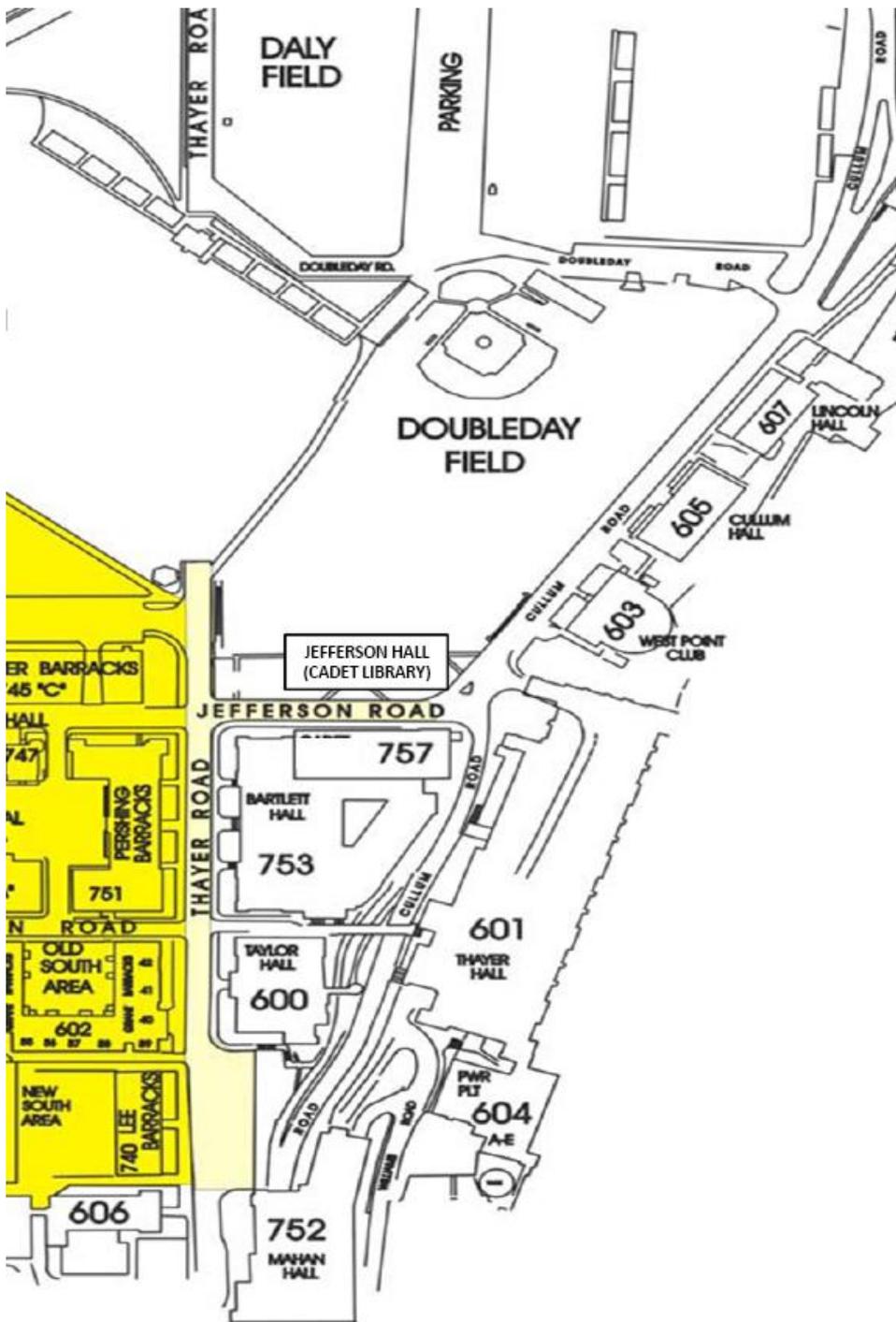
THE BISTRO  
and SUBWAY

IKE HALL CAFE

CLINTON PARKING LOT -  
CADET PICK-UP POINT







<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
7:30 AM - 11:00 PM (Cadets available to explain their work)	Arvin Cadet Physical Dev. Center, Center for Physical Development Excellence	Phys. Ed./Kinesiology	Various Projects on Display	32
8:00 AM	Mahan, 223	Civil Eng.	Bojorquez, et al.	20
8:00 AM	Washington Hall 4303	Foreign Language: Arabic	Bauleke, et al.	25
8:00 AM	Washington Hall 4304	Foreign Language: Chinese	Bernau, et al.	26
8:00 AM	WH6004	Geography and Envir. Eng. (Env. Geo)	Rowe	28
8:00 AM	WH5402	Geography and Envir. Eng. (GIS)	Wiley	29
8:00 AM	606, 4th floor	Law	Choate	29
8:00 AM	Mahan Hall B5	Mechanical Engineering	Batcho, et al.	21
8:00 AM	Mahan Hall E-Level	Mechanical Engineering	Black, et al.	21
8:00 AM	Mahan Hall 205	Mechanical Engineering	Gillett, et al.	21
8:00 AM	WP Club Ballroom	Mechanical Engineering	Lamb	21
8:00-9:30 AM	LHB101B	Social Sciences	Thomas	34
8:00-9:30 AM	LHB202	Social Sciences	Mathews	34
8:00-9:30 AM	LHB101A	Social Sciences	Moran	34
8:00 AM - 12:00 PM (Cadets available to explain their work)	West Point Club Ballroom	EE&CS	Various Projects on Display	23
8:00 AM - 4:30 PM	Lincoln Hall Basement 200 and Art Studio	English and Philosophy	Presentation from various cadets	25
8:30 AM	Mahan, 223	Civil Eng.	Moore, et al.	20
8:30 AM	WH6004	Geography and Envir. Eng. (Env. Geo)	Gaulin	28
8:30 AM	Jefferson Hall 414	Systems Engineering	Basquill, et al.	36
8:30 AM	Jefferson Hall 401	Systems Engineering	Chafacngemasong, et al.	38
8:30 AM	Jefferson Hall 501	Systems Engineering	Fox	38

<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
8:30 AM	Jefferson Hall 121	Systems Engineering	Hopkins, et al.	35
8:30 AM	Jefferson Hall 514	Systems Engineering	Jacob, et al.	37
8:30 AM	Jefferson Hall 145	Systems Engineering	Lauren, et al.	36
8:30 AM	Jefferson Hall 423	Systems Engineering	Pham, et al.	38
8:30 AM	Jefferson Hall 301	Systems Engineering	Small, et al.	35
9:00 AM	Washington Hall 4303	Foreign Language: Arabic	Glenn, et al.	25
9:00 AM	Washington Hall 4304	Foreign Language: Chinese	Cheng, et al.	26
9:00 AM	Washington Hall 4309	Foreign Language: French	Beckett, et al.	26
9:00 AM	Washington Hall: Red Reeder Room (4th Floor)	Foreign Language: German	Considine, et al.	27
9:00 AM	Washington Hall: 4307	Foreign Language: Russian	Engelhardt, et al.	27
9:00 AM	Washington Hall: 4305	Foreign Language: Spanish	Cook, et al.	28
9:00 AM	Washington Hall: 4308	Foreign Language: Spanish	McElroy, et al.	28
9:00 AM	WH6004	Geography and Envir. Eng. (Human)	Norris	28
9:00 AM	Thayer Hall 158	History	Vancura	29
9:00 AM	606, 4th floor	Law	Conley	29
9:00 AM	Mahan Hall 223	Mechanical Engineering	Bazier, et al.	22
9:00 AM	Mahan Hall B5	Mechanical Engineering	Little	22
9:00 AM	Mahan Hall 205	Mechanical Engineering	Sauceda, et al.	22
9:00 AM	Mahan Hall, Arnold Auditorium	Mechanical Engineering	Skinner, et al.	22
9:00 AM	Bartlett Hall 302	Physics and Nuc. Eng.	Krause	33
9:00 - 10:30 AM	Thayer 144	English and Philosophy	Presentations from various cadets	25
9:00 AM - 12:00 PM (Cadets available for discussion)	Cullum Hall	Chemistry And Life Science	Various Projects on Display	19
9:15 AM	Mahan, E-Level	Civil Eng.	Davis, et al.	20
9:15 AM	Jefferson Hall 121	Systems Engineering	Adams, et al.	35
9:15 AM	Jefferson Hall 514	Systems Engineering	Benson, et al.	37
9:15 AM	Jefferson Hall 423	Systems Engineering	Briggs, et al. (USAFA)	39
9:15 AM	Jefferson Hall 301	Systems Engineering	Bunz, et al.	35

