



Locating M&S Information

Mr. Daniel Little

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One of the remarkable things I notice when I go to Modelling & Simulation (M&S) forums such as this one is when three-quarters of the room is silent and the remaining quarter doing all the talking already knows most of the answers anyway. Although the retention of vast corporate knowledge is certainly a plus in our community, it does not bode well for our future when the walls we place between ourselves and key leaders are self-imposed. The purpose of this lecture is to encourage the three-quarters to meet the few of us halfway by gaining a measure of self-confidence through a professional M&S reading programme.

Most of those present are not here because of a keen desire to programme; although a few can. These lecture series are conducted to empower the implementer. If you are here to gather information in support of a senior General and are unable to articulate the M&S worldview, we are doing you and ourselves a disservice. That is why I have compiled a very innocent list of answers to common questions and included the supported websites so you can have your own on-line M&S library. Whether we realize or not, those of you looking for an answer need something more instantaneous than reading an entire book. What I have done is by no means exclusive to the selection placed in your hands, but it is indeed a start.

The idea is not to embarrass anyone but you would be surprised how long some of us have been around M&S and do not know the role and purpose of the NATO Research and Technology Office (RTO) or the NATO Modelling and Simulation Group (NMSG). Web links and search engines aside, here is where you will find the vision of a gentleman that served the NMSG for many years and just recently retired, Mr. Graham Burrows. Also there is a plethora of publications that may affect your M&S dilemma or enquiry which is why I will encircle the location of the search windows. Aside from the documents available in NATO RTO's repository, particular attention should also be directed at the NATO Consultation, Command and Control Agency or NC3A for short. Aside from publications, many lectures, working group meetings and conferences relating to M&S occurs at the NC3A office at The Hague.

One of the initiatives that originated from the US was the Modelling and Simulation Resource Repositories of MSRRs of which we boast quite a few. We have the Modelling and Simulation Information and Analysis Center (MSIAC), the Defense Modelling and Simulation Office (DMSO), the Army MSRR which is sponsored by my organisation: the Battle Command, Simulation & Experimentation Directorate, along with MSRRs for the Air Force and Navy.

Little, D. (2006) Locating M&S Information. In *Integration of Modelling and Simulation* (pp. 5-1 – 5-4). Educational Notes RTO-EN-MSG-043, Paper 5. Neuilly-sur-Seine, France: RTO. Available from: http://www.rto.nato.int/abstracts.asp.

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Locating M&S Information



Let us say that a week from now, you followed my advice and downloaded a document from one of the NATO sites. One of the discoveries that you will make is that there is a fair amount of technical terms that many take for granted. Normally academic papers can be laden with 'technical jargon' but this is an impediment that can be overcome. The Defense Modelling and Simulation site has a glossary where most if not all of the words can be queried successfully.

One of the best kept secrets in this field is that few things anymore are 'discovered' in the truest sense of the word. That is why professional developers in M&S share their findings in public forums. The best known is the Simulation Interoperability Standards Organization (SISO). Not only does it cut a worldwide swath, it also conducts regional forums for professionals. M&S is not exclusive to defence or even government organisations; the confluence also includes academia and corporations.

The most important reason I included environmental modelling in compiling your list of web resources is due to the experience we had of late. Traditionally, along the South-eastern U.S. coastline, we receive horrendous weather that devastates entire parcels of villages. Also, the Asian Tsunami caught all of us completely offguard. It is just as wise for the U.S. to prepare for hurricanes as it would be for Turkey to research earthquakes or Germany extreme flooding. While there is not enough time to include all possible sites of interest, the Master Environment Library (MEL) is a decent start.

For those of you concerned about modelling domestic resilience or counterterrorism, I recommend the Defence Science & Technology Laboratory (DSTL). Not only does the United Kingdom have a legacy in fighting terrorism but all of its national efforts are consolidated at DSTL. DSTL is the largest employer of scientists and engineers in that country, meaning that in addition to numerous synergies the information is easier to access than the 'stove-piping' still occurring within the US.

The reason I consider the Swedish Defence Wargaming Centre as an M&S centre of excellence is their depth of experience in Crisis Response Operations (CRO). Not only do they have a wealth of experience working with NATO, Partnership for Peace (PfP) and neutral countries but they incorporate IOs and NGOs very well. I know of no other wargaming centre that welcomes and incorporates peace organisations at their exercises.

The oldest and one-time largest wargaming centre in the world is undergoing transition, however the two assets the Warrior Preparation Center (WPC) has that no one else does is a long legacy of Army-Air Force integration and Mission Rehearsal Exercises (MREs). The WPC, based in Ramstein always had its Grafenwöhr Germany location as a satellite, however the roles are expected to completely reverse by next year.

