



# WIN 24

Wargaming Initiative for NATO

## Wargaming for the Alliance: Towards a Common Culture

Our free way of living in Europe for the last twenty years is a thing of the past. War, disinformation, manipulation of decision-makers, and external and domestic threats aim at disrupting our freedom and peace – whether through the war of aggression against Ukraine in violation of international law, attempts to destabilise democratic states, or attacks in cyberspace or on our trade routes. Day in and day out, we are reminded that peace and freedom do not come for free. That is why we need resilient societies and strong armed forces with warfighting capability so that we can manage these various threat situations. The leaders of our armed forces, security organisations and society must be creative, agile and flexible in their thinking in order to have a cognitive advantage over their opponents in these real threat situations.

In this context, wargaming has practical relevance and offers the opportunity to learn from our own perceptions in a safe-to-fail environment, and not to be afraid of the consequences of our own actions but to face them mentally. This promotes our own resilience. In addition, wargames allow critical reflection on complex military challenges in a safe environment, while also offering an opportunity to personally experience the underlying command, control and decision-making processes. These experiences accelerate decision-making processes, increase adaptability and therefore help prepare for emergencies.

Gaining these experiences was one reason the Prussian officer Georg von Reisswitz developed the Prussian "Kriegsspiel", which we are familiar with in its modern form, as the original prototype for all wargames 200 years ago. That is why we also want to honour the 200-year anniversary of this notable event with this year's Wargaming Initiative for NATO.

This event will also be commemorated in this year's Bundeswehr Education and Training Convention, focussing on game-based learning for a Bundeswehr in a high state of readiness and a strong democracy. This strengthens awareness that our society can only withstand the current attacks on our freedom and peace by working together. The combination of the two events offers you the opportunity to experience various facets of game-based learning, serious gaming and wargaming, to promote communication between armed forces, academia and society and, in this way, to contribute to ongoing advancement of this innovative learning method.

Wargaming promotes strategic thinking and therefore strengthens our strategic culture in the Bundeswehr, partner countries and the Alliance, in keeping with the theme of the 2024 Wargaming Initiative for NATO: "Wargaming for the Alliance: Towards a Common Culture".



Lieutenant General Andreas Hoppe

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## Dear Ladies and Gentlemen,

It is a particular honor and pleasure for me to welcome you to the NATO Wargaming Initiative 2024 (WIN 24) in Hamburg. Once again, NATO WIN 24 symbolizes close cooperation, outstanding professionalism and the tireless readiness to jointly address the challenges of our time.

In a world characterized by rapid technological developments and constantly changing threat scenarios, the ability to adapt and cooperate is of paramount importance. Wargaming provides us with an opportunity to hone these skills, refine our strategies, and ultimately contribute to enhancing our operational readiness.

The Bundeswehr Command and Staff College has always distinguished itself as a center of excellent training and innovative thinking. In this regard, I am particularly pleased that we have the honor of hosting NATO WIN 24 this year. The Prussian Kriegsspiel is an integral part of the Master's program in Military Leadership and International Security, which we conduct in cooperation with the Helmut-Schmidt-University. Therefore, it is especially gratifying to hold NATO WIN 24 on the 200th anniversary of the introduction of the Prussian Kriegsspiel into military training at the Helmut-Schmidt-University.

I would like to extend my deepest gratitude to all participants for their commitment and professionalism. Your dedication and willingness to collaborate are the keys to the success of this Wargaming Initiative. Let us seize this opportunity to learn from one another, strengthen our networks and together promote security and stability in our world.



Rear Admiral Ralf Kuchler



Time	Activity	Dress
<b>Monday, 2nd Sep</b>	<b>Hafen Klub, Bei den St. Pauli-Landungsbrücken 3, 20359 Hamburg</b>	<b>Business casual, open collar</b>

17:30 – 19:00 Collect Conference Badge

19:00 – 21:00 Icebreaker

Time	Activity	Dress
<b>Tuesday, 3rd Sep</b>	<b>Helmut Schmidt University (HSU)</b>	<b>Summer Class A uniform / Business Attire for civilians</b>

08:55 – 09:00 Admin Remarks

09:00 – 09:15 Opening Remarks Host (President HSU) (ETC – shared Programme)

09:20 – 09:40 Opening Remarks - TBD Secretary of State Nils Hilmer (ETC – shared Programme)

09:45 – 10:45 Opening Plenary Session

10:50 – 11:50 Academic Keynote – President HSU (ETC – shared Programme)

12:00 – 13:00 **Standing Lunch / Blotto**

13:00 – 16:30 Workshop Prussian Kriegsspiel / Wargaming Sessions / WVIP Megagame / TED-Talks

16:45 – 18:00 Debriefing

19:00 – 23:00 Boattrip (voluntarily)

Summer Class A uniform / Business casual, open collar

<b>Wednesday, 4th Sep</b>	<b>Helmut Schmidt University (HSU)</b>	<b>Summer Class A uniform / Business Attire for civilians</b>
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09:00 – 10:00 Academic Keynote Original Prussian Kriegsspiel – Prof. Dr. Wintjes (ETC – shared Programme)