<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
9:15 AM	Jefferson Hall 401	Systems Engineering	Kim, et al.	38
9:15 AM	Jefferson Hall 501	Systems Engineering	Kubanuck, et al. (USAFA)	38
9:15 AM	Jefferson Hall 414	Systems Engineering	Lanclos, et al.	36
9:15 AM	Jefferson Hall 145	Systems Engineering	Roberts, et al.	37
9:30 AM	WH6004	Geography and Envir. Eng. (Human)	Corner	28
9:30 AM	Bartlett Hall 302	Physics and Nuc. Eng.	Maurmeier, et al.	33
9:30 - 11:30 AM	WH5326 Foyer	Geography and Envir. Eng.	Environmental Engineering and Science project displays	29
9:45 AM	Mahan, F-Level	Civil Eng.	Cojocar, et al.	21
10:00 AM	Washington Hall 4303	Foreign Language: Arabic	Cherry, et al.	25
10:00 AM	Washington Hall 4304	Foreign Language: Chinese	Cavallo, et al.	26
10:00 AM	Washington Hall 4309	Foreign Language: French	Goodwin, et al.	26
10:00 AM	Washington Hall: Red Reeder Room (4th Floor)	Foreign Language: German	Fretheim, et al.	27
10:00 AM	Washington Hall: 5006	Foreign Language: Portuguese	Chandler, et al.	27
10:00 AM	Washington Hall: 4308	Foreign Language: Spanish	Almy, et al.	28
10:00 AM	WH6004	Geography and Envir. Eng. (Human)	Medellin	28
10:00 AM	Thayer Hall 160	History	Cohn	29
10:00 AM	606, 4th floor	Law	Ehasz	29
10:00 AM	Mahan Hall, Arnold Auditorium	Mechanical Engineering	Betterbed, et al.	22
10:00 AM	Mahan Hall 223	Mechanical Engineering	Digangi, et al.	22
10:00 AM	Mahan Hall 205	Mechanical Engineering	Volle	22
10:00 AM	Bartlett Hall 302	Mechanical Engineering	Wathen	22
10:00 AM	Bartlett Hall 302	Physics and Nuc. Eng.	Wathen	33
10:00 AM	Jefferson Hall 414	Systems Engineering	Adao, et al.	36
10:00 AM	Jefferson Hall 514	Systems Engineering	Bandy, et al. (Clarkson)	37
10:00 AM	Jefferson Hall 401	Systems Engineering	Brege, et al.	38
10:00 AM	Jefferson Hall 301	Systems Engineering	Cummings, et al.	35
10:00 AM	Jefferson Hall 121	Systems Engineering	Pratt, et al.	35

<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
10:00 AM	Jefferson Hall 423	Systems Engineering	Quintana, et al. (USAFA)	39
10:00-11:30 AM	LHB101A	Social Sciences	Bard: Islam	34
10:00-11:30 AM	LHB101B	Social Sciences	Griffiths	34
10:00-11:30 AM	LHB203	Social Sciences	McCraw	34
10:00-11:30 AM	LHB202	Social Sciences	McKinney	34
10:15 AM	Mahan, F-Level	Civil Eng.	Reisweber, et al.	21
10:15 AM	Mahan Hall E-Level	Mechanical Engineering	Boonprasert, et al.	22
10:30 AM	Mahan Hall 205	Mechanical Engineering	Baxter	22
10:30 AM	Bartlett Hall 302	Physics and Nuc. Eng.	Krause, et al.	33
10:30 AM - 1:00 PM	WARCEN Room (2nd Floor - Cullum Hall)	Behavioral Sciences and Leadership	Frechette, et al.	18
10:30 AM - 1:00 PM	Central Guard Room	Behavioral Sciences and Leadership	Kiernan, et al. & Jacobson, et al.	18
10:30 AM - 1:00 PM	Thayer Hall - 2nd Floor	Behavioral Sciences and Leadership	Poster Display of Various Projects	16
10:30 AM - 1:00 PM	Thayer Hall - 2nd Floor	Mathematical Sciences	Poster Display of Various Projects	30
10:45 AM	Jefferson Hall 121	Systems Engineering	Castro-paz, et al.	36
10:45 AM	Jefferson Hall 401	Systems Engineering	Hannah, et al.	38
10:45 AM	Jefferson Hall 423	Systems Engineering	Masiello, et al. (USAFA)	39
11:00 AM	Thayer Hall 272	Behavioral Sciences and Leadership	De Rosa and Amenyro	18
11:00 AM	Mahan, B-5	Civil Eng.	Alexander, et al.	21
11:00 AM	Washington Hall 4303	Foreign Language: Arabic	Jansen, et al.	25
11:00 AM	Washington Hall 4309	Foreign Language: French	Pride, et al.	26
11:00 AM	Washington Hall: 5006	Foreign Language: Portuguese	Beehler, et al.	27
11:00 AM	Washington Hall: 4307	Foreign Language: Russian	Dominiak, et al.	27
11:00 AM	Washington Hall: 4305	Foreign Language: Spanish	Altobelli, et al.	28
11:00 AM	Thayer Hall 160	History	Saul	29
11:00 AM	606, 4th floor	Law	King	30
11:00 AM	WP Club Ballroom	Mechanical Engineering	Abrams	22
11:00 AM	Mahan Hall 223	Mechanical Engineering	Flett, et al.	22

<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
11:00 AM	Mahan Hall, Arnold Auditorium	Mechanical Engineering	Gordon, et al.	22
11:00 AM	Mahan Hall 205	Mechanical Engineering	Lamb	22
11:00 AM	Jefferson Hall 414	Systems Engineering	Bujewski, et al.	36
11:00AM-12:30PM	Arvin Cadet Physical Dev. Center, 3rd Floor DPE Projection Room	Phys. Ed./Kinesiology	Capstone Brief	32
12:00 - 2:30 PM	Thayer Hall - Robinson Auditorium	English and Philosophy	Academy Idol (Finalists)	25
1:00 PM	Mahan, Arnold Aud.	Civil Eng.	Marx,et al.	21
1:00 PM	Washington Hall 4303	Foreign Language: Arabic	Allen, et al.	26
1:00 PM	Washington Hall 4303	Foreign Language: Chinese	Perkins, et al.	26
1:00 PM	Washington Hall: 4307	Foreign Language: Russian	Barnhill, et al.	27
1:00 PM	Washington Hall: 4308	Foreign Language: Spanish	Dean, et al.	28
1:00 PM	Thayer Hall 158	History	Faugstad	29
1:00 PM	Mahan Hall E-Level	Mechanical Engineering	Barcelon, et al.	22
1:00 PM	Mahan Hall 223	Mechanical Engineering	Dean et al.	23
1:00 PM	Mahan Hall 205	Mechanical Engineering	Rauk	23
1:00 PM	Mahan Hall B5	Mechanical Engineering	Walker, et al.	23
1:00 PM	Thayer Award Room-Taylor Hall	Physics and Nuc. Eng.	Poster Display of Various Projects	33
1:00 PM	Jefferson Hall 401	Systems Engineering	Angerami, et al.	38
1:00 PM	Jefferson Hall 414	Systems Engineering	Arevalo, et al.	36
1:00 PM	Jefferson Hall 145	Systems Engineering	Baker, et al.	37
1:00 PM	Jefferson Hall 301	Systems Engineering	Brightman, et al.	35
1:00 PM	Jefferson Hall 121	Systems Engineering	Smith, et al.	36
1:00-2:30 PM	LHB101A	Social Sciences	Bard: China	21
1:00-2:30 PM	LH101B	Social Sciences	Fuhriman	35
1:00-2:30 PM	LHB201	Social Sciences	Haag	36
1:00-2:30 PM	LHB203	Social Sciences	Smith	38
1:00-2:30 PM	LHB202	Social Sciences	Fontichiaro	37