Another great centre is in Northern Germany at Sennelager. The facility is a wonderful mix of simulations, simulators and manoeuvre area. Ran by the United Kingdom's Ace Rapid Reaction Corps or ARRC, this is arguably the best integrated exercise facility. When soldiers from the 3d UK Division cross the channel to come to Sennelager, the compilation of the 1st and 3d Divisions with the ARRC Headquarters makes this the premier location to train with UK forces.

Other centres are newer and deserve mention. NATO finally has a dedicated facility at JHQNE in Stavanger, Norway. Turkey and Poland have new facilities not to mention fully dedicated M&S professionals. The German simulation centre at Wildflecken is not only centrally located in Europe but able to handle thousands of visitors. No doubt there are others that deserve mention but when looking at public documents available on the web, certain niche specialties stand out. No one place or organisation has absolute advantage over the others, offering no viable alternative to research.

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Sometimes, having access to web pages, documents and professional forums are not enough. The best way to propel a country's M&S programme is to recognise the need for a dedicated officer to represent the national M&S efforts. To do this, I strongly recommend the Royal College of Military Science (RMCS) at Shrivenham, UK. The staff college is Joint and the faculty is first-rate with the security side taught by Kings College, University of London and the M&S side taught by the University of Cranfield. This also bodes well for officers that intend to continue towards a research PhD either full or part-time. The military library is nothing short of incredible and nearby at Oxford is one of seven national trust libraries in Great Britain containing every single volume ever published in that country. It is close to Heathrow and a little further to Stanstead where Ryan Air averages 10 euros or less to any destination in Europe.

Although this was never intended to be an all-source compendium of M&S information, this certainly qualifies as a start. This is a field where confidence begins with a few distinct steps. You have the background; you have the goals. There is also a lexicon and interoperability standards already figured out. Whether you need to model the environmental clash with nature or weathering human nature, there is a place to go. Speaking of a place to go, there are many legacy simulation facilities with new ones being added – no one has a monopoly over the panoply of military activities or how it's modelled. Finally, as an enabler of your respective national effort, the best investment you can make is to identify a gifted officer worthy of the long-term investment of education.

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Looking up M&S Information

Mr. Daniel Little

Battle Command, Simulation & Experimentation

Directorate (BCSE)



Learning Objectives



Develop a professional M&S research library using available web resources.

- NATO Research & Technology Organisation (RTO)
- NATO Modelling & Simulation Group (NMSG)
- NATO Consultation, Command & Control Agency (NC3A)
- Simulation Interoperability Standards Organization (SISO)
- Defence Science & Technology Laboratory (DSTL)
- Defense Modelling & Simulation Office (DMSO)
- US Modelling & Simulation Resource Repository (MSRR):
 - Army
 - Navy
 - Air Force
 - Master Environment Library (MEL)
- Swedish Defence Wargaming Centre (SDWC)
- Royal Military College of Science, Shrivenham, UK (RMCS)



Knowing the Answers Before You Ask



What is the role and purpose of NATO RTO & NMSG?

What publications are available from NATO?

What publications are available from the US?

Where can I find an on-line glossary for M&S terms?

What are the international standards in M&S?

How does one model the environment?

Who do I talk to about modelling Domestic Resilience?

Where are the simulation centres of excellence?

Where can I send my country representative for a postgraduate M&S degree?



What is the role and purpose of NATO RTO & NMSG?



Address Addres





Links >>>



RATO Modelling and Simulation Group (NMSG)

Mission

The Mission of the NATO Modelling and Simulation Group (NMSG) is to provide readily available, flexible and cost-effective means to dramatically enhance NATO operations in the application areas of defence planning. operational planning, training and exercises, support to operations and modernization. This goal will be accomplished by a NATO-wide co-operative effort that promotes interoperability, reuse and affordability.

The mission of the NATO Modelling and Simulation (M&S) Group (NMSG) is to promote co-operation among Alliance bodies, NATO Member Nations and PfP Nations to maximise the effective utilisation of M&S according to the NATO M&S Action Plan, Primary mission areas include M&S standardisation, education, and associated science and technology. Additionally, the Group will provide M&S expertise in support of the tasks and projects within the RTB and from other NATO organisations.