10:00 – 12:00 Workshop AI in Wargaming / Wargaming Sessions / TED-Talks

12:00 – 13:00 **Standing Lunch**

13:00 – 16:00 Workshop R&D and Wargaming / Wargaming Sessions / TED-Talks

16:00 – 16:30 Debriefing Blotto Analysis

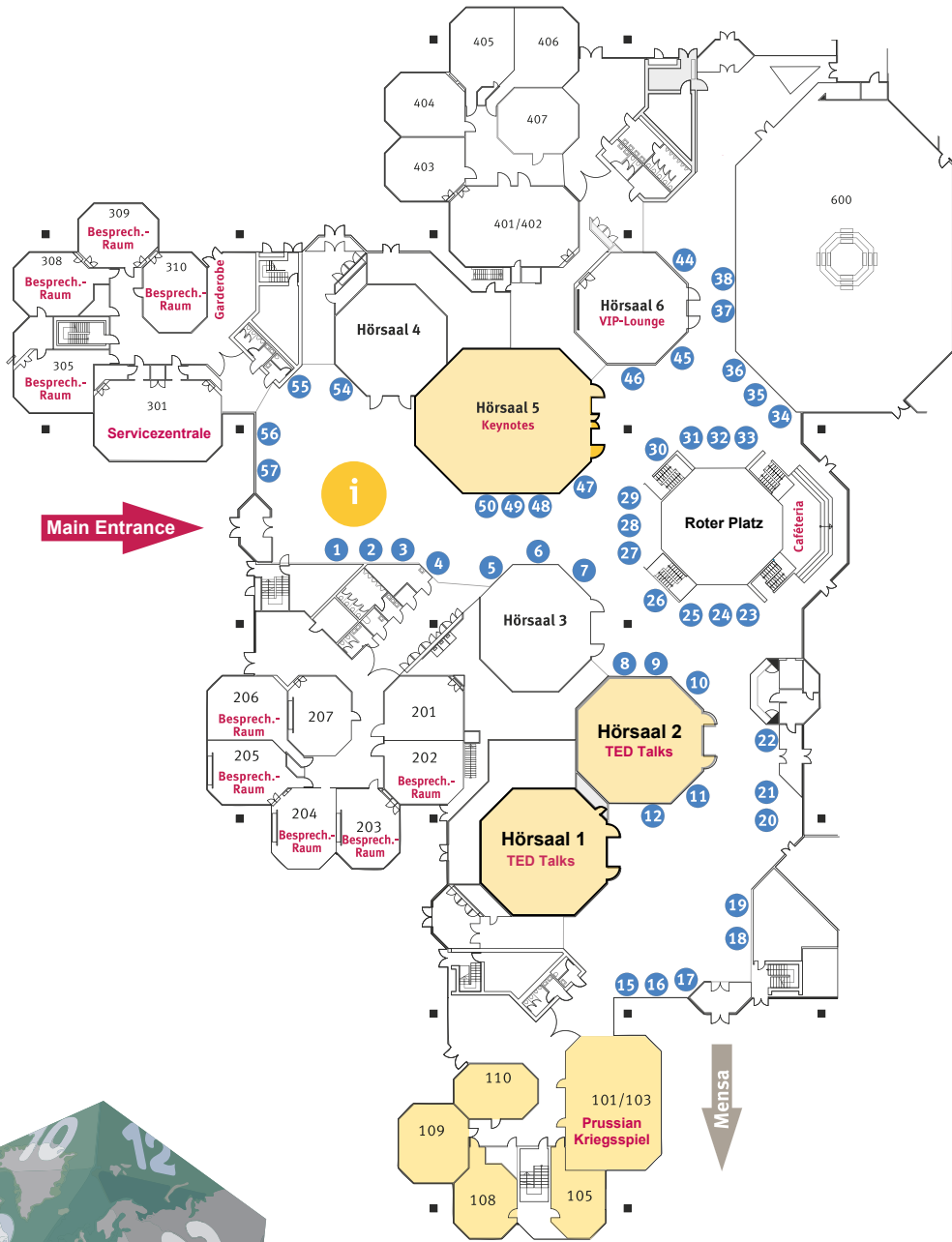
16:30 – 17:30 Panel Discussion Influence Wargaming