<u>Time</u>	<u>Location</u>	<u>Sponsor</u>	<u>Cadets/Students</u>	<u>Page</u>
1:30 PM	Mahan Hall, Arnold Auditorium	Civil Eng.	Drago, et al.	36
1:45 PM	Jefferson Hall 301	Systems Engineering	Adorno, et al. (USAFA)	21
1:45 PM	Jefferson Hall 121	Systems Engineering	Ancheta, et al.	26
1:45 PM	Jefferson Hall 401	Systems Engineering	Buensuceso, et al.	26
1:45 PM	Jefferson Hall 145	Systems Engineering	Clark, et al.	27
1:45 PM	Jefferson Hall 414	Systems Engineering	Krause	29
2:00 PM	Mahan Hall, Arnold Auditorium	Civil Eng.	Jimenez	30
2:00 PM	Washington Hall 4303	Foreign Language: Arabic	Foster, et al.	23
2:00 PM	Washington Hall 4304	Foreign Language: Chinese	Borden, et al.	23
2:00 PM	Washington Hall: 4307	Foreign Language: Russian	Cote, et al.	23
2:00 PM	Thayer Hall 158	History	Vankopp	23
2:00 PM	606, 4th floor	Law	Koppe	36
2:00 PM	Mahan Hall, Arnold Auditorium	Mechanical Engineering	Fobar, et al.	37
2:00 PM	Mahan Hall B5	Mechanical Engineering	Hilland, et al.	37
2:00 PM	Mahan Hall E-Level	Mechanical Engineering	Humbert, et al.	38
2:00 PM	Mahan Hall 223	Mechanical Engineering	Maddy, et al.	30
2:30 PM	Jefferson Hall 121	Systems Engineering	Ahn, et al.	38
2:30 PM	Jefferson Hall 145	Systems Engineering	Farley, et al.	37
2:30 PM	Jefferson Hall 514	Systems Engineering	Gilmore, et al.	30
2:30 PM	Jefferson Hall 401	Systems Engineering	Moore (USAFA)	34
3:00 PM	606, 4th floor	Law	Salvito	34
3:00-4:30 PM	LHB101B	Behavioral Sciences and Leadership	Callejas	17
3:00-4:30 PM	LHB201	Social Sciences	McLaughlin	35
3:00-4:30 PM	LHB101A	Social Sciences	Schwab (Bard)	35
3:15 PM	Jefferson Hall 401	Systems Engineering	Elmblad, et al.	34
3:15 PM	Jefferson Hall 145	Systems Engineering	Fischer, et al.	34
4:00 PM	606, 4th floor	Law	White	34

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[Projects are listed chronologically in order by time under each department]

## **Behavioral Sciences and Leadership**

**(Poster Session: All projects will be on display from 10:30 am– 1:00pm on the 2nd Floor of Thayer Hall)**

### **Engineering Psychology Program**

**Project Title**  
**Bionic Foot**

**Cadets**  
**Charles Baldinger,**  
**Elizabeth Betterbed,**  
**Robert Bucknam,**  
**Sangwook Han, Bryan**  
**Lagasse, Thomas**  
**Mangan, Justin**  
**Marburger, Kevin**  
**McFerrin, Kirsten Rauk,**  
**William Schuh, Tiffany**  
**Taylor, Tiernan Still,**  
**Zack Wagner**

**Evaluating the Army’s Hearing Protection Program**  
**Strategy for the 21st Century**

**Zach Radwick, Joseph**  
**Shevchik, Leon Onofre**

**Dynavision D2: Enhancing Visuomotor Skills**

**Adam Lary, William**  
**Schuh, Matt Nulk**

**Improving Land Navigation Skills Using GEO-Tracking**  
**Technology and Immersive Visualization of Terrain**

**John Puryear, Justin**  
**Smith, Andrew Gill,**  
**William Archbold, John**  
**Adams**

**Medical Error Analysis: An Evaluation of a Proposed**  
**Improved Prescription Drug Label in the United States**  
**Corps of Cadets**

**Joseph Shevchik**

**The Orientation of Visual Attention with Directional**  
**Tactile Cueing**

**Chris Brown,**  
**Brian Clayton**

**Modeling Transfer of Training and Training Effectiveness**  
**in Simulated Marksmanship Training**

**Jacob Frechette,**  
**Alexander Shoaf,**  
**Brian Chung**

**Visual Perception: Differences between 3-Dimensional**  
**and 2-Dimensional Map Reading and Distance Perception**

**Jarryl Jenkins, Kyle**  
**Tuttle, John Manzano,**  
**John Landsberg**

**Interface Design Recommendations for the Spartan**  
**Unmanned Surface Vehicle (USV)**

**John Pitonyak,**  
**William Myers,**  
**Misa Yarmie**

**Improving the Academy Management System (AMS) by**  
**Providing an Integrative and Informative Visual Display**

**Scott Wright,**  
**Landon Cheben,**  
**Cassandra Ellington,**  
**Jeremy Huggins**

<b>The Utility of Gesture Recognition Software in Battlefield Situations</b>	<b>Chris Brown, Jeff Crosbie, Will Small</b>
<b>Situation Awareness Measures in Game-Based Training</b>	<b>Jon Lanier, Michael Sheehan, Justin Turner</b>
<b>Ecological Interface Design of the NYFD Electronic Command Board (ECB)</b>	<b>David Johnson, Brian Clayton, Brian Chung</b>
<b><u>Sociology Program</u></b>	
<b>Project Title</b>	<b>Cadets</b>
<b>Accessions, Casualties, and Social Class Bias in the Military</b>	<b>Joseph Callejas</b>
<b>(This project will also be presented in Lincoln Hall 101B from 3:00—4:30 pm)</b>	
<b><u>Management Program</u></b>	
<b>Project Title</b>	<b>Cadets</b>
<b>Managing Perceptions in Conflict Resolution Negotiations</b>	<b>Joseph Gallo</b>
<b>Advanced Network Analysis and Targeting</b>	<b>Kelly Eyre, Ben Johnson, Jana Binker, Brian Meese</b>
<b>Chess</b>	<b>Ben Johnson, Kelly Eyre</b>
<b>Ethics</b>	<b>Kelly Eyre, Ben Johnson</b>
<b>Victor Constant Ski Slope</b>	<b>Alex Hayes, Owen Meyer, Christine O'Leary, Eric Sefchik</b>
<b>The Plan for Red Bull: Giving them the "Wings" to take off at West Point</b>	<b>Jev Valles, Joseph Carothers, Blake Fitzgerald, Ashley Wilson</b>
<b>Enlisted Soldiers and West Point: Bridging the Gap to Attract Underrepresented Potential</b>	<b>Matthew Mitchell, Brian McSween, Mikel Weich, Ross Trampler</b>
<b>Relay for Life</b>	<b>Todd Miller, Todria Tornike, Patrick Mealy, Jonathan Bulls</b>
<b>Marketing of Pine Lake: A Diamond in the Rough</b>	<b>Nolan Martin, Robert Wolfe, Sylvia Thomas, Griffin Strader, Andrew Ziebarth</b>
<b>The Cow Club Marketing Plan.</b>	<b>Kirk Van Everen, Kelsey Hassin, Matthew Palange, Charles Smith, William Sack</b>