Download the NATO/PFP Distributed Simulation Report

and the contract of the contra

Download the NATO's New Organisation and M&S Presentation

Scope

The Group:

- a. Is responsible for the development and execution of, and proposing revisions to the NATO M&S Action & Business Plans.
- b. Is a level-2 body of which its most important actions are enabling M&S and promoting best practices in the Alliance.
- c. Develops, advocates and guides implementation of M&S standards.
- d. Fosters maximum levels of M&S interoperability and reuse of models.
- e. Develops, advocates and guides programs to facilitate education and information exchange in M&S science and technology, application methods and standards.
- f. Identifies, advocates and executes science and technology projects to improve M&S tools, standards, interoperability, network concepts and databases.



More...

Terms of Reference

Meetings

Activities:

Recent Publications

All MSG Publications

History





NATO/RTO

MODELLING & SIMULATION GROUP

NATO's New Organisation
and its Impact on
Modelling and Simulation Activities

ITEC 2004 Conference London, 20 to 22 April 2004

by

G J Burrows

burrowsg@rta.nato.int



What Publications are **Available from NATO?**



Address Addres





Links >>



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More...

Terms of Reference

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All MSG Publications

History



What Publications are Available from NATO?

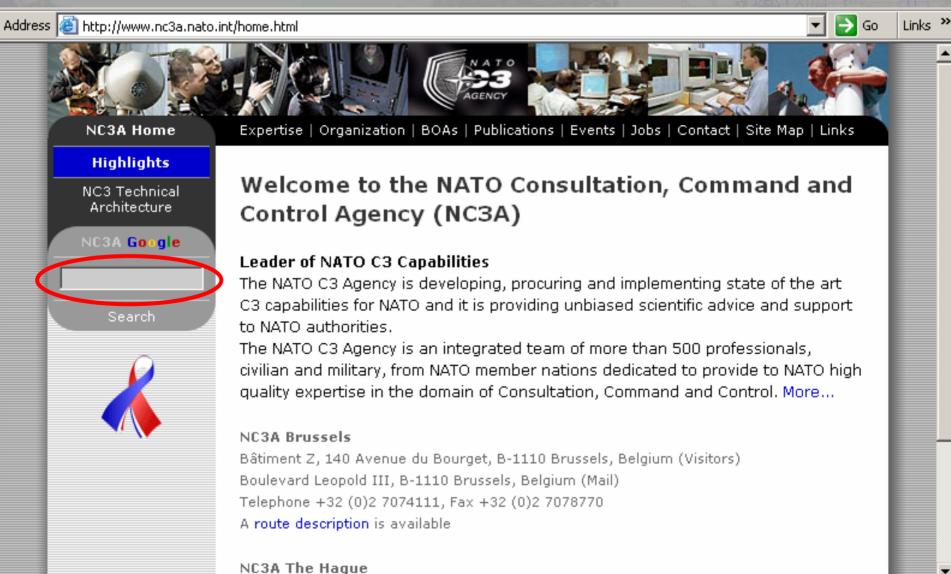






What Publications are Available from NATO?

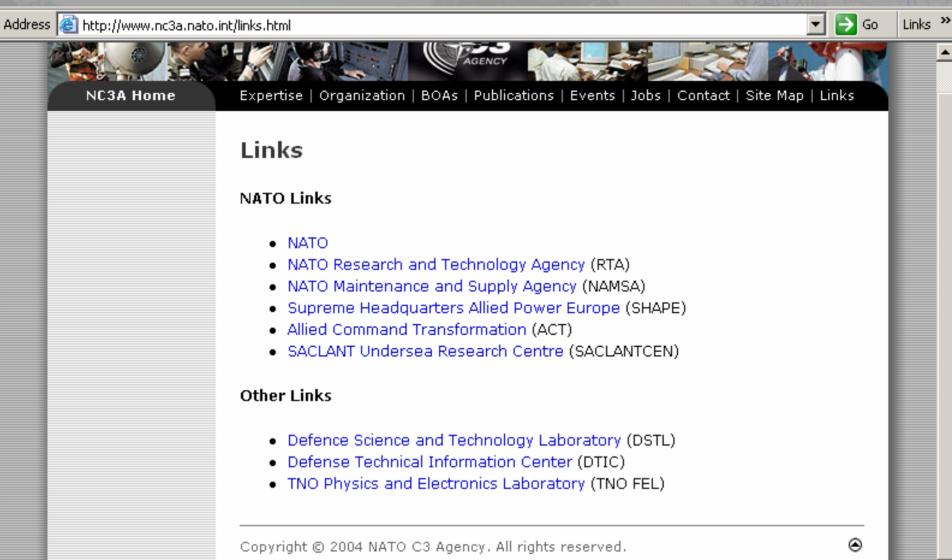






What Publications are Available from NATO?