17:30 – 18:00 Closing Remarks

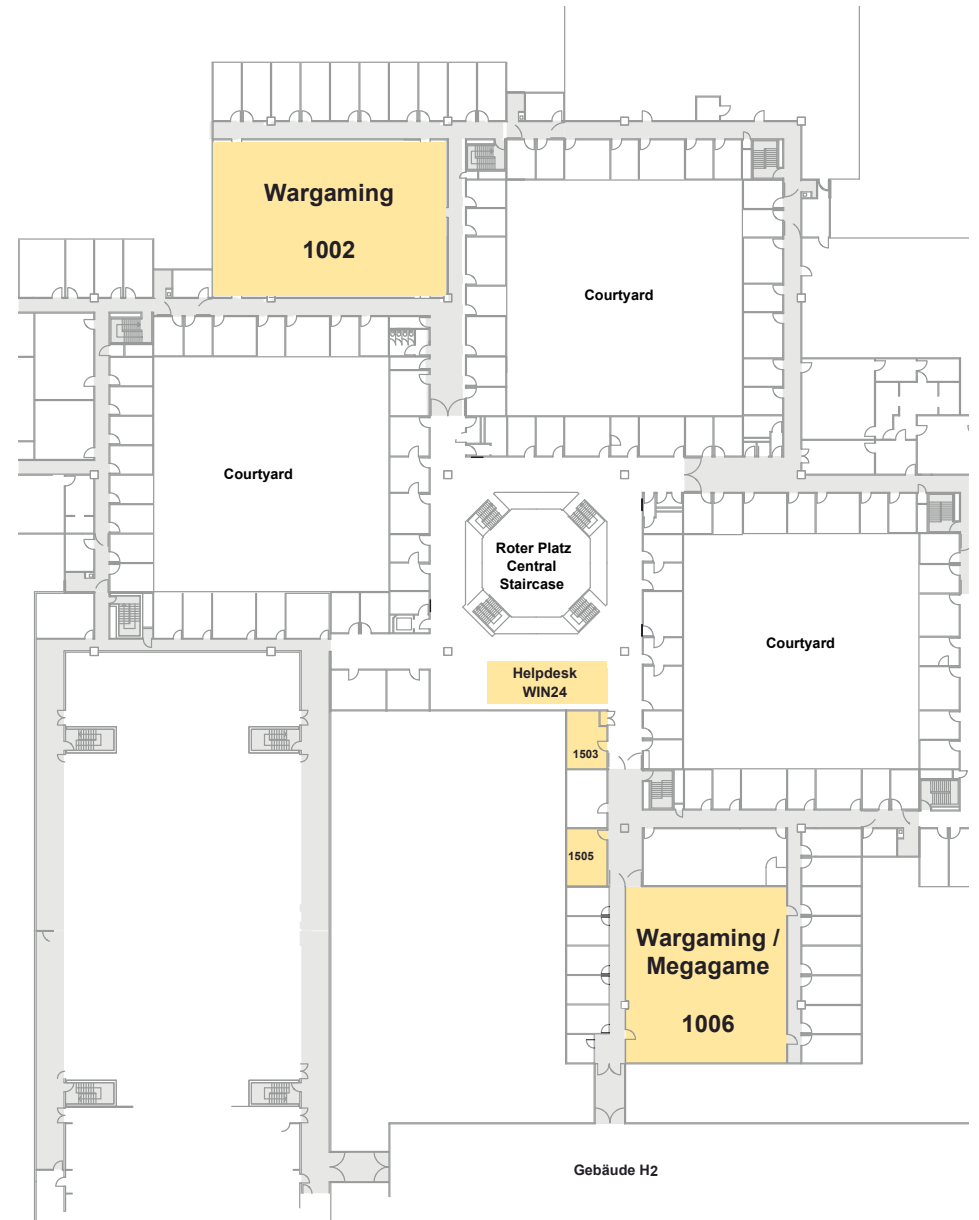


Name	Topic	Place	Time
<b>3. September 2024</b>			
Prof. Dr. Wintjes (DEU)	<b>Workshop WIN 24</b> Prussian Kriegsspiel	101 / 103	13:00 - 16:15
Alexander Fotescu (DEU)	Neuroplasticity and Wargaming	Hörsaal 1	14:00
L. Berke Capli (NATO SAS-172)	Design MDO Wargames with LLM integration	Hörsaal 1	14:30
Prof. Dr. Gary Schaal (DEU)	GhostPlay, AI in Wargaming	Hörsaal 1	15:00
Cpt Max Meltschack and 1st Lt Dominic Weller (DEU)	Wargaming with LLM	Hörsaal 1	15:30
Dr. Yuna Wong (USA)	Woman Wargaming Network	Hörsaal 1	16:00
Prof. Dr. Wintjes (DEU)	Prussian Kriegsspiel 200 years Anniversary	Hörsaal 1	16:30
Major Yvonne Roetter (DEU)	Interagency Wargaming for StratCom	Hörsaal 2	14:00
Dr. Yuna Wong (USA)	Woman Wargaming Network	Hörsaal 2	14:30
Dr. Thibault Fouillet (FRA)	French Academic Wargaming Initiative	Hörsaal 2	15:00
Brian Train (CAN)	Modeling Civils in Wargaming	Hörsaal 2	15:30
LTC Francesco Marradi (ITA)	Space Ops and Wargames	Hörsaal 2	16:00
LTC Marco von Koerber (DEU)	Design Wargames for the Navy	Hörsaal 2	16:30
<b>4. September 2024</b>			
Patrick Ruestchmann (FRA)	Wargaming with high level decision makers	Hörsaal 1	10:10
Col (ret) Jean-Michel Millet (FRA)	Red Teaming is not thinking red	Hörsaal 1	10:25
Professor Dr. Gary Schaal, Dr. Yuna Wong, Dr. Christian Nitzl, 1st Lt Dominic Weller, Elçin Ada Sayin	<b>Workshop WIN 24</b> Discussion on AI in Wargaming	0001 Mensa Raum	10:45 - 12:00

Name	Topic	Place	Time
<b>Standing Lunch</b>			<b>12:00</b>
LTC Marco von Koerber (DEU)	<b>Workshop WIN 24</b> Cooperation Between R&D and Wargaming	0001 Mensa Raum	13:00 - 15:00
Sebastian Bae (USA)	How to develop Wargaming skills?	Hörsaal 1	13:00
LTC Francesco Marradi (ITA)	Space Ops and Wargames	Hörsaal 1	13:30
CMD Antoine Bourguilleau (FRA)	Logistics in Wargaming	Hörsaal 1	14:00
Brian Train (CAN)	Modeling Civils in Wargaming	Hörsaal 1	14:30
Dr. Nitzl (DEU)	The Human Side of Wargaming	Hörsaal 1	15:00
LTC Marco von Koerber (DEU)	Design Wargames for the Navy	Hörsaal 1	15:30
Cpt Max Meltschack and 1st Lt Dominic Weller (DEU)	Wargaming with LLM	Hörsaal 2	10:10
Major Yvonne Roetter (DEU)	Interagency Wargaming for StratCom	Hörsaal 2	10:25
<b>Standing Lunch</b>			<b>12:00</b>
Dr. Marcuzzi (ITA)	History of IR to Influence Wargaming	Hörsaal 2	13:00
Dr. Thibault Fouillet (FRA)	French Academic Wargaming Initiative	Hörsaal 2	13:30
Dr. Nitzl (DEU)	The Human Side of Wargaming	Hörsaal 2	14:00
Sebastian Bae (USA)	How to develop Wargaming skills?	Hörsaal 2	14:30
Col (ret) Jean-Michel Millet (FRA)	Red Teaming is not thinking red	Hörsaal 2	15:00
Yvonne Roetter (DEU)	Interagency Wargaming for StratCom	Hörsaal 2	15:30



Event Rooms





## ICEBREAKER (hosted event)

- › 2. September 2024
- › 19:00 hrs
- › Hafen-Klub Hamburg

The Hafen-Klub Hamburg is located in one of the most beautiful spots of the Hanseatic City. It is a place, where members of all branches can meet each other and it provides the best opportunities for networking. "Hamburg - the gateway to the world"! The terrific view out at the passing ships and the quays proves the truth of this slogan.



## Harbor Boat Trip (voluntary but subject to a charge)

- › 3. September 2024
- › Boarding as of 19:30 hrs
- › Departure at 20:00 hrs
- › MS Hamburg

The harbor cruise will take place on a modern passenger ship - the "MS Hamburg". It goes along the river Elbe and will pass the skyline of Hamburg as well as the famous Elbphilharmonie concert hall.





In 1824, the Prussian Kriegsspiel was invented in Germany to train officers on new types of topographical maps that changed warfare profoundly. Today, 200 years later, we use wargaming – which translates directly from Kriegsspiel – in a variety of different use cases to counter diverse challenges of modern threat scenarios. This development is not limited to the German Armed Forces but can be observed all over the alliance where the application of wargaming can be divided into two main categories: educational and analytical wargaming.

As the director of the Bundeswehr Office for Defence Planning my focus lies on analytical wargaming which we use to develop new ideas, validating concepts and analysing decisions made by the players. Thereby, wargaming is in line with other powerful analysis tools like operations research or modelling and simulation. Only by utilizing the whole range of this tool suite, my office is able to conduct excellent defence planning for the near and distant future.



The wargames presented at this year's Wargaming Initiative for NATO were carefully selected by a trinational team led by my office and supported by experts from Italy and France. The motto of this year's event is "Wargaming for the Alliance: Towards a Common Culture". The team made sure that you are presented with wargames that mirror this motto.

Furthermore, the selection ensures a variety of well-established wargames that cover any level of operation from tactical and operational up to strategic and even political level. You will also find that the wargames focus on different domains that include the established ones Land, Air, Sea, Cyber and Space as well as some new ones that I leave up to you to discover yourself. Furthermore, the program acknowledges the importance of educational and analytical wargames and thus offers a good mix of both categories.

With these criteria set, I am convinced that the selected 21 wargames for the Wargaming Initiative for NATO 2024 build a selection that will let you find a suitable candidate for your personal interest. I invite you to not only take a look at these wargames but to be active. Take a seat, roll a dice and dive in into the scenario presented by your facilitator. That is what I will be doing. So today you might either be my partner or my adversary. Either way, at the end we will depart with new knowledge, interesting decisions and ideas for a future towards a common culture.