**Project Red: Marketing for a Cause**

**Paul Erickson,  
Joseph Vandeußen,  
Louis Griffith,  
Garrett Anderson**

**Developing A Marketing Plan to Promote the  
Library Coffee Shop**

**Kenneth Howell,  
Matthew Jenkins,  
Desmond Lamb,  
Tony Moore,  
Matthew Simeone**

**Grant Hall Café: All right for the Corps**

**R. Tyler Hufstetler,  
Sean Joyce, Brian  
Johnson, Richard  
King**

**The Legend of the clean Machine: Improved  
Laundry Service To The Corps**

**Jennifer Dunten,  
Jacob Economy,  
Casey Thome,  
Alexander Knight**

**The following will be displayed at or near the Central Guard Room from  
10:30 am to 1:00 pm:**

**Use of Automated Processes to Employ and Track Trips  
within USMA**

**Laura Kiernan,  
Tyrell Thompson,  
Domeca Henderson,  
David Johnson**

**Application of Tactile Displays to Mounted Maneuvers**

**Jeremiah Jacobson,  
Paul Tennison**

**The following will be located on the 2nd Floor of Cullum Hall (WARCEN  
room) from 10:30 am to 1:00 pm:**

**Modeling Transfer of Training and Training  
Effectiveness in Simulated Marksmanship Training**

**Jacob Frechette,  
Alexander Shoaf,  
Brian Chung**

**Virtusphere: A Collaborative effort between BS&L, EE&CS and DMI to bring  
physiological impact to virtual media**

**Honors Thesis Defense—Psychology—Thayer 272– 10:00 am-12:00 pm**

**Title  
Don't be a Cynic: The Effect of Character Strengths and  
Virtues on Cynicism Levels**

**Cadet  
Alex De Rosa**

**The Impact of Combat Upon the U.S. Army: The  
Probability of PTSD Given Combat Exposure**

**David Ameneyro**

## Chemistry and Life Sciences

(Posters and Projects will be displayed in Cullum Hall. Cadets will be available from 9:00 am to 12:00 pm to discuss and demonstrate them.)

Project Title	Cadets
The biodegradation of sulfonic acids	Robert Atchison
The inactivation of anthrax spores by short-chain fatty acids	Alfred Pisano
Breast Impedance Scanning	Sarah Messier, Elyse Fiore
The Effects of Explosive Residues on Soil Inhabiting Dictyostelid Cellular Slime Molds	Adam Kowalski, Corbin Helis, Michael Dolan
The effects of explosive residues on <i>Danio rerio</i> , the Zebrafish	Alexander Ericksen
Characterization of a Bio-inspired Metal-polymer Matrix Synthesized Through the Bulk Polymerization of Poly (vinyl-imidazole)	Lauren Beckler, Matthew Howard
The study of structural response of RNA aptamers to magnesium ion concentration	Jeremy Smith
Using Hyperspectral Imagery Analysis to Characterize the Adaptive Coloration Ability of the Cuttlefish, <i>Sepia officinalis</i>	Samuel Galima
The Presence of <i>Palmaris longus</i> tendons in the forearm	Barret Halgas, Ilya Ryaboy
Usefulness of chromogenic agar for detection of Environmental methicilin-resistant <i>Staphylococcus aureus</i>	Patrick Walker
Identification of bacterial isolates that inhabit fresh water sponges	Ann Brakefield
Modeling the effects of a high energy laser on a mortar Round	Dana Parker
Electrochemical Detection of Munitions Constituents in Ground Water	Jeffrey Chin

Sensitivity Tests for Mortar Cartridges	Alexander Madden
A Peptide Based Separator for 2,4,6- Trinitro-toluene	Seth Johnson
Microbial Fuel Cells (MFC): Testing the effects of certain mediators on electron transfer using fuel cells, electrochemical, and staining techniques	Caspar Yi, Ethan Heckmann, Patrick Bowers
KCl aggregation for reproducible SERS response for saxitoxin Detection	Brandon Harris
Reproducible sample preparation for explosive samples for analysis via Raman spectroscopy	Archie Overmann
Characterization of automated solid phase microextraction (SPME) With GC-toroidal ion trap mass spectrometry for detection of CWA simulants	Michael Swayze, Mary Ann Thomas
Measuring the speed of sound in liquids using the diffraction and Refraction of laser light	Charles Law
The Continued Characterization and Modifications of a Mid/Longwave IR Emitter	Kyle Johnson
Characterization of Supercritical Fluid Carbon Dioxide for Use in the Production of Breathable Oxygen	Brandon Dotson

## Civil & Mechanical Engineering

### *Civil Engineering*

(Posters will be displayed from 7:30 am-3:00 pm in Mahan Hall, Room 125)

Time/Place	Project Title	Cadets
8:00 am MH 223	Ultra High Performance Concrete Modulus of Elasticity Study	Mainor Bojorquez, Dave Carlson, Alex Vanhout
8:30 am MH 223	Ultra High Performance Concrete Ballistic Penetration Study	Dan Moore, Dustin Pope, Jorge Gonzalez
9:15 am MH E-level	National Timber Bridge Design Competition	Brad Davis, Braden Maughan, Adam Schwartz

9:45 am MH F-level	PCI Big Beam Competition	Razvan Cojocaru, Mark Garrison, Ross Hartmann
10:15 am MH E-level	Statue of Liberty Evacuation System	Nicholas Reisweber, Diana Worth
11:00 am MH B-5	Highland Falls Water Expansion Feasibility Study	R. Joshua Alexander, Soo Ho Park
1:00 pm MH Arnold Auditorium	American Society of Civil Engineers – Steel Bridge	Toby Marx, Tom Malejko, Markus Makowski, Kyle Miner, Stephen Marthy, Cameron Rohrer
1:30 pm MH Arnold Auditorium	American Society of Civil Engineers – Concrete Canoe	Alfred Drago, William Caffery, Gregory Lombardo, Erica Triebenbach, Kathryn Rivera Issa Moussa, James Henshaw, Matthew Scrivner
2:00 pm MH Arnold Auditorium	Wind Challenge	Edwin Jimenez

### ***Mechanical Engineering***

**(Posters will be displayed from 8:00am-3:00pm in Mahan Hall 325)**

Time/Place	Project Title	Cadets
8:00 am MH E-Level	Kiowa Warrior Maintenance Test Stand	Brett Black, Timothy Olson, Jessica Stephenson
8:00 am WPC Ballroom	X-Bot	Eric Lamb
8:00 am MH 205	ME489 USMA Energy Security	Matthew Gillett, Gregory Griffith, Lewis Hudson
8:00 am MH B5	Soldier Fitness Pod	Zachary Batcho