What Publications are Available from the US?



Address | http://www.msiac.dmso.mil/msosa-net/link_directory.asp





Links >>



MGS Website Directory

A Roadmap to the M&S Community on the Internet

MSIAC

To submit a URL to be added to this list, send an e-mail to links@msiac.dmso.mil

Home

Help Desk

M&S FAQs

M&S Calendar

Newsletter

M&S Journal

M&S Links

DMSO

Key M&S Sites:

- DMSO Defense Modeling and Simulation Office.

DeD High Level Architecture.

MSRR

Modeling & Simulation Resource Repository. A collection of resources which will assist the M&S community in communication and information sharing.

 DoD M&S Education Initiative Site includes information on DMSO's Modeling & Simulation Staff Officer's Course.



What Publications are Available from the US?



Address Address http://www.msrr.dmso.mil/









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What's New

Search

- Saved Searches
- Search All Nodes
- Search Wizard
- Special Collections
- Internet Search

User Account

Get an Account

WELCOME TO THE DMSO MSRR

Modeling and Simulation Resource Repository (MSRR)

PLEASE READ THIS PRIVACY AND SECURITY NOTICE.

WARNING: This is a U.S. Government Computing Site. Please read disclaimer before proceeding.

The MSRR, comprised of seven nodes, provides simultaneous retrieval of Modeling and Simulation resources. Providers include, this DMSO system, Army, Navy, Air Force, Missile Defense Agency, DIA, C4ISR Decision Support Center Information System & MSRR, Sponsored by DMSO, and operated by the Modeling and Simulation Information Analysis Center (MSIAC), the resources can be sorted and delivered electronically as specified by the user. Additional information may be obtained by calling the MSIAC Help Desk 703-933-3323/24 or 888-566-7672.

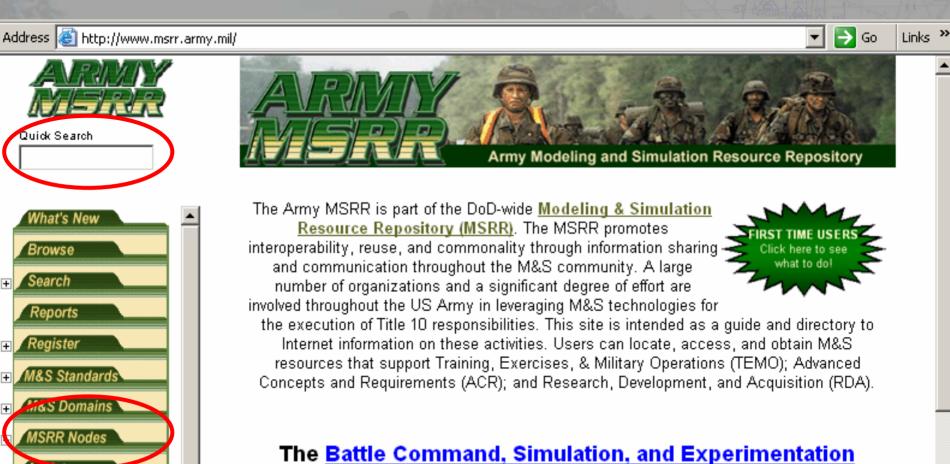
Need more info? Visit the MSIAC's MSRR Special Interest Area.

All web pages contained within the DMSO Web site are accessible to people using assistive technology. However, this site does contain historical files which may be difficult to access with assistive technology. Please contact the msiachelpdesk@msiac.dmso.mil and our staff can provide you the information in an alternate, accessible format upon your request. For more information on Section 508 and the Federal IT Accessibility Initiative, please visit the Center for IT Accommodation (CITA) or the Section 508 Homepage.



What Publications are Available from the US?





BCSE has formed an Army MSRR Working Group (approved by the AMSEC). See <u>Army</u> MSRR WG for additional information.

(BCSE) Directorate hosts the Army MSRR.