Major General Wolfgang Gäbelein



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**Presented by:**  
Allied Command Transformation (ACT) - NATO

## Assent

Assent is an analytical wargame to practice consensus making in crisis scenarios. Players will represent a fictional country, either Orange, Purple, Pink, Green or Blue who are participating in a fictionalized version of NATO. Every Turn, players must collectively decide, and fund, a course action to address an international crisis instigated by the Red country while also balancing national goals. This is an unclassified game, with fictional countries and scenarios.

**Classification:** analytical;  
strategic;  
political

**Number of players:** 5

**Time for completion:** 2 h

**Time for single turn:** 20 min

**Presented by:**  
Modelling and Simulation Centre of  
Excellence (M&S CoE) - NATO

## CHESS

(Cyberspace Hybrid warfare for  
Educational Strategic Scenarios)

This board game shows the situation between a NATO country and an aggressor before war. The player will gain some insights in the complexity of cyberwar on a strategic level dealing with limited resources, personal, and time (educational for the players). The wargaming team will gain some insights, how different players (mil and non-mil) act in such a scenario (analytical part).

**Classification:** analytical;  
educational;  
strategic

**Number of players:** 2-6

**Time for completion:** 2 h

**Time for single turn:** 15 min

**Presented by:**  
Civil-Military Cooperation Centre of  
Excellence (CIMIC CoE) - NATO

## WISE-AEGIS

The WISE-AEGIS wargame is about resilience through civil preparedness in the Baltic Sea Region. The game centres around the principles of a whole-of-government approach to resilience and pays specific attention to the responsibilities of various actors within this context. Resilience related concepts such as the 7 baseline requirements, Civil-Military Cooperation (CIMIC) and host nation responsibilities also are addressed in the game. Each round, the teams (representing nations) are challenged to overcome (societal) shocks affecting various domains by developing courses of actions (COAs). These COAs are judged by their peers and experts. The outcomes of their COAs affect event in the subsequent rounds, thus reflecting 1st, 2nd and 3rd order effects. The game uses a Baltic scenario. Each team represents one of the Baltic States or Poland. Within each team participants take on different roles. They are challenged to not only work together within their own team but also with other teams, representing other nations, as well as counterparts such as NATO Liaison Committee and the EU Emergency Response Coordination Centre.

**Classification:** educational;  
strategic; political

**Number of players:** 16-40

**Time for completion:** 3 h - 4 h

**Time for single turn:** 1 h

**Presented by:**  
Allied Land Command - NATO

## Cyber Kriegsspiel

In Cyber Kriegsspiel players will take control of a small portion of an abstraction of Cyberspace with the goal to achieve Dominance. They will do so by taking control of as much of Cyberspace as possible using overt and covert means. As actions they are given a list of effects described in the AJP 3.20 Cyberspace Operations with have been abstracted for the game. Players will also need to research into certain areas to unlock more powerful effects to be successful.

**Classification:** educational;  
operational

**Number of players:** 6-18

**Time for completion:** 2 h

**Time for single turn:** 15 min

**Presented by:**  
European Centre of Excellence for Countering  
Hybrid Threats - Europe

## Hybrid Commander: Sisu

Embark on an enthralling journey into the world of international security with the revolutionary force of Hybrid Warfare. Defined by its unique characteristics, hybrid warfare is not merely an event but a strategic means with a twist. In a world where deterrence once held sway, protecting international actors, the tide has turned. Some actors now aim to destabilize neighbours, prompting a shift towards resilience. Hybrid Commander: Sisu, is a cutting-edge modular wargame crafted for countering hybrid threats. The game applies a Hybrid Conceptual Framework and Core Model for Resilience, developed in collaboration by the Hybrid CoE in Helsinki and the EU Joint Research in to game mechanics. Through riveting narrative techniques by the players, the game unfolds the story of coordinated hybrid threat actions. It empowers players to identify vulnerabilities, exploit means, and dance on the fine line between war and peace. Beyond the tactical and strategic realms, the game challenges players to strategically link battles for overarching success. With cards and dice introducing probabilities, wildcards, and black swan.

**Classification:** educational;  
tactical; strategic;  
political

**Number of players:** 8-20

**Time for completion:** 45 min

**Time for single turn:** 10 min - 30 min

**Presented by:**  
Helmut-Schmidt-University - Germany

## Blotto

The dynamic Blotto wargame, based on the Colonel Blotto game, incorporates elements of multidimensional warfare and political influence. It can be used for training, research, or in a lab setting. The game involves players making strategic decisions on resource allocation, military and political influence, with victory conditions based on military or economic superiority. The gameplay includes rounds where players allocate resources and influence, with outcomes influenced by various parameters specific to each player.

**Classification:** analytical;  
educational;  
political

**Number of players:** 2

**Time for completion:** 1 h max.

**Time for single turn:** 2 min



**Presented by:**  
Maritime Warfare Centre - Germany

## Commander Task Force Baltic

Commander Task Force Baltic is a Wargame that supports German Navy training and education as well as planning. Using game elements from classic table top games and card games participants act as Commander task Groups in various scenarios in the Baltic. Main focus of the game is Navy personnel.

**Classification:** analytical;  
tactical;  
operational

**Number of players:** 4-40

**Time for completion:** 3 h

**Time for single turn:** 10 min - 30 min

**Presented by:**  
Bundeswehr Doctrine Centre - Germany

## HyDRA (Hybrid Warfare, Defence, Resilience & Awareness Game)

As an educational wargame HyDRA is intended to contribute to the following resilience effects:

- › Raising awareness of hybrid attack patterns and the relevance of oneself as a potential “sub-target” of a hybrid attack.
- › Triggering impulses to revise existing procedures, regulations and processes in the field of responsibility.
- › Invigorate and strengthen a common discourse on the topic.
- › advanced and continuing training on the topic of hybrid threats.

The idea: Symbolizing the serpentine lake monster HYDRA, Team RED (hybrid actor) attacks a German military compound. Team BLUE, in the role of the compound’s defenders, is given a special task to fulfill until the end of the year. Team RED’s mission is preventing Team BLUE from doing so. The attacks follow typical patterns of hybrid warfare.

**Classification:** educational;  
tactical;  
operational;  
strategic; political

**Number of players:** 6-8

**Time for completion:** N.A.

**Time for single turn:** N.A.

**Presented by:**  
Bundeswehr Office for  
Defence Planning - Germany

## Future Challenge 2040

Future Challenge 2040 is an educational wargame which plays in the year 2040 and above. The Wargame is a table top wargame. The aim of the game is to familiarize the players with the economic, social, political and military aspects influences which could be important in the year 2040.