9:00 am MH Arnold Auditorium	Junk to Juice—Vertical Axis Wind Turbine	Brandon Skinner, Forrest Wallace, Benjamin Wise, John Zornick
9:00 am MH B5	PEO Soldier Flash Flame Protection	Benjamin Little
9:00 am MH 205	EM Rail Gun Launcher	Andrew Saucedo, Timothy Woodard
9:00 am MH 223	Design, Build, Fly	Gerren Bazier, Matthew Gillett, Lewis Hudson, Katrina Kamel, Jared Lewis, Dan Riggs
10:00 am MH Arnold	Bionic Foot	Elizabeth Betterbed, Bucknam, Thomas Mangan, Kristen Rauk
10:00 am BH 302	ME489 Laser Defense Against Incoming Mortar	Stephen Wathen
10:00 am MH 205	ME489 Military Shelter Design	Kyle Volle
10:00 am MH 223	Black Dart VII (Team 1)	Steven Digangi, Andrew Laughna, Jeffrey Mainwaring, Gabrielle Quatse, Robert Wolf
10:15 am MH E-Level	Statue of Liberty Evacuation System	Thanat Boonprasert, Gregory Griffith, Alexander Mumford, Spurgeon Petty, Rick Storm, David Watts
10:30 am MH 205	ME489 Wing Design	Robert Baxter
11:00 am MH Arnold Auditorium	Junk to Juice—Horizontal Axis Wind Turbine	John Gordon, Daniel Moulton, Gibson Sale, Stephen Wathen
11:00 am WPC Ballroom	Black Knight I Satellite	Zachary Abrams
11:00 am MH 205	ME489 Microprocessor Control	Eric Lamb
11:00 am MH 223	Black Dart VII (Team 2)	Kevin Flett, Phillip Rangitsch, Daniel Walker, Erik Wilburn, Jonathan Wrieden
1:00 pm MH E-Level	FAA Wind Turbine	Lawrence Barcelon, William Kirschenman, Arthur Murphy, Alex Reiter

1:00 pm MH 205	ME489 Advanced Biomedical Material	Kristen Rauk
1:00 pm MH B5	ME489 Unmanned Ground Vehicles	Daniel Walker, Timothy Woodard
1:00 pm MH 223	Service Academy Design Challenge	Zachariah Dean, Jordan Farrar, Andrew Mellon, Benjamin Ritzema, Omar Shaikh
2:00 pm MH E-Level	SDC Weapon Mount	Nathan Humbert, Steven Lafave, Bradley Mirkovich, Jordan Morris
2:00 pm MH B5	Biomechanical Energy Harvester	Donald Hilland, Aleksandrs Naumovs, Daniel Sequeira, Steven Sollee
2:00 pm MH 223	Human Body Thermoregulation	Craig Maddy, Thomas Roberts, Mark Wilson
2:00 pm MH Arnold Auditorium	Mini-Baja	David Fobar, Tyler Hess, Geoffrey Hewitt, Jacob Maciorkoski, Jonathan Miller, Matthew Powell, Joel Rickenbach, Alexander Shelby, Lucas Wilcox, Jeremy Wisniewski

## Electrical Engineering & Computer Science

(All Projects will be displayed in the West Point Club Ballroom from 8:00am-12:00pm—Cadets will be on hand to explain their work)

Project Title ANGiE (Gaming Environment)	Cadets Alan Lewis, Daniel Ruiz, Justin Sappington, David Scheys
BalloonSat	Thomas Dean
Bionic Foot	Charles Baldinger, Elizabeth Betterbed, Robert Bucknam, Sangwook Han, Bryan Lagasse, Thomas Mangan, Justin Marburger, Kevin McFerrin, Kirsten Rauk, William Schuh, Tiffany Taylor, Tiernan Still, Zack Wagner
Black Knight Satellite	Zachary Abrams, Garrett Fridline, David Niblick, Nicholas Terech, Matthew Wilson

<b>Brigade Personnel Management and Training Database</b>	<b>Jesse Castillo, Nathan Lynch</b>
<b>CheapBot II</b>	<b>Jeremie Regnier</b>
<b>CLDS ePortfolio</b>	<b>Mark Armstrong, William Huang</b>
<b>Commandant's WFC Web</b>	<b>Joseph Brown, Joseph Grimm</b>
<b>Demon Eye (Target Location Module)</b>	<b>John Eischer, George Hopkins, Derek Wales</b>
<b>Encryption Profiler</b>	<b>Morgan Minton, Michael Steele, Samuel Thode, Thomas Zastoupil</b>
<b>FTASB (hyper-optimized code)</b>	<b>James Erkes, Reyn Mossman, Kristopher Webber</b>
<b>honeyM</b>	<b>David Brasefield, Nathan Grunzweig, Joseph Spracklen</b>
<b>Information Dissemination Over Low-Bandwidth Links</b>	<b>Thomas Dean</b>
<b>Integrating Robots into Networks</b>	<b>Thomas Barton, Ali Ihusaan</b>
<b>Intelligent Load Management System</b>	<b>Rowland Kaliisa, Daniel Rupprecht, Simratpal Singh</b>
<b>iPhone App Development</b>	<b>Adam Royal, Chinnawoot Thongpila</b>
<b>Leapfrog</b>	<b>Monte Hoover, Joseph Schafer</b>
<b>Sentinel Bot</b>	<b>Deonte Dawson, John Kimtis, Joshua Miles, Jonathan Neidig, Jeremie Regnier, Harry Stine</b>
<b>Soldier Tactical Aerial Reconnaissance System</b>	<b>Mike Weigand</b>
<b>Team Knight Rider Bots</b>	<b>Daniel McGee, Alois Renggli, Hunter Williams</b>
<b>X-Bot</b>	<b>Patrick Hickey, Eric Lamb, Richard Norris, Lance Penhale, Kyle Sullivan</b>

## English and Philosophy

**Project Title:** *Voices of Double Consciousness: American Literature*

**Installations**—Lincoln Hall Basement 200 and Art Studio 8:00 am—4:30 pm

**Cadets:** Loc Bao, James Beebe, Jymette Meyer, Joy Turner, Trent Weekes, Tony Hatcher, Hannah Rosenthal, Spencer Gray, Cody Newsome, Karyn Powell, Paul Duda, Patrick Northam, Christopher Post, Peter Rome  
**Instructor:** Dr. Tony McGowan

**Project title:** *Indie Film Festival on the Hudson: Cadet Short Films*

Thayer 144 9:00—10:30 am

**Cadets:** Bao, L., Beebe, J., Bishop, A., Bradshaw, A., Browne, C., Castelli, T., Cook, C., Coon, M., Decastro, J., Elliot, G. , Gray, S. , Harris, J., Hatcher, A., Henao-escobar, S. , Jurgensen, R., Lynch, J., Meloro, D., Meyer, J. Newsome, C., Oestmann, T. , Park, P., Powell, K., Rome, P., Rowell, A., Sherstad, C., Shively, T., Turner, J.

**Project Title:** *Academy Idol Finals: Speeches from Shakespeare*

Thayer Hall/Robinson Auditorium 12:00—2:30 pm

**Cadets:** Thomas Mack, Waverly Washington, Tim Chen, Michael Thury, Jeff Kim

## Foreign Languages

### Arabic (Located in WH4303):

Time	Project Title	Cadets
8:00 am	Globalization of Terror: Exporting the al-Qa'eda Brand Name	Peter Bauleke, Michael Mason, Michael Mellman, Alexander Pappas
9:00 am	Further from Peace: The Stagnation of the Israeli-Palestinian Peace Initiative	Nicholas Glenn, Ryan Herring, Alexander Jansen, Nadi Kassim
10:00 am	Which Way Forward?: Paths to Democratization in Iraq	Matthew Cherry, William Groves, Alex Koss, Nolan Love
11:00 am	Palestinian Human Rights: the Impact of Media and International Relations	Alexander Jansen, Charles Reed, Rebekah Sheppard

1:00 pm	Preventing a Failed State: Achieving Stability in Yemen	Travis Allen, Andrew Dill, Kristopher Kilgroe, Ryan Nye
2:00 pm	Egyptian Society and Government : Meeting the Challenges of the 21 <sup>st</sup> Century	Riley Foster, Nargis Kabiri, Brennan Roorda, Zach Willey

**Chinese (Located in WH 4304):**

Time	Project Title	Cadets
8:00 am	Why China Will Never Be Number One	Eric Bernau, Miriam Bottrell, William Chaskes, Robert Dougherty, Eugene Park
9:00 am	Modern Terrorism in China	Joseph Cheng, Josh Knight, Josh Mauldin, Duncan Moore
10:00 pm	“Greening” China	Mark Cavallo, Nathan Taylor, Blaine Williams, Michael Zhou
1:00 pm	People’s Republic of China’s Effects on South-East Asia	Thomas Perkins, Jacqlyn Tsao, Benjamin Westman, Christopher Villerot
2:00 pm	China’s Political, Military, and Economic Relationships and Interests in the Middle East	Stefan Borden, Jack May, Ginger Recinos