Assistance

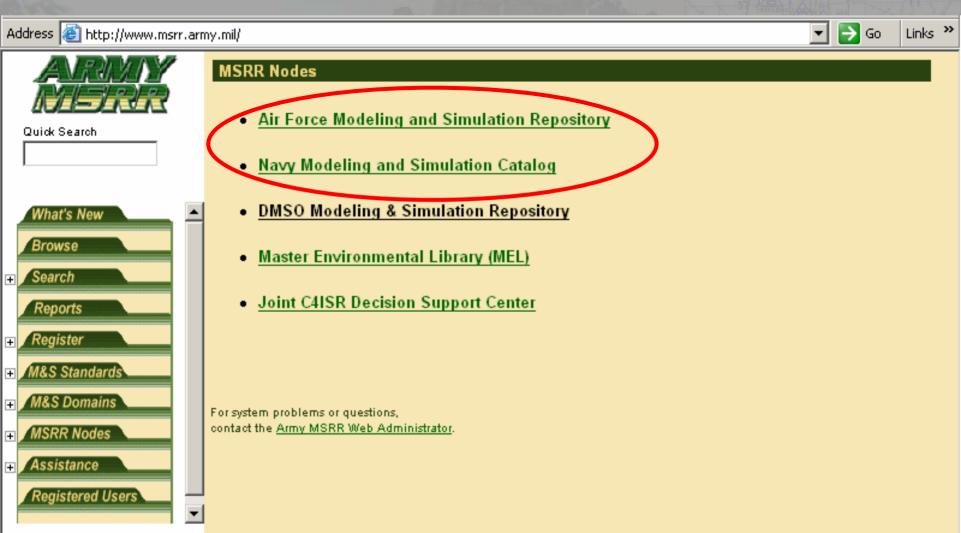
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An Army of One

What Publications are Available from the US?







RESOURCES

MSIAC

Where can I Find an On-line Glossary for M&S Terms?



Links >> Address | https://www.dmso.mil/public/resources/glossary/ Go Go United States Department of Defense **Defense Modeling and Simulation Office SUCCESS STORIES** WED, 24 AUG 2005 SEARCH SITE MAP CONTACT US PRIVACY & SECURITY NOTICE HOME: Public: M&S Resources: Online M&S Glossary (DoDD 5000.59-M) DoD M&S MANAGEMENT WHAT'S NEW Online M&S Glossary (DoD 5000.59-M) Announcements M&S Calendar DMSO News Online WARFIGHTER AREAS [Foreword][Term Index][Acronym Index][Reference List][Download as a pdf] Asymmetric Warfare Joint Programs Search Starts with C Contains C Within definition Composibility TECHNOLOGY THRUSTS C4I to Sim Dynamic Environment Using the online glossary: · Human Performance Knowledge Integration The results of any search will display acronyms followed by all terms. TECH TRANSITION If you place only 1 letter in the search field, all acronyms and terms that start with that letter will be FDMS HLA / RTI displayed. MEL/ESG If you place more than 1 letter in the search field, all acronyms and terms that contain those letters will be SEDRIS displayed. A&VV •

definition) by making a selection to the right of the search field.

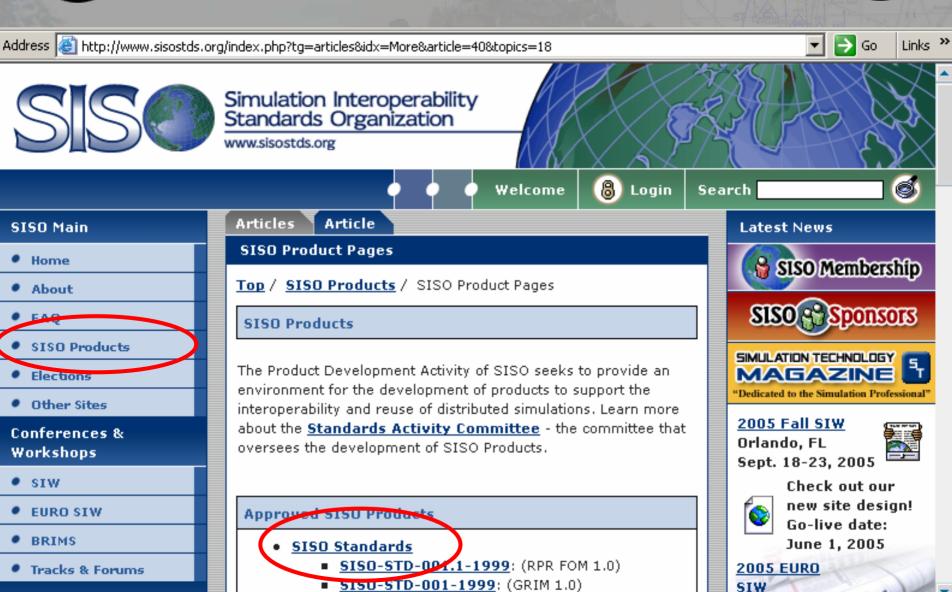
You may specify how to search on the text you place in the search field, (starts with, contains, or within

Within results for terms, you may find "see also" and "contrast with" links. These links will take you



What are the International Standards in M&S?