**Classification:** educational;  
strategic

**Number of players:** 6

**Time for completion:** 2 h - 3 h

**Time for single turn:** 20 min

**Presented by:**  
École de guerre - France

## Arctique 2100

Arctique 2100 is a game focused on the themes of climate change and tensions between great powers around the exploitation of the resources of the North Pole. On a game board evolving according to the melting of the ice and the exhaustion of raw material deposits, China, Russia and NATO negotiate and even compete to develop their forces and their economies. Should we invest massively in the exploitation of carbon resources or achieve an energy transition as quickly as possible to control the North Pole? The different scenarios of Arctique 2100 aim to answer this question.

**Classification:** analytical; strategic;  
political

**Number of players:** 3-8

**Time for completion:** 4 h - 8 h

**Time for single turn:** 30 min - 1 h

**Presented by:**  
Centre interarmées de concepts, de doctrines  
et d'expérimentations (CICDE) - France

## Caucasus Fallout

The game is a contemporary operative level open conflict wargame. It focuses on the Lower Caucasus region: Azerbaijan is launching a military operation in order to seize control of the Latchin and Meghri corridors. Three competitive factions act mostly in Military actions but may activate other Instruments of Power: Diplomacy, Information, Economic, Financial and Legal (DIME-FL) through Support Cards. Each player has its own deck of Support Cards. Military units are Regiment or lower levels. Players are dispatched into 3 factions (1 or 2 players per faction), each with a short brief and a list of objectives (they may be adjusted by the players) and caveats to respect: Azerbaijan, Armenia, EU Coalition + Russia

**Classification:** analytical;  
operational

**Number of players:** 3-6

**Time for completion:** 2 h

**Time for single turn:** 15 min

**Presented by:**  
Centre interarmées de concepts, de doctrines  
et d'expérimentations (CICDE) - France

## Flashpoint Series (Arctic, Lebanon, Baltic)

This series of games at strategic and Pol-Mil level game is set in actual geopolitical events. The focus of the game is on the Instruments of Powers (DIME-FL). Players are dispatched into 4 to 7 teams (2-3 players per team), depending of the game, each with a short brief and a list of objectives and caveats. This is a semi-rigid game system based on the maps drawn for existing Matrix Games (some by Tom Mouat)

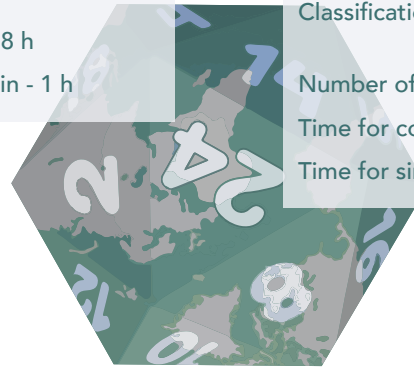
The players monitor the overall Crisis Level as well as their own resources and the Resilience level of the countries in the region.

**Classification:** educational;  
strategic; political

**Number of players:** 4-20

**Time for completion:** 2 h -3 h

**Time for single turn:** 20 min



**Presented by:**  
Centre for Higher Defence Studies (CASD) - Italy

## Mediterraneo:

Science and Diplomacy in the wider Mediterranean

This is a new matrix wargame developed by CASD in Rome. It is set in the Mediterranean where blue and red nations compete and cooperate. Each nation must achieve national objectives (political, economic, scientific...) at times also competing with like-minded nations, but the rules enforce a mechanism of cooperation among blue or red teams. Influence is achieved through a combination of actions: economic, diplomatic, scientific, military, legal, hybrid, media. Within the national teams, some players will act as the political sphere, some as the scientific community. Financial resources and scientific resources will be deployed to achieve national and collective goals, among which, a prosperous, free, and safe Mediterranean. Participants are encouraged to deploy science diplomacy campaigns on other nations. Science is a tool, scientific power is also a metric of victory. The military component of the game is limited. The time horizon of the game is long term, 10-20 years.

**Classification:** analytical;  
educational;  
strategic; political

**Number of players:** 5-50

**Time for completion:** 2 h

**Time for single turn:** 1 h

**Presented by:**  
5Ks - Italy

## VENICE

VENICE for Headquarter Staff and Naval Training Centres has been created in collaboration with Navy experts to meet the requirements for a cost-effective training tool supporting operational level planning training capable to prepare and test/simulate a scenario(s) and its evolutions. 2Dmap editor (realistic or virtual areas) including weather, logistic, boundaries, area, etc. Platform editor to define sea/air/land/amphibious units with their characteristics (kinematics, logistics, sensors, weapons, etc). Tactical display for planning simulation (real-time or accelerated time) communication system (voice, written communications, chat and mail system).

**Classification:** educational;  
operational

**Number of players:** Unlimited number

**Time for completion:** N.A.

**Time for single turn:** N.A.

**Presented by:**  
Thin Red Line Games - Italy

## 1985: Sacred Oil

1985: Sacred Oil is a strategic/operational simulation depicting the escalating tensions in the Persian Gulf as the Soviet Union and the United States, along with their allies, prepare for a potential conflict in 1985. Key elements of the simulation include logistical and political considerations, with both sides making critical decisions amidst mounting international tension. The situation is further complicated by the ongoing Iran-Iraq conflict and the USSR's involvement in Afghanistan.

**Classification:** analytical;  
operational

**Number of players:** 2-6

**Time for completion:** 3 h - 5 h

**Time for single turn:** 30 min

**Presented by:**  
University of Genoa - Italy

## CW-Brainware

CW-Brainware deals with a game over a complex, dynamic environment where multiple decision-makers engage in cyber, kinetic, and cognitive warfare to influence both military forces and civilian populations. Each decision-maker manoeuvres through a landscape of attacks that affect the social, psychological, and emotional parameters of their adversaries' societies. Participants must also contend with incoming assaults from opponents, necessitating responsive strategies, including the issuance of both genuine and deceptive public statements to manipulate the emotional climate of their own forces and citizens. The simulator integrates detailed demographic variables - such as ethnicity, age, gender, religion, political orientation, health status, educational background, income levels, and social affiliations—to realistically model human emotional responses to conflict scenarios as well as cognitive factors such as moral, motivation, integrity, beliefs, values et cetera. This facilitates strategic planning and decision-making, offering a holistic view of potential public sentiment in reaction to urban development projects and warfare tactics.

