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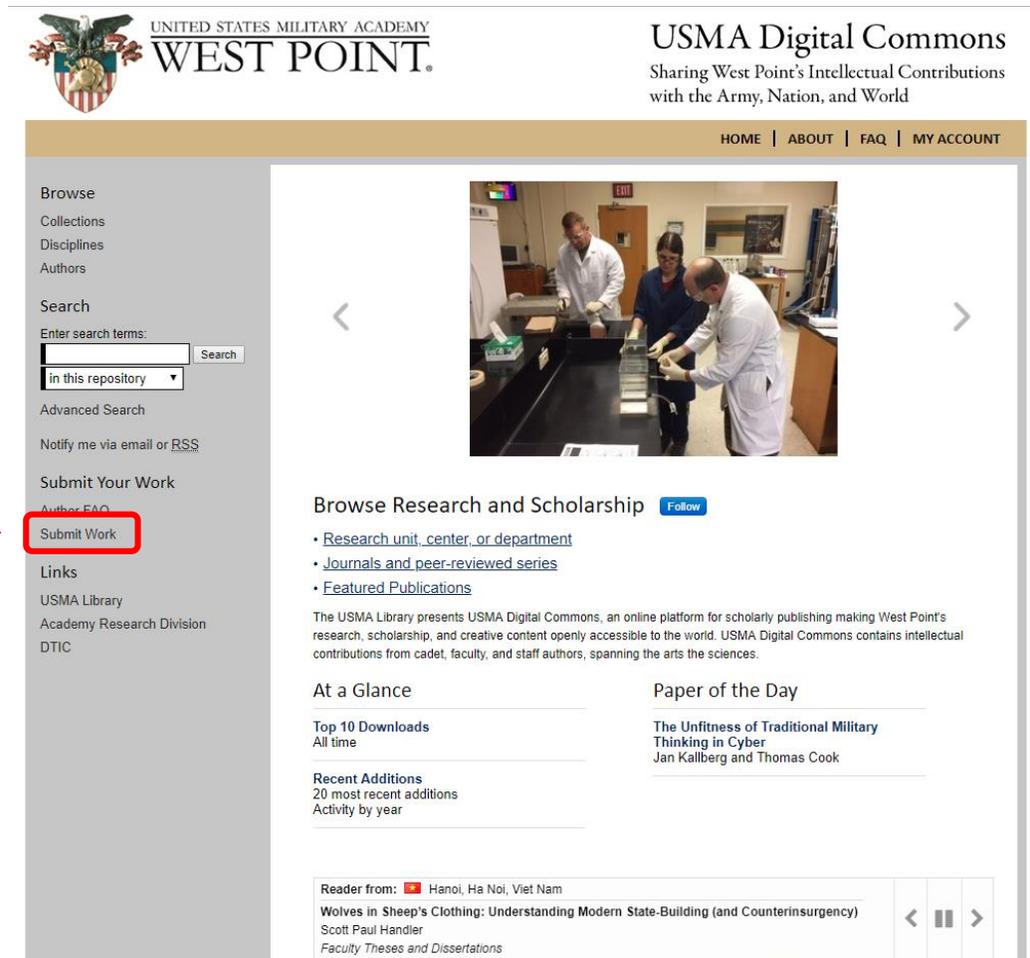
At a Glance
Top 10 Downloads
All time
Recent Additions
20 most recent additions
Activity by year

Paper of the Day
Can "Tactical Economics" Help the U.S. Army "Win in a Complex World?"
Addressing Army Warfighting Challenges with an Evidence-Based Approach
Jonathan Bales

Reader from: Scottsdale, Arizona, United States
Wolves in Sheep's Clothing: Understanding Modern State-Building (and Counterinsurgency)
Scott Paul Handler
Faculty Theses and Dissertations

9:43 AM
6/7/2018

2. Click the “Submit Work” button in the left sidebar menu.



The screenshot displays the USMA Digital Commons website. The top left features the USMA logo and the text "UNITED STATES MILITARY ACADEMY WEST POINT". The top right says "USMA Digital Commons" with the tagline "Sharing West Point's Intellectual Contributions with the Army, Nation, and World". A navigation bar includes "HOME | ABOUT | FAQ | MY ACCOUNT".

The left sidebar menu contains the following sections:

- Browse
 - Collections
 - Disciplines
 - Authors
- Search
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 - in this repository
 - Advanced Search
 - Notify me via email or [RSS](#)
- Submit Your Work
 - Author FAQ
 - Submit Work** (highlighted with a red box and a red arrow pointing to it)
- Links
 - USMA Library
 - Academy Research Division
 - DTIC

The main content area features a central image of three people in a lab. Below the image is the section "Browse Research and Scholarship" with a "Follow" button and three links: "Research unit, center, or department", "Journals and peer-reviewed series", and "Featured Publications".

Below this is a paragraph: "The USMA Library presents USMA Digital Commons, an online platform for scholarly publishing making West Point's research, scholarship, and creative content openly accessible to the world. USMA Digital Commons contains intellectual contributions from cadet, faculty, and staff authors, spanning the arts the sciences."

Two columns are present below:

- At a Glance**
 - Top 10 Downloads: All time
 - Recent Additions: 20 most recent additions, Activity by year
- Paper of the Day**
 - The Unfitness of Traditional Military Thinking in Cyber**
 - Jan Kallberg and Thomas Cook

At the bottom, a "Reader from:" section shows a location icon for Hanoi, Ha Noi, Viet Nam, and a featured article: "Wolves in Sheep's Clothing: Understanding Modern State-Building (and Counterinsurgency)" by Scott Paul Handler, Faculty Theses and Dissertations.

3. Click the “Faculty and Staff Books” button at the center of the page.



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Most research can be submitted electronically. Some publications do not allow authors to submit directly. In these cases, you will be provided with a mail form to contact the appropriate administrator for further instruction. To submit your research, click on a link below or navigate to the specific Collection and click the Submit Work link in the left column. For all Army Cyber Institute (ACI) submissions, navigate to the specific [ACI Collection](#) and submit using the Submit Work link in the left column.

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4. If you do not already have a bepress account, follow the instructions to create a new user account with bepress.com using your USMA email address. An email with a confirmation link will be sent to you. If you already have an account and you have used the current computer to sign in, you may already be logged into your account and can skip this step. Otherwise, enter your email and password.

A screenshot of a web login form. The form has a light gray header with the word 'Login' in bold. Below the header are two input fields: 'Email' and 'Password'. Under the 'Password' field is a checked checkbox labeled 'Remember me'. At the bottom of the form, there are two links: 'Forgot your password?' and 'Don't have an account? Sign up'. A blue button labeled 'Log in' is positioned to the right of the 'Sign up' link. A red arrow points from the left towards the 'Sign up' link, which is also enclosed in a red rectangular box.

5. Complete the submission form completely with descriptive details. In particular, take note of the following slides.

The screenshot displays the USMA Faculty ETD submission form. On the left is a navigation sidebar with links for Collections, Disciplines, Authors, Search, Submit Your Work, and Links. The main content area is titled "USMA FACULTY ETD" and contains the following sections:

- REQUIRED Title:** A section with a red "REQUIRED" label and a red underline. It includes a text input field for the "Dissertation/Thesis Title" and a note: "Please enter the title using Headline Capitalization. It should be entered exactly as it appears in the manuscript of your dissertation or thesis."
- REQUIRED Author:** A section with a red "REQUIRED" label and a red underline. It features a search box for author information. Below the search box, a list of search results is shown, with the first entry selected: "1 (nicholas.olijnyk@usma.edu) Nicholas Olijnyk". A green plus button is visible at the bottom right of the list.
- USMA Research Unit Affiliation:** A section with a red underline. It contains instructions: "Please indicate the author's USMA affiliation(s) (e.g., academic department). You can select more than one." and "Double click available items to include them, or click once and use the 'Select' button for each item." Below the instructions are two columns: "Available:" and "Selected:". The "Available:" column contains a list of departments: Behavioral Sciences and Leadership, Chemistry and Life Science, Civil and Mechanical Engineering, Department of Military Instruction, Electrical Engineering and Computer Science, English and Philosophy, Foreign Languages, Geography and Environmental Engineering, History, and Law. A "Select" button is positioned between the two columns. The "Selected:" column is currently empty.
- REQUIRED Date of Award:** A section with a red "REQUIRED" label and a red underline. It includes a date selection form with dropdown menus for "Season", "Month", "Day", and "Year".

6. Be sure to type in “United States Military Academy” as your current institution affiliation, and make certain your email address is correctly entered.

REQUIRED Author

Search For An Author Using: Last Name, First Name, Email, or Institution

1 (nicholas.olijnyk@usma.edu) Nicholas Olijnyk , United States Military Academy

Email	First	Middle	Last	Suffix	Institution
nicholas.olijnyk@usma.edu	Nicholas		Olijnyk		United States Military Academy





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Double click available items to include them, or click once and use the 'Select' button for each item.

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- Center for the Study of Civil-Military Operations
- Chemistry and Life Science
- Civil and Mechanical Engineering
- Combating Terrorism Center
- Conflict and Human Security Studies Program
- Cyber Research Center
- Department of Military Instruction

Select »

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Selected:

- Electrical Engineering and Computer Science
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8. Be sure to use several keywords to describe your work, separating each keyword using a comma. In addition, identify at least one subject category that describes your work. These fields will make your work discoverable by external scholarly search engines (e.g., WorldCat).

Keywords

Please enter up to 10 keywords or phrases, separated by commas. These will help identify and classify your thesis or dissertation; for example, geographical locations or scientific names not mentioned in your title or abstract might be listed.

Keywords:

North Korea, Cyber Deterrence, Sony Pictures hack, Guardians o

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Please select the subject category that best fits your Dissertation/Thesis. Subject Categories will help the indexing of your dissertation or thesis and the eventual retrieval of it by interested parties. Click [here](#) to view the complete list of disciplines.

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ROBOTICS RESEARCH CENTER (RRC)



BOOKS



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Aerial Manipulation

[Matko Orsag](#), *University of Zagreb*
[Christopher Korpela](#), *United States Military Academy* Follow
[Paul Oh](#), *University of Nevada, Las Vegas*
[Stjepan Bogdan](#), *University of Zagreb*

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Description

This text is a thorough treatment of the rapidly growing area of aerial manipulation. It details all the design steps required for the modeling and control of unmanned aerial vehicles (UAV) equipped with robotic manipulators. Starting with the physical basics of rigid-body kinematics, the book gives an in-depth presentation of local and global coordinates, together with the representation of orientation and motion in fixed- and moving-coordinate systems. Coverage of the kinematics and dynamics of unmanned aerial vehicles is developed in a succession of popular UAV configurations for multirotor systems. Such an arrangement, supported by frequent examples and end-of-chapter exercises, leads the reader from simple to more complex UAV configurations. Propulsion-system aerodynamics, essential in UAV design, is analyzed through blade-element and momentum theories, analysis which is followed by a description of drag and ground-aerodynamic effects.

The central part of the book is dedicated to aerial-manipulator kinematics, dynamics, and control. Based on foundations laid in the opening chapters, this portion of the book is a structured presentation of Newton-Euler dynamic modeling that results in forward and backward equations in both fixed- and moving-coordinate systems. The Lagrange-Euler approach is applied to expand the model further, providing formalisms to model the variable moment of inertia later used to analyze the dynamics of aerial manipulators in contact with the environment. Using knowledge from sensor data, insights are presented into the ways in which linear, robust, and adaptive control techniques can be applied in aerial manipulation so as to tackle the real-world problems faced by scholars and engineers in the design and implementation of aerial robotics systems. The book is completed by path and trajectory planning with vision-based examples for tracking and manipulation.

Publication Date
2018

Keywords
Engineering, Aerospace engineering, Astronautics, Control engineering, Robotics, Automation, Control, Robotics and automation, Aerospace technology and astronautics

Document Type
Book

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