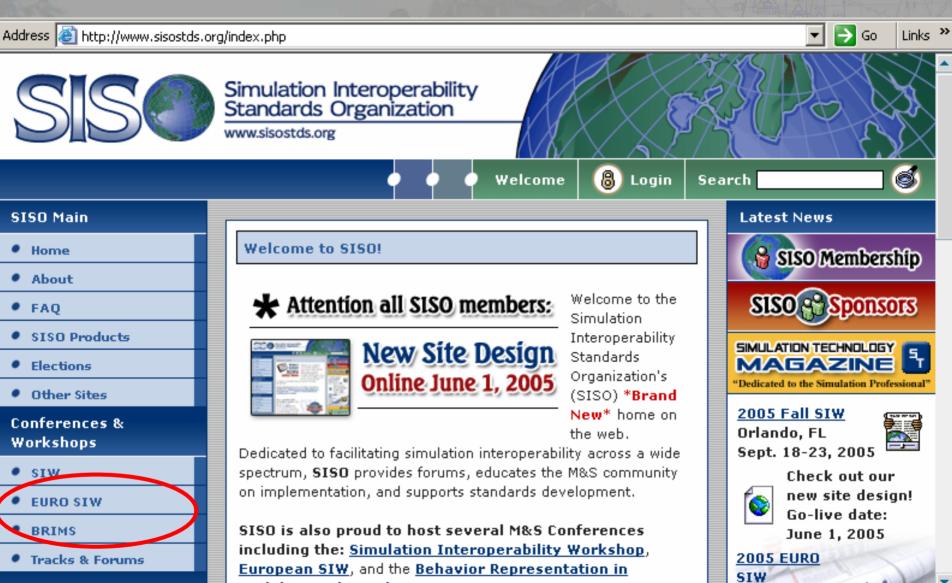






What are the International Standards in M&S?





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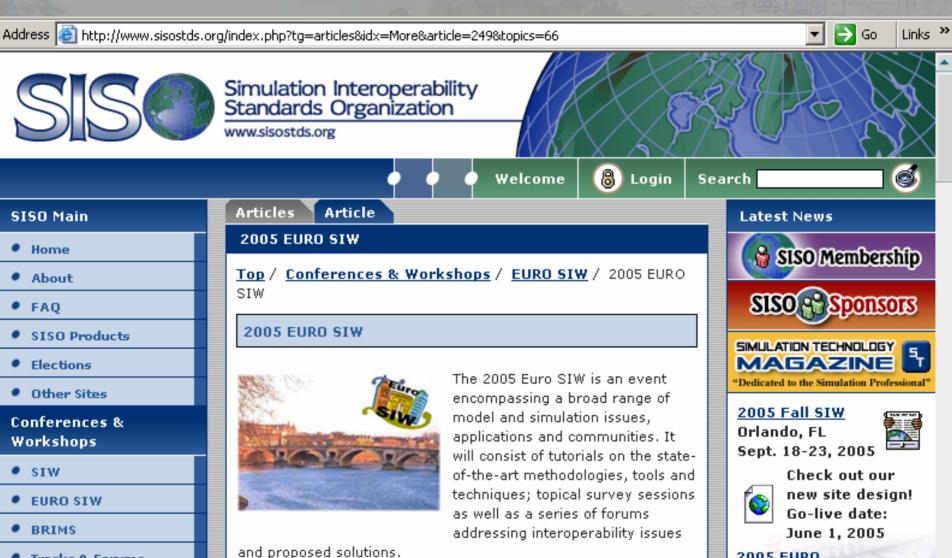
Tracks & Forums

What are the International Standards in M&S?