**French (Located in WH4309):**

Time	Project Title	Cadets
9:00 am	AFRICOM – Envoy to Peace	Samuel Beckett, Wesleigh Cochrane, Mary Erdman, Paige Ford
10:00 am	AFRICOM’s Challenge	John Goodwin, Daniel Hall, Marc Hodel, Connor O’Brien
11:00am	AFRICOM: “Combatant” Command, not like the others	John Pride, Charles Ridge, Andrew Shields, Brandon Wright

**German (Located in Red Reeder Room, 4<sup>th</sup> Floor Washington Hall):**

<b>Time</b>	<b>Project Title</b>	<b>Cadets</b>
9:00 am	Comparison of U.S. and German Exit Strategies for Afghanistan	Daniel Considine, Lant Fogarty, Ben Hicks
10:00 am	Comparison of U.S. and German Environmental Policies	Emil Fretheim, David Modlin, Patrick Ryan, Joshua Summer

**Portuguese (Located in WH5006 ):**

<b>Time</b>	<b>Project Title</b>	<b>Cadets</b>
10:00 am	Combating AIDS in Brazil and Portuguese Speaking Africa	Matt Chandler, Josh Cook, Cory Hanson, Tyler Magerkurth, Kyle Mayfield, Drew Mayville, Juan Trevino
11:00 am	Improving Women's Rights and Ending Human Trafficking in Brazil, Portugal and Africa	Kristin Beehler, Andrew Branch, Diana Bunjovac, Alexandra Scott, Alexandra Stamatiou, Taneshina Wright

**Russian (Located in WH4307):**

<b>Time</b>	<b>Project Title</b>	<b>Cadets</b>
9:00 am	Soviet and Russian Influence on Modern-day Afghanistan	Joanna Engelhardt, Mike Larocque, Will Lopez, Jessica Muckelroy
11:00 am	The Russia Effect: Russian Influence in Present Day Ukraine	Artur Dominiak, Elizabeth Leire, Sarah Levy, Casey Nugent, Clinton Roberts
1:00 pm	Russian Attitudes toward Limiting Proliferation of Light Weapons	Joseph Barnhill, Matthew Jardnak, Jocelyn Lewis, John Traver, Henryk Zaleski
2:00 pm	The Impact of Existing and Future Russian Oil Pipelines on Relations with the US and its Allies	Joshua Cote, James Flanagan, Dean Garretson, Robert Mandel, Joshua Pernelli

### Spanish (Located in WH 4305):

Time	Project Title	Cadets
9:00 am	Terrorism in the Tri-Border Region Of South America	Jonathan Cook, Christen Holcombe, Sean Park, Tara Somersal
11:00 am	Cross-Border Concerns and US-Mexican Relations	Megan Altobelli, Luis Arauz, Stewart Haka

### Spanish (Located in WH4308):

Time	Project Title	Cadets
9:00 am	How the US Can Help Stabilize Colombia	Andrew McElroy, Andres Pazmin, Nicole Mayoras, Keith Mullinger
10:00 am	Blood and Dreams in the Desert: US-Mexico Border Issues	Debra Almy, Jeffrey Nielsen, Stephen Skinner, Jonathan King
1:00 pm	The Role of US Foreign Policy in the Stabilization of the Andean Region of South America	Dave Dean, Annie Odom, Daniel Parten, Marissa Readinger

## Geography & Environmental Engineering

The following are presented in Washington Hall 6004:

Time Prog.-Major	Project Title	Cadets
8:00 am Env Geo	Relief Centers of Cape Cod, Massachusetts	Ken Rowe
8:30 am Env Geo	Climate Change and Environmental Security in Pakistan	Christopher Lee Gaulin
9:00 am Human Geo	Congolese Cobalt and the Struggle for its Control	Adam Norris
9:30 am Human Geo	Jewish Americans and Israeli Defense Forces Service: Motivations and Identities	Thomas Louis Corner
10:00 am Human Geo	Migration and West Point: An Ethnographic Study of Immigrants	Marco A. Medellin, Jr.

The following projects will be displayed from 9:30 am—11:30 am in the foyer outside of Washington Hall 5326:

Prog.-Major	Project Title	Cadets
Env Eng	Mitigation of Lead Particulate Contamination in the Tronsrue Marksmanship Center at the US Military Academy	Richard Niedbala Andrew Ng
Env Eng	Ineffective Drinking Water Disinfection in Developing Countries	Tim Jeffcoach
Env Sci	A Water Budget Developed to Optimize Irrigation of the Cadet Plain at West Point, New York	Andrew Zapcic

The following is presented in Washington Hall 5402:

8:00 am GIS	GIS Network Analysis for Homeland Security	Josh Wiley
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## History (Thayer Hall):

Time/Location	Project Title	Cadets
9:00 am TH158	With Their Assistance: A Study of French Resistance in World War II	Edward Van Cura
10:00 am TH160	David's Warriors: Religion, Myth, and Culture In the Development of the Israel Defense Forces, 1948-1973	Bradley Cohn
11:00 am TH160	No Pain, No Gain: An Evaluation of the 1973 Arab-Israel War	Alexander Saul
1:00 pm TH158	The Symposium on the History of Irregular Warfare Conference Experience	Jesse Faugstad
2:00 pm TH158	The English East India Company in Bombay and Surat: A Commercial Comparison	Samuel Van Kopp

## Law

(All presentations held in the Law Library—4th Floor, Building 606)

Time	Project Title	Cadets
8:00 am	All Men Were Created Equal? The Inequity Created by Criminalizing Hate	Amanda Choate
9:00 am	Private Security Companies and United Nations Peacekeeping Missions: A feasible Option	Aaron Conley
10:00 am	The Domestic War Crime Trial: An Impossible Path to Justice	Ashley Ehasz

11:00 am	<b>Filling the Cultural Gap: The US, Iran and the Torture Taboo</b>	<b>Luke King</b>
2:00 pm	<b>Invoking the First Amendment: A Legal Analysis of West Point's Religious Practices</b>	<b>Kevin Koppe</b>
3:00 pm	<b>A Permanent Terror Tribunal: The Solution to the Question of International Justice for Terrorism</b>	<b>Benjamin Salvito</b>
4:00 pm	<b>Self-Defense and the Use of Force against Non-State Actors in International Law</b>	<b>James White</b>

## Mathematical Sciences

**(Poster Session: All projects will be on display from 10:30 am- 1:00pm on the 2nd Floor of Thayer Hall)**

Project Title	Cadets
Stochastic Modeling of Heat Diffusion in a 120 mm Cannon	Mark Adams
Preventing and Deterring Piracy in the Gulf of Aden	Stephen Brightman, Sorin Portase
The Application of Game Theory to Determine the Effects of Troop Allocation and Humanitarian Assistance in Counter Insurgency	James Buensuceso
Developing Educational Materials for Space Camps	Bryan Connolly
Terrorism and Economics: A Study in Trade and its Effects on International Terrorism	Iain Cruickshank
Predicting the Perfect Matchup: The Use of Collaborative Filtering in Baseball	Daniel Elmlblad, Tyler Seymour
The Process and Consequences of Defining Implication in Symbolic Logic	Lucas Enloe
Matrix Derivatives and Trace Diagrams	Paul Falcone
Infinite Bootstrapping of Reliability Block Diagrams with Empirical Component Lifetimes	James Fritz
Randomness Properties Found in DeBruijn Sequences	Elliot Gardner
Improving New Methods for Using Dynamic Medical Imaging Data to Measure Blood Flow to Tumors	Catherine Gibbs
Weapons Target Assignment Using Dynamic Programming	Chris Griggs
Classification of Classic Differential Equations with the Extended Operator Method	Nate Horswill