**Classification:** analytical; tactical;  
operational;  
strategic; political

**Number of players:** 2-10

**Time for completion:** 1 h - 2 h

**Time for single turn:** 10 min



**Presented by:**  
Strand Simulations Group – United Kingdom

## Thinking Red

Thinking Red is a hybrid warfare wargame from the perspective of malign actors; Russia, China, Iran, and a Non-State Actor. It is an educational wargame that highlights the different strategies, objectives, capabilities, and areas of interest (through PMESII) that each malign actor has. The players will compete across eight countries of interest for influence and impact in each PMESII (political, military, economic, social, infrastructure, and information systems) sector. Through a range of capability cards, disruption decks, and PMESII-based trackers in eight key countries, the wargame considers hybrid warfare strategies, influence, and cognitive superiority.

NB: Thinking Red has been played with and without a non-state actor player. Also, the names of the actors can easily be changed - e.g. Purple Land instead of Russia.

**Classification:** educational;  
political

**Number of players:** 3-10

**Time for completion:** 3 h

**Time for single turn:** 15 min

**Presented by:**  
King's College London – United Kingdom

## Jaws of the Dragon: NATO Maritime Group Pacific

Many NATO nations are individually increasing their engagement with the Indo-Pacific. The purpose of this game is to explore a near future hypothetical establishment of standing NATO Maritime Group 3 (pacific) and to explore its first fight in the Pacific, and the results and consequences thereof. Standing NATO Maritime Group 3 is led by the Marine National's Charles De Gaulle carrier strike group, augmented with escorts from the Deutsche Marine, Marina Militare, and US Navy and Group 3's amphibious component being the Royal Navy's Littoral Response Group South. Facing them will be the Chinese using every tool in their inventory to make them fail.

**Classification:** educational;  
operational;  
strategic

**Number of players:** 3-8

**Time for completion:** N.A.

**Time for single turn:** 30 min

**Presented by:**  
Royal Norwegian Naval Academy and Levato  
- Norway

## Vantage

Vantage wargaming represents a dynamic evolution in military training, offering a computer-based platform designed to enhance strategic thinking and decision-making skills in cadets and officers. Unlike traditional solo simulations against predictable AI opponents, Vantage introduces a new dimension of realism by integrating human complexity into the training scenarios. Vantage is a tactical, real-time wargaming system that empowers users to create, test, and evaluate diverse combat scenarios. This platform transcends the limitations of solitary exercises by enabling participants to engage with one another on the same battlefield, under identical conditions and constraints. Users have the opportunity to plan their operations, considering various factors such as terrain, resources, and enemy tactics. However, the true test of these plans occurs in real-time engagements against fellow participants, where the efficiency of strategies is put to the ultimate test. Adaptive thinking and teamwork is key to success.

**Classification:** educational;  
tactical;  
operational

**Number of players:** 2-1000+

**Time for completion:** 3 h

**Time for single turn:** 30 min

**Presented by:**  
Center for Naval Analyses - United States of  
America

## Organizational Troop-to-Task

CNA created the organizational troop-to-task (OT3) wargame to explore whether a new or redesigned organization—not yet implemented—was the “right size” and had the “right mix” of capabilities to execute its mission(s) during a high-intensity period of operations. OT3 combines organizational design and analysis with key decisions on how to deliberately establish processes and utilize staffs for a specific function and mission. OT3 helps identify whether individual persons assigned to an organization are under- or overtasked, whether any persons or groups of people are not utilized at all, and whether there are any gaps that should be filled in the manning document. During an OT3 game, players will have to assign Personnel Cards (representing individual members of an organization) to various tasks and scenarios that develop over subsequent turns. This forces players to make specific trade-off decisions and balance staffing and required functions, also considering risk-taking.

**Classification:** analytical;  
tactical;  
operational

**Number of players:** 6 - 8

**Time for completion:** 4 h

**Time for single turn:** 30 min









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## Sebastian BAE

**Bio:** Sebastian J. Bae is a Research Scientist and Senior Game Designer in the Center for Naval Analyses (CNA), works in wargaming, emerging technologies, and the future of warfare. He also serves as an adjunct assistant professor at the Center for Security Studies at Georgetown University, where he teaches a graduate course on designing educational wargames. He has also designed Littoral Commander: Indo-Pacific, a grand tactical wargame on future warfare. Previously, he served six years in the Marine Corps infantry, leaving as a sergeant. He deployed to Iraq in 2009.

**Content:** This TED Talk will discuss how he approaches game design – how he develops schemas, scenarios, and game mechanics. This is aimed at helping people understand how game design process.

## Antoine BOURGUILLEAU

**Bio:** Major Antoine Bourguilleau is a historian, specialist of the history of wargaming. He's the head of the Wargaming Cell at the Future Combat Command of the French. He teaches wargame design and history of warfare at Paris 1 Pantheon Sorbonne University. He's also the designer of Duel Tactique, a Brigade/Division level wargame used at the French Army War College.

**Content:** “We should perhaps drop the logistics part because it will make for a too complicated wargame”. Major Bourguilleau heard this sentence one time too much. Why should we, must we play logistics in our games, why does it matter, and how can we do it so that it's unpleasant enough to be enjoyable – and vice-versa.

## Berke CAPLI

**Bio:** Levent Berke CAPLI is a defence expert who has chaired NATO's SAS-129 on Gamification of Cyber Defence & Resilience and SAS-172 on Multi-domain Wargaming Research Task Groups. He received the NATO STO SAS Panel Early Career Analyst Award in 2023 for his pioneering work. He is now leading the Wargame Domains Initiative, leveraging AI and LLM for professional wargaming.

**Content:** This TED Talk will discuss how Large Language Models (LLMs) extend beyond AI advisory roles, highlighting their potential to overcome common barriers and pitfalls in multi-domain wargaming. Using the Wargame Domains Initiative as a case study, this innovative approach – supported by NATO STO – integrates complex conflict scenarios and rapid technological advancements in wargaming.

## Alexander FOTESCU

**Bio:** Alex Fotescu is a researcher and PhD candidate at the Helmut Schmidt University, where he focuses on cognitive and behavioural sciences applications in security and defence. He has a background in political science, European and business studies. He has been a Doctoral Fellow of the European Security and Defence College (ESDC) since 2022 and a board member of International Association for Intelligence Education (IAFIE) Europe since 2024.

**Content:** AI is like a genie in a bottle: if you don't know how and what to ask of it, you never know what you're gonna get. The use of AI in wargaming, decision support, knowledge management, etc., can amplify capabilities, shorten timelines, and also atrophy or diminish cognition and specific aspects of human insight based on intuition, heuristics, and bias. Join me in an exploration of how to use AI in wargaming in a way that rejuvenates cognition and maximises the utility of time and effort invested in gaming activities.