2005 EURO

SIW

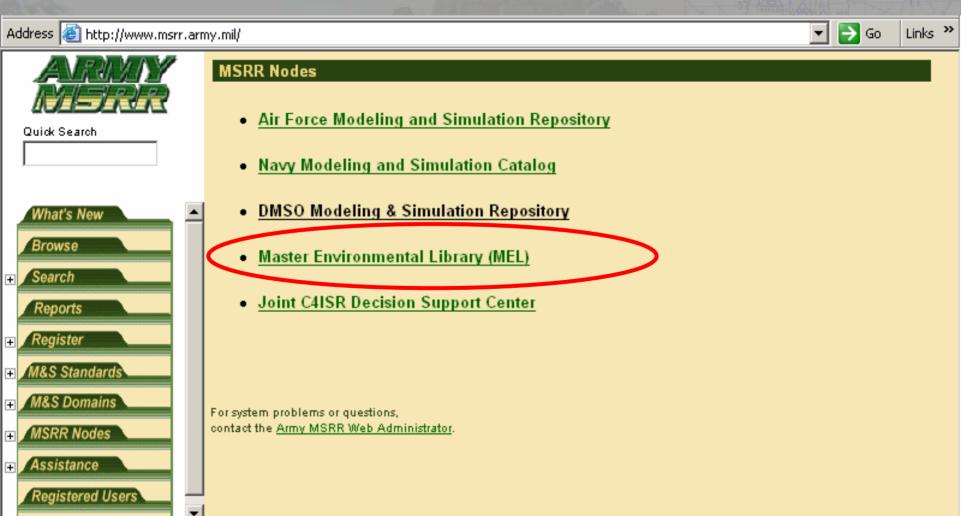




An Army of One

How Does One Model the Environment?







How Does One Model the Environment?



Address 🥙 https://mel.dmso.mil/

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Links »



This is an official U.S. Navy Computing System hosting a Defense Modeling and Simulation web site. Please read Privacy Policy before proceeding.

The Master Environmental Library (MEL) is a <u>Defense Modeling and Simulation</u>
Office (DMSO) sponsored, one-stop site for ordering environmental information. Through MEL, users locate and order environmental information that resides at different United States military and government sites.

New in MEL

MEL Data Discovery & Delivery

Query

Use the MEL interface to locate data of interest.

Review

Review data descriptions found through MEL.

Order

Place one time orders or subscribe to data in MEL.

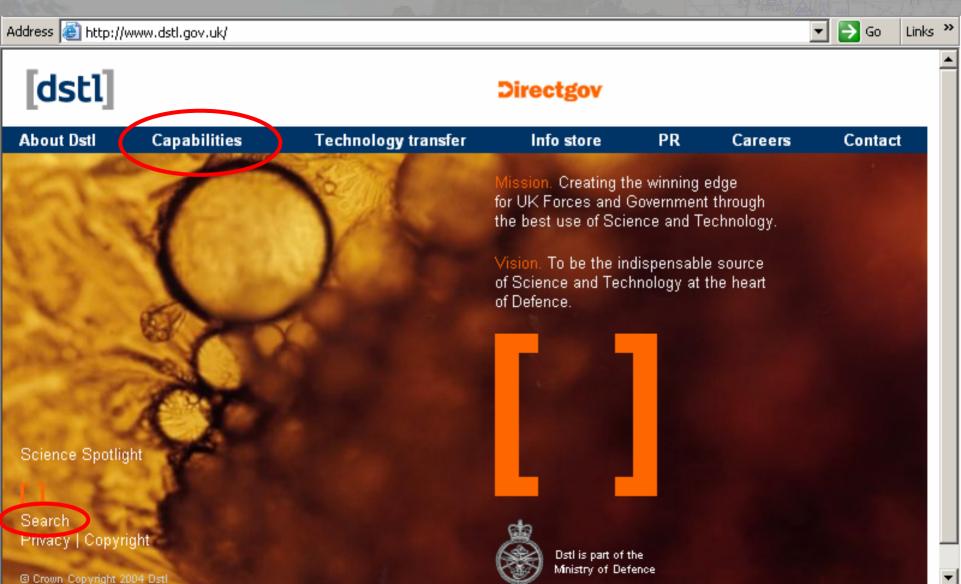
Receive

Data is sent to an anonymous FTP address or picked up at data source.



How Do I Talk to About Modelling Domestic Resilience?







How Do I Talk to About Modelling Domestic Resilience?



Address About Dstl Capabilities Technology transfer Info store PR Careers Contact