<b>Exploration of Diffusion and Infection Models: Sensitivity to Topology and Initial Conditions</b>	<b>Steven Kinney</b>
<b>PTSD Statistical Analysis</b>	<b>Jeremy May</b>
<b>Expanding STEM: Expanding HUNCH</b>	<b>Jonathan McCann</b>
<b>Exponential Smoothing Models Applied to IED Attack Trend Analysis</b>	<b>Natalia Mendoza</b>
<b>Finding the shape of the Earth</b>	<b>Robert Perez-Aleman</b>
<b>An Insight into Joint Publications at West Point</b>	<b>Kendall Poling</b>
<b>The Second Battle of Fallujah: Using an Entropy Measure for Sensor Allocation on the Battlefield</b>	<b>Stephen Prasnicky</b>
<b>Estimation of the Effect of Correlation Pricing on Geometric Brownian Motion</b>	<b>Alex Spiegel</b>
<b>Optimization of Logistical Operations in the Atlantic</b>	<b>Jonathan Stafford</b>
<b>Generalized Form of the Airy's Equation with Solutions</b>	<b>Richard Starks</b>
<b>Out in Left Field: Statistical Analysis of the Greatest Baseball Players to Play Left Field Using the Concepts from Sabermetrics</b>	<b>Jennae Tomlinson</b>
<b>Ballistic Missile Survivability in the Terminal Phase</b>	<b>Stuart White</b>
<b>In Vitro, RNA Degradation in Post Mortem Blood</b>	<b>Savannah Willson</b>
<b>Optimization of Defenses in the Madden Football Video Game Series</b>	<b>Dexter Wise</b>
<b>Exploring a Mathematical Model of Counterinsurgency</b>	<b>Devon Zillmer</b>

# Physical Education

Arvin Cadet Physical Development Center, DPE 3<sup>rd</sup> Floor Projection Room

Time	Project
11:00 am to 12:30 pm	“A Proposed Physical Development Program for the Army” Kinesiology Class of 2010 Capstone Project Brief

Arvin Cadet Physical Development Center, Center for Physical Development Excellence (Located in the Basement)

All projects will be displayed from 7:30 am until 3:00 pm. Cadets will be present from 7:30 am until 11:00 am to explain/demonstrate their projects.

Title	Cadets
Upper-body work capacity and neuromuscular fatigue	Justin Marburger
Energy expenditure, physical activity, and body composition of USMA cadets	Artem Boyev , Michelle Kane
Ground reaction force variability during load carriage	Alexander Purdy
Evolution of the Army Physical Fitness Program	Margaret Bolen , Zack Wagner
Army Fitness Education-Certification Program; KN 480 Capstone Project	Matthew Brown, Erin McClain, Michael McGee
Army Physical Fitness and Outreach to the Nation; KN 480 Capstone Project	Jason Borchik, Christopher Grill, Jennifer Nixon
Assessment of Physical Competency; KN 480 Capstone Project	Jordan Allison, Benjamin Bellet
Army Physical Development Planning and Programming: KN 480 Capstone Project	Bryan Kantner, Justin Marburger, Tiernan Still
Army Physical Training Website: KN 480 Capstone Project	Alan Fischer
Exercise Compliance and Stress Management Modules: KN 480 Capstone Project	Krysta Cass, Nicole Talarczyk
AIAD: South Africa High Performance Physiology Project	Justin Marburger
AIAD: Directorate of Basic Combat Training Fort Jackson, SC	Jordan Allison

## Physics and Nuclear Engineering

The following are all presented in Bartlett Hall 302

Time	Project Title	Cadets
9:00 am	Systems Analysis of Joint High Powered Solid State Laser	Matthew Krause
9:30 am	High Energy Laser as an Army Defense against Rockets, Artillery, and/or Mortars (RAM)	Joshua Maurmeier, Lisa Taylor
10:00 am	Finite Element Thermal Model for a Mortar Targeted by a High Energy Laser	Stephen Wathen
10:30 am	Federated Simulation Modeling	Matthew Krause, Joshua Maurmeier, Lisa Taylor, Stephen Wathen

### Poster Session (Located in Thayer Award Room– Taylor Hall 1:00 –3:00 pm):

Project Title	Cadets
Monte Carlo Validation of a CZT Detector for Maritime Boarded Search Operations	Chris Anderson, Sean Fitzgerald, Steve Tennison
Target Discrimination with Laser Interrogation	Dhruvkumar Desai
Photo-dissociation of Supercritical Fluid Carbon Dioxide for Potential Use in the Production of Breathable Oxygen	Brandon Dotson
Calculation of Building Protection Factors	Josh Herrera, David Matoi
Positron Emission Tomography Modeling with I-124	Matt Kitchell, Joe Vanderlip
Effect of Polarization on Light Transmission Through Media	Andrew Knisely, Samuel Stedman
Systems Analysis of Joint High Powered Solid State Laser	Matthew Krause
Federated Simulation Modeling	Matthew Krause, Joshua Maurmeier, Lisa Taylor, Stephen Wathen
Improving the Capability of the Integrated Weapons of Mass Destruction Toolkit (IWMDT)	David Lee, Alexander Vichinsky

High Energy Laser as an Army Defense against Rockets,  
Artillery, and/or Mortars (RAM)

Joshua Maurmeier  
Lisa Taylor

Finite Element Thermal Model for a Mortar Targeted  
by a High Energy Laser

Stephen Wathen

## Social Sciences

### American Politics

Time	Thesis Title	Cadets
8:00-9:30 am LHB202	American Idol or American Idle: Assessing Candidate Quality and Its Influence on Congressional Elections	Tyler Mathews

### Comparative Politics and International Relations

Time	Thesis Title	Cadets/Students
8:00-9:30 am LHB101A	Hezbollah's Unique Identity: A Political Party and Paramilitary Organization	Chad Moran
8:00-9:30 am LHB101B	Preventing the Clash: Integration Strategies in Europe	Richard Thomas
10:00-11:30 am LHB101 A	Bard College- Panel Discussion: Different Faces of Islam in World Politics	Chamberlain and McLean
10:00-11:30 pm LHB101 B	Muslim Diaspora Communities and the London Nuclear Terrorism Threat	Stephen Griffiths
10:00-11:30 am LHB 202	Evaluating Afghanistan's electoral system through comparative analysis	James McKinney
10:00-11:30 pm LHB203	Great Powers: When to War for Influence	Chance McCraw
1:00-2:30 pm LHB101 A	Bard College- Panel Discussion: The Chinese Challenge: Internal and External Factors	Schwartz and Severson
1:00-2:30 pm LHB101 B	The Other Golden Triangle	Nickolaus Fuhrman
1:00-2:30 pm LHB201	Hezbollah Goes Political: Analyzing the Radical Transformation of Hezbollah from 1985 to the Present	Jacob Haag
1:00-2:30 pm LHB202	Strategic Dissociation: Dividing the Al Qaeda Network in Afghanistan and Pakistan	Michael Fontichiaro
1:00-2:30 pm LHB203	The Raptor and the Aggie: An Analysis of the F-22 Within the Military-Industrial-Congressional Complex	Porter Smith

3:00-4:30 am LHB101 A	Bard College- The Peaceful Warrior: The Changing Role of the Military and the Evolving Norm of Humanitarian Intervention	Danielle Schwab
3:00-4:30 pm LHB201	Picking up the Pieces: A Tribal Approach to Political Stability in Afghanistan	Jim McLaughlin