## Thibault FOUILLET, PhD

**Bio:** Scientific Director of the Institut d'Etudes de Stratégie et de Défense (IESD) and Associate Research Fellow at the Fondation pour la Recherche Stratégique (FRS), Thibault Fouillet holds a PhD in History/History of Strategic Doctrines. He teaches at Université Jean-Moulin Lyon III and Sciences Po. Lyon. An expert in military strategy, Thibault Fouillet is also specialized in wargaming as a prospective and research methodology.

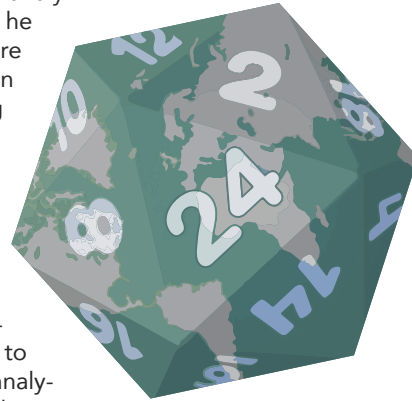
**Content:** Wargames continue to grow in popularity, and after disappearing from the strategic debate in France for over forty years, they are now part of the buzzwords. However, their professional practice remains scattered throughout France, and publications on the subject are rare, especially when compared to the mass of Anglo-Saxon productions. The Assises Françaises d'Etude du Wargaming was the first step in addressing these issues.



## Marco VON KOERBER

**Bio:** Lieutenant Commander Marco von Koerber serves as a staff officer at the German Maritime Warfare Center (MWC) in Bremerhaven. He is focusing on the implementation of Wargaming for the German Navy in support of training, education and analysis. In addition to his duties as a wargamer he teaches underwater warfare and tactics. Before joining the MWC he was serving on German submarines and at the Submarine Training Center until 2019. In 2015 he spend one year as an exchange officer in Norway also serving on submarine. He started as an enlisted in the Navy in 2006.

**Content:** This TED Talk will give an overview about the integration of Wargaming in the German Navy. Presenting methodologies and valuable insides for others that seek to integrate wargaming to educate, train and analyze in order to improve critical thinking and decision making.



## Francesco MARRADI

**Bio:** Francesco Marradi is Lieutenant Colonel (OF-4) of the Corp of Engineers of the Italian Air Force. Currently, he is Section Leader for the Critical Emergent Technologies and Space Programmes at the Air Force General Staff in Rome. He joined the Military in 1983, serving in technical and logistic roles as Junior Officer, to switch later to roles in international programmes as Senior Officer in the Italian MoD and abroad in the United States and Germany.

**Content:** Space, like the new warfares, is hardly perceived. It must be made perceivable, so that we can observe it, explore and evaluate to orient, decide about, act on it. Space is not an easy physical environment, neither is its virtual representation. Ultimately, it is a problem of gaming the Space Superiority, making it visible, manageable. Either as an operational layer of established wargames or a (COIN-style?) stand-alone tabletop, the time to cast a bright spotlight on this matter is now.

## Stefano MARCUZZI, PhD

**Bio:** Stefano Marcuzzi is Assistant Professor in History of International Relations at Centre for Defense Higher Studies (CASD). He took his DPhil in History at the University of Oxford in 2016, and later joined the European University Institute (EUI), Florence, as a Max Weber Fellow (2016-2018). Subsequently, he was awarded a Marie Curie Fellowship at the University College Dublin (UCD) and spent 18 months as a Visiting Scholar at Carnegie Europe, Bruxelles. In 2022, Marcuzzi served as Political Analyst at the J2 branch of the NATO Rapid Deployable Corps Italy (NRDC-ITA) in Solbiate Olona, participating in the NATO Steadfast Jakkal 2022 Exercise (STJA22). His research interests include the working of coalitions and alliances in crisis and conflict (particularly EU and NATO crisis management), the changing character of war, and Mediterranean security, with a special focus on Libya.

**Content:** This TED Talk reviews critical developments and innovations in the history of wargames, while stressing how this new synergy between history of international relations and traditional wargaming can offer further opportunities to understand possible future scenarios and develop compatible decision models, test hypotheses, offer alternatives, solve problems, and stimulate innovation.

## Jean-Michel MILLET

**Bio:** Col (ret) Jean-Michel Millet is currently the Deputy Lead for the Strategic Warfighting Headquarters Project Management Team at SHAPE, Mons, Belgium. Previously he was the head of the contracted Wargaming Project Team at HQ SACT, Norfolk, USA. Prior to his retirement after 38 years of service he launched the wargaming project initiative at the French Joint Directorate for Concept, Doctrine and Experimentation and served previously as head of the Transformation Delivery Division at the NATO Joint Warfare Center in Stavanger, Norway. He has extensive experience in strategic and operational planning, as well as defense diplomacy. He served in multiple operational deployments in the Balkans, Western and Central Africa and Afghanistan. He's a graduate of the US Army Command and General Staff College and the French Ecole de Guerre.

**Content:** Red Teaming and Red Cell / Opposition forces (OPFOR) concepts and practices have been around for some time now and are sometimes a source of confusion. This TED Talk underlines the importance of enabling, more than ever, the requirement for critical thinking for operational planning and execution, but also the need to bring clarity on the different concepts and best ways to implement them. Definitely, Red Teaming and Red Cells are related concepts but are not one and the same thing.

## PD Dr. rer. pol. habil. Christian NITZL

**Bio:** Dr. Christian Nitzl is head of research for Wargaming and Information Systems at the Center for Intelligence and Security Studies (CISS) at the University of the Bundeswehr Munich. His focus is on research issues such as the art and science of wargaming, public management, public accounting, and statistical analysis methods. According to Stanford list (Scopus), he is among the top 2%, and according to ResearchGate, he is among the top 1% most cited scholars worldwide. He has published 50+ articles in peer-reviewed scientific journals.

**Content:** The TED Talk illustrates how psychological effects bias decision-making and forecasts and how wargaming can help overcome these biases. Not to take these effects into account in the design of wargames would be to ignore the vital advantages of wargames.

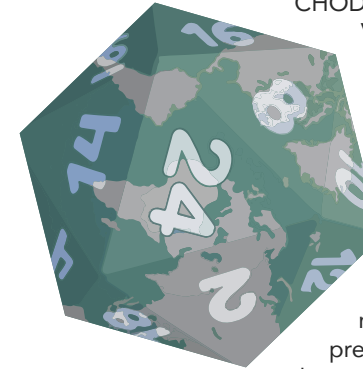
## Yvonne ROETTER

**Bio:** Since 2022, Major Yvonne Roetter is holding position with SO MN Doctrine Development at Bundeswehr Centre for Digitalization and Director "Multinational Information Operations Experiment" (MNIOE) - a MN COI focusing on current issues WRT Strategic Communications. Between 2016 and 2020 she had various engagements as PsyOps-Staff Officer (analyst, officers training and SO for MN cooperation) and she was deployment to Afghanistan (as a PsyOps analyst) "Resolute Support" in 2015. Between 2012 and 2014 she received education and training as tank officer (platoon leaders' course), retaining as a PsyOps officer. Major Yvonne Roetter is graduated at Helmut-Schmidt-University, Hamburg, with a M.A. in Political Science.