Capabilities

Policy and Capability Studies

Naval Systems

Land Systems

Air Systems

Information

Management

Environmental

Sciences

Energetics

Missiles and

Countermeasures

Electronics

Sensors

Detection

Biomedical Sciences

Physical Sciences



Capabilities

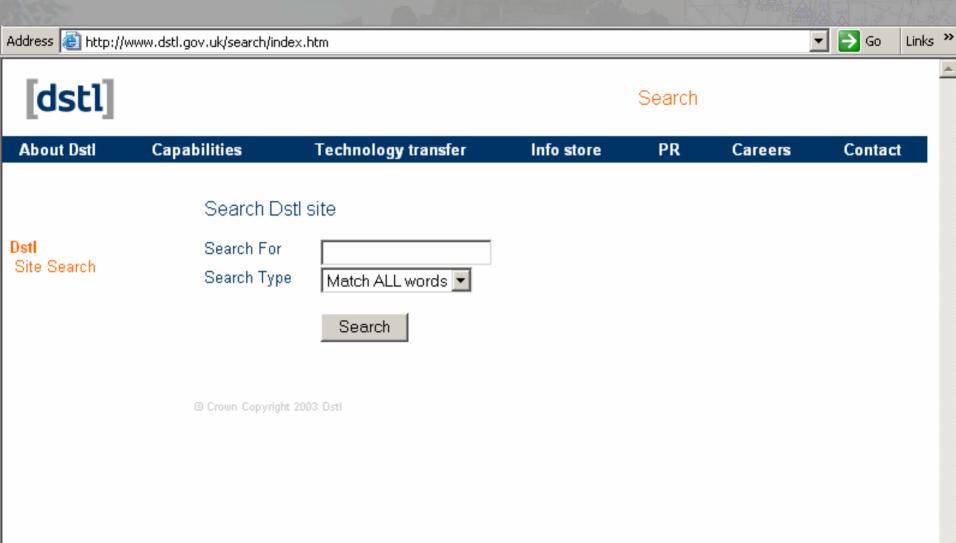
Dstl is composed of many specialist teams each of which is expert in its particular technology or facility. These teams encompass defence research, analytical studies, test and evaluation of operational equipment and research into human effectiveness and protection.

In addition to our military customers, we also work closely with government and industrial laboratories in the United States and Europe.



How Do I Talk to About Modelling Domestic Resilience?







Where are the Simulation Centres of Excellence?



Address Address http://www.fksc.mil.se/?lang=eng



www.mil.se | Main page | Search | På svenska |







SWEDISH ARMED FORCES

SDWC - Swedish Defence War Gaming Centre

Wednesday 24th of August Points of contact

Navigation VIKING

SDWC

News

■ Sweden participates in the Exercise SEESIM N4

November 3, 2004

■ New Commanding Officer at the Swedish Defence Wargaming Centre

October 1, 2004

■ ADL - new environment for learning

March 24, 2004

■ The Viking 03 December 11, 2003

■ Conducting a CAX

Swedish Defence War Gaming Centre



Search

TASKS
Organisation
Game Philosophy
Methodology
Tools
Command an Control
Game
CAX - The movie
VIKING 03



Where are the Simulation Centres of Excellence?



Other Centres:

- Warrior Preparation Center/7th Army Training Command (US in Germany)
- Combat Manoeuvre Simulation Centre, ARRC (UK in Germany)

Newer Centres:

- JHQNE (Stavanger, NO)
- Turkey
- Poland
- Germany



Business & industry

Where can I Send my Country Representative for a Postgraduate M&S Degree?

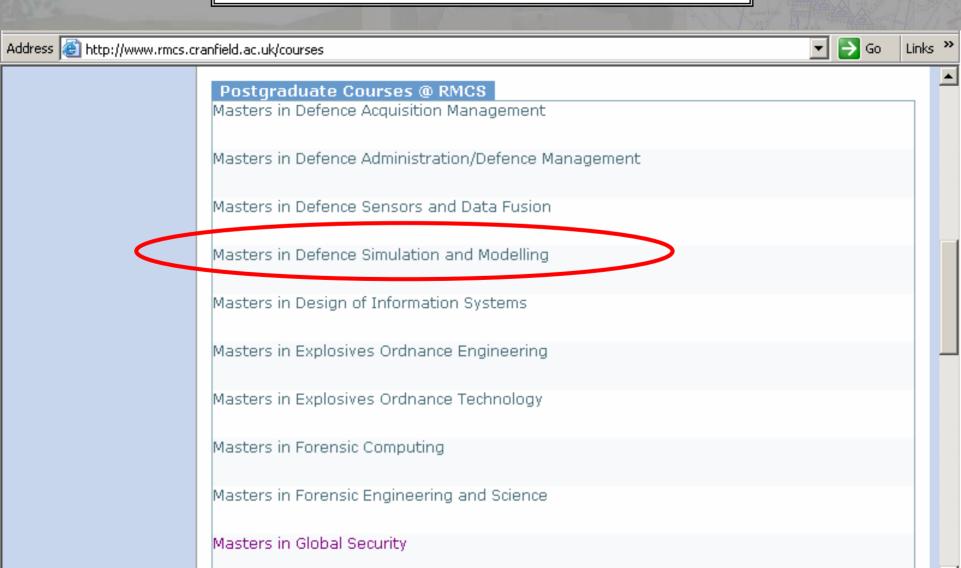






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