## Systems Engineering

### Decision Analysis (Jefferson Hall 301)

Time	Project Title	Cadets/Students
8:30 am	Communications On The Move— Assessing the IA Architecture	William Small, Matthew VanHorn, Christopher Albornoz, Zachary Fenn
9:15 am	WholeOfficer Performance	Jonathan Bunz, Cole Morrison, Jaewoo Park, Terrance Shields
10:00 am	WholeOfficer Performance	Steve Cummings, Ryan Lemoine, Riley Merrigan, Rob Swan
1:00 pm	Moving the West Point Prep School to West Point	Steve Brightman, Chris Griggs, Zach March, Matthew Rohe, Ali Villanueva
1:45 pm	Colorado Springs Police Department (CSPD): Equalization of Workload through Reallocation of Divisional Boundaries	Will Adorno, Arthur Grijalva, Cary Reeves, Zech Roloff (USFA)

### Modeling and Simulation for Military Applications (Jefferson Hall 121—CTE Classroom)

Time	Project Title	Cadets/Students
8:30 am	Analysis of Conventional Prompt Global Strike Alternatives	Ryan Hopkins, Nicole Raymond, Stuart White
9:15 am	Terrain Based Decision Aids for the Dismounted Soldier	John Adams, Sean Eskew, Rick Miller, Rob Perry, Brendan Wright
10:00 am	Swarming Unmanned Aircraft Systems for Small Unit Operations	Michael Pratt, Jennae Tomlinson, Colin Skowronski, Thomas Harris

10:45 am	Swarming UAS II	Allan Castro-paz, Jeremy May, Charles Smith, William Smith, Michael Watson
1:00 pm	Use Battlespace Terrain Reasoning and Awareness (BTRA) system	Justin Smith, Matt Jenkins, Ryan Griffin, Tyler Seymour
1:45 pm	Use Battlespace Terrain Reasoning and Awareness (BTRA) system	CJ Ancheta, Bryan Connolly, Jon McCann, David Sprague
2:30 pm	A Multi-Factor Approach to Identifying BOG/Dwell Intervals	Poga Ahn, Arthur Middlebrooks, Sam Harrison, James Wasson, Brian Maddox

### Modeling and Simulation (Jefferson Hall 414)

Time	Project Title	Cadets/Students
8:30 am	Information Overload	Christopher Basquill, Timothy Flynn, Andrew Gill, Brandon Potts, Christopher Steward-Blakely
9:15 am	Job Choice and Attrition: U.S. Army Officer Service Modeling	Jacen Lanclos, Joseph Langella, Evan Seale, Chris Simpkins, Bryant Watrous
10:00 am	ULTRAVis	Lindsey Adao, William Archbold, Scott Moeller, Jacob Smith
11:00 am	Veterans Benefits Administration Compensation Claims Processing	Kurt Bujewski, Matt McClary, Joe Vandusen, Ray Vetter
1:00 pm	XM25: Basis of Issue Study	Walter Arevalo, Michael Kim, Peter Lee, Patrick Saxby, Ebony Thomas
1:45 pm	Joint High-Powered Solid State Laser in the FOB Defense Role	Matt Krause

### Problem Solving in Systems Engineering (Jefferson Hall 145—CEP Classroom)

Time	Project Title	Cadets/Students
8:30 am	SM: Analysis Toward a New USMA Accountability System	Chris Lauren, Nicholas Sabellico, William Sack, Daniel Webb

9:15 am	<b>SM: Improving Mologne Cadet Health Clinic Operations</b>	<b>Mike Roberts, Thomas Moentmann, James Lucivero, Andrew Johnson, Steven Gilbert</b>
1:00 pm	<b>Facilitating Information Access</b>	<b>Susan Baker, Tristan Cavanaugh, Ian Smith</b>
1:45 pm	<b>Exploring civilian faculty Management systems for USMA</b>	<b>Christopher Clark, Matthew Coulthard, Donnubari Gbaanador, Brian McSween, Alan Sheehan</b>
2:30 pm	<b>Branching Process at USMA (A)</b>	<b>Maci Farley, Jason Johnson, Bradley Marren, Tony Moore, Christopher Walker</b>
3:15 pm	<b>Branching Process at USMA (B)</b>	<b>Grant Fischer, Samuel Herbert, Damion Hunter, Cleveland Richard, Evan Ritchie</b>

**Process Modeling and Analysis (Jefferson Hall 514)**

<b>Time</b>	<b>Project Title</b>	<b>Cadets/Students</b>
8:30 am	<b>Simulating Malevolent Behavioral Intent on College Campuses</b>	<b>Max Jacob, Kristofer Kalbfleisch, Kyle Stancombe, Matthew Talley</b>
9:15 am	<b>Identifying Movement Patterns using Satellite Observations</b>	<b>Jordan Benson, Lesa Boyd, Alex Farinelli, Brittany Fearnside, Chris Molaro</b>
10:00 am	<b>Process Design for Ceramic Tile Cleaning and Coding</b>	<b>Alyssa Bandy, Patrick Chevier, Colin Getig, Christine Knapp, Kirsten Lacksonen, Robert Pritchard (Clarkson University)</b>
2:30 pm	<b>Operational Readiness Rates vs. Sustainment Resources</b>	<b>John Gilmore, Matthew Palange, Robert Sherry, Ken Huebsch, Eugene Lee</b>

## Project Management (Jefferson Hall 501)

Time	Project Title	Cadets/Students
8:30 am	The Mini Baja Competition—A Project Management Case Study	Zachary Fox
9:15 am	Human Cooling Team	Chas Kabanuck, Tyler McBride, Ivando Arroyo, Nick Batey, Jacque Harrier (USAF A)

## Re-engineering Systems (Jefferson Hall 401)

Time	Project Title	Cadets/Students
8:30 am	Transforming Projectile System	N. Chafacngemasong, K. Howell, J. Sexton, C. Williams
9:15 am	MEB/PEB USAR & ARNG Pre-Processing at Keller ACH	Ryan Kim, Jeffrey Lee, Erick Olsen, Sorin Portase
10:00 am	USMA SGS Tasker System	Jonathan Brege, Caitlyn Gallagher, Kelsey Hassin, David Jacobson
10:45 am	Stadium Evacuation System	Keith Hannah, John Landsberg, Bryan Tauzer, Michelle Cuellar, Benjamin White
1:00 pm	Designing a Vertical-Axis Wind Turbine	Adam Angerami, Paul Dwyer, Katharine Wurzbach, Andrew Maisano, Matthew Paulos
1:45 pm	Integrating ground-based sensors and avoid capability into UAS operator controls	James Buensuceso, Phil, Draper, Steve Galbreath, Bob O'Neill
2:30 pm	Small Wind Turbine to Supplement Deployed Vehicle Energy Requirements	Carrie Moore (USAF A)
3:15 pm	Army Enlisted Personnel Friction	D. Elmblad, D. Lisante, E. McCann, S. Prasnicki

## Statistical Analysis and Stochastic Processes (Jefferson Hall 423)

<b>Time</b>	<b>Project Title</b>	<b>Cadets/Students</b>
8:30 am	Designing an Ideal MEPS	Preston Pham, Peter Chung, June Yi,
Chad		Thayer
9:15 am	Drug Enforcement Administration (DEA): Prescription Drug Diversion Investigation—Monitoring Capabilities, Limitations and Possible Improvements	Lindsey Briggs, Jane Evans, Gil Valdes, (USFA)
10:00 am	Drug Enforcement Administration (DEA): Aerial Reconnaissance Optimization	Sean Quintana, Ryan Fortney, Ross Gioiosa, Nathan Jolls (USFA)
10:45 am	Survey Analysis Using Fuzzy Logic	Michael Masiello, Lewis Dummermuth-Boss, Michael Langley, Alec Schwartz (USFA)

# West Point

The United States Military Academy

The United States Military Academy  
welcomes

- Bard College
  - Clarkson University
  - George Mason University
  - United States Air Force Academy
  - University of Arkansas
- as participants in Projects Day 2010