**Content:** The TED Talk will focus on the recent developments of the wargame, the Multinational Information Operations Experiment (MNIOE) is currently developing. The MNIOE is a broad community of interest whose memberships reach beyond the borders of NATO. The focus is on recent issues regarding Strategic Communication (StratCom). The MNIOE is developing a StratCom-wargame to foster interagency cooperation within a "Whole-of-Government/Whole-of-Society"-approach. It aims at experienced StratCom- and communications personnel within the governmental, civilian and academic environment.

## Patrick RUESTCHMANN

**Bio:** Deputy Director, Wargaming, with the French Joint Staff / Joint Center for Concepts, Doctrines and Experiments, Patrick Ruestschmann designs and facilitate wargames for High Level Authorities (e.g. CHOD...), including NATO (e.g. SACT...), allies (e.g. VCHOD ITA) and partners (e.g. Diplomats). He is graduated from the Institute of Advanced Studies in National Defence and is an Operational Reserve Officer. His academic background includes applied researches (AI-Cognitive Science), innovation management and digital transformation. Up to 2023, he was Head of the Digital Transformation Department for the French Prime Minister's Digital Directorate and director of a Government Priority Policy with the PM Office. He was president of Serious Games Network - France and has published both serious and hobby wargames.



**Content:** Modelling complex crises for High Level Authorities requires to focus on what are immediately useful for the decision making process. During those sessions, the combination of profiles such as military, researcher, diplomat, dictates to deliver fast entry level to serious games or wargames, acute and prospective scenarios and briefs, as well as staying on track with the strategic expectations of the players. This talk focuses on various experiences within national or NATO environments and tips to design and facilitate those analytical games where the stakeholders have limited time and look for high added value.

## Professor Dr. Gary SCHAAL

**Bio:** Prof. Dr. Gary S. Schaal is professor of political science at the University of the Armed Forces, Hamburg, and dean of the faculty of economics and social sciences. He was co-director of the German Institute for Defense and Strategic Studies and is leading the dtec.bw Project „GhostPlay“.

**Content:** This TED Talk argues that using third-wave AI is key to tactical superiority on the battlefield in the future. Central to achieving this superiority is the turn from deterministic AI to emergence. The talk will substantiate these claims by drawing on the latest results from the dtec.bw project „GhostPlay“, which develops a digital twin of the battlefield.

## Max MELTSCHACK

**Bio:** CPT Max Meltschack studied aerospace engineering at the University of the Federal Armed Forces in Munich and technology and innovation management at the University of Applied Sciences in Munich. He serves in the modeling and simulation unit of the Bundeswehr Office for Defence Planning and is responsible for the further development of the wargaming method.

## Dominic WELLER

**Bio:** 1<sup>st</sup>LT Weller studied computer science at the University of the Federal Armed Forces in Munich, specializing in optimization and simulation. Currently a first lieutenant in the Bundeswehr, he is working as an analyst for modeling and simulation in the Bundeswehr Office for Defence Planning. He is a doctoral candidate at the University of the Federal Armed Forces in Munich in the Institute for Theoretical Computer Science, Mathematics, and Operations Research, focusing on reinforcement learning.

**Content:** This TED Talk, delivered by CPT Meltschack and 1<sup>st</sup>LT Weller, investigates the integration of large language models into development and offer a novel approach to improve analytical capabilities within multidomain operations (MDO). The project builds on the inherent strengths of wargaming and machine learning and aims to leverage the synergies between these disciplines to optimize decision-making processes and strategic outcomes (e.g. simulate enemy forces, provide players with advisory capabilities generate game content and obfuscate enemy actions).

## Brian TRAIN

**Bio:** Brian Train is a freelance writer and game designer who has published over 65 games and many historical articles with a wide range of civilian publishers over the last 30 years. His special interests in game design are irregular and urban warfare, “pol-mil” games, and asymmetric games generally. He works as an Education Officer in the provincial government of British Columbia, Canada.

**Content:** This talk will cover the issues and methods of portraying non-combatant populations in wargames. A range of examples at different levels of analysis and conflict situations will be discussed.

## Professor Dr. Jorit WINTJES

**Bio:** Prof. Dr. Jorit Wintjes is a senior lecturer in the department of history at Julius-Maximilians-Universität in Würzburg, Germany, teaching in

both the History and Digital Humanities programs. He also regularly runs wargaming courses at the Helmut-Schmidt-Universität in Hamburg. As a co-founder of the Conflict Simulaton Group, together with his colleagues he has reconstructed and developed Kriegsspiel-type wargames for training decision-making processes; these wargames have been run at various German army institutions. Beyond ancient history he has published several articles and book chapters on 19th c. military history and, more specifically, the history of the Prussian Kriegsspiel; among other publications he has produced an edition of a key Kriegsspiel ruleset (Das Kriegsspiel des Wilhelm von Tschischwitz (GIDS Analysis 3), Hamburg 2019)).

**Content:** This TED Talk will concentrate on the specific historical circumstances that made it possible to accept the Prussian Kriegsspiel. The very unique circumstance will be fleshed out that made the birth of modern Wargaming possible.

## Yuna WONG, PhD

**Bio:** Dr. Yuna Wong, is section supervisor for Strategy and Policy Analysis at Johns Hopkins University Applied Physics Lab, President of the Women’s Wargaming Network, and adjunct professor at Georgetown University. She worked for the Institute for Defense Analyses and the RAND Corporation. At RAND she designed Hedgemony, A Game of Strategic Choices. Dr. Wong is a notable figure in the wargaming community, known for her extensive expertise and contributions to the field. She holds a PhD in Public Policy Analysis from the Pardee RAND Graduate School, where she has been involved in numerous research projects and strategic simulations. Her work often intersects with national security, defense policy, and the development of analytical methods for complex problem-solving in wargaming scenarios.

**Content:** Discover the transformative power of diversity in strategic decision-making with Dr. Yuna Wong, president of the Woman Wargaming Network (WWN). In this compelling TED Talk, Dr. Wong shares the mission of the WWN to break barriers and elevate women’s voices in the field of wargaming. Learn how mentorship, networking, and dedicated resources are paving the way for women to excel in this traditionally male-dominated domain. Hear inspiring stