



THE MOVES INSTITUTE
NAVAL POSTGRADUATE SCHOOL

<http://www.movesinstitute.org>

HOW CAN I GET A MODELING AND SIMULATION GRADUATE DEGREE?

Why should I go to NPS for Modeling and Simulation?

You are already an expert in what you do today. NPS is where you'll mix what you already know with fundamentals of modeling and simulation resulting in a powerful graduate degree that will benefit yourself, your service, and your country.



DMSO reports that over 20% of the DoD budget is spent on modeling and simulation related activities. As our military and missions evolve to respond to increasingly agile and unpredictable threats, the role of modeling and simulation will only increase. To capitalize on modeling and simulation's promise, the Department of Defense needs officers with a strong tactical background who have a thorough understanding of the capabilities and limitations of emerging technology. Efficient cost-effective application of M&S technology requires first-person knowledge of the mission and operating environment. Uniformed experts in modeling and simulation are vital to meeting the challenges ahead.

MOVES graduates develop critical thinking skills in demand everywhere – not just in your military career. You'll learn about technologies, the people technology will serve, and how to address and solve complex problems. You'll learn this in a setting surrounded by other officers and civilians from all the services and many allied nations.

MOVES graduates are in demand. In the Navy, you might become a Project Manager at NAVAIR, or the Training Officer at COMNAVSURFLANT. In the Marine Corps, you might become the Simulation Officer at 29 Palms, or the Director of the Marine Corps M&S Management Office. In the Army, you might be a Simulation Analyst at the National Simulation Center, or the Simulation Officer at the National Training Center. Whatever you do, you'll be in the thick of it all.

What will I learn in MOVES?

The MOVES degree is a pragmatic mix of operations research, computer science, and modeling and simulation specific topics. In your first year, you will study topics like those listed below. With this as a foundation, you will then choose areas of specialization from combat models, visual simulation, training and human systems, or agents and AI.

Quarter 1	Object-Oriented Programming Probability and Statistics Human Factors	Quarter 2	Data Analysis Simulation and Training Computer Graphics Modeling
Quarter 3	Computer Networking for Simulation Probabilistic Models for Military Applications	Quarter 4	Computer Graphics Artificial Intelligence Combat Modeling
The second year is tailored to your interests and thesis research requirements.			

At the end of your first year, you will select a thesis topic that you will work on in your second year. Here is your opportunity to use what you already know. MOVES students have built simulators that have influenced policy decisions, they have built operational training systems and have tested them in the field, and they have architected complex M&S systems that are in use today. MOVES students do things that matter.

How do I get into the program?

Getting into MOVES is a three step process.

Step 1. Contact us so we can tell you more about the program, answer your questions, and so we can help you get here.

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Director, The MOVES Institute
Dr. Rudy Darken
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Step 2. Contact your service representative or organizational graduate education representative to find out if there are positions available in modeling and simulation. Points of contact for the services are below. Civilians should contact us and we will help you with the process for your organization. International candidates should contact us directly.

<p>LT Isaac Lester [Navy] Navy Graduate Education Placement Officer 901-874-4056 lester.isaac@navy.mil</p>	<p>Major J.P. McDonough [Marine Corps] Marine Corps Training and Education Command 703-784-9565 james.mcdonough@usmc.mil</p>
<p>LTC Favio Lopez [Army] Simulation Operations Proponent Office sim-ops@hqda.army.mil http://www.fa-57.army.mil/</p>	<p>Major David “Fuzzy” Wells [Air Force] U.S. Air Force Academy william.wells@usafa.af.mil</p>

Step 3. Apply. Go to <http://www.nps.edu/Admissions/> for specific information.

What will I be able to do?

The examples below are all illustrative of the types of work MOVES students do for their thesis research. Many of these projects are conceived, designed, implemented, and tested during the student’s graduate program. MOVES faculty and staff are here to help make your ideas a reality.



Online Mentors

We developed an exemplar training scenario using standards-based approach for use in language and cultural familiarization across DoD and US Government departments. The vision of vast numbers of trainees receiving this vital training anywhere, anytime is achievable through this cooperative development. (JADL-CoLab)



FOPCSIM and Delta3D

We developed an open source game engine for building training simulations. Check out <http://www.delta3d.org>. Two Marine Corps MOVES students used it to build an open source Forward Observer trainer that is now a program of record in the Marine Corps. Two other Marine Corps students are now building a Forward Air Controller Airborne trainer based on some of the same concepts.



The Chromakey Augmented Virtual Environment

The ChrAVE was designed and built by a MOVES student who was a Marine Corps CH-53 pilot. The idea is to use video mixing techniques so that the inside of the cockpit “passes through” as video while the glass is replaced with a simulated training environment. The helicopter never leaves the deck. This system can be used for all sorts of vehicle training in a deployed setting.



SurfTACS Trainer

One of our newest student creations, SurfTACS is a game-based trainer for practicing tactical maneuvers in ship handling. You are in command of a surface ship and must properly execute a formation. This trainer allows the student officer to greatly increase the number or repetitions allowed before a live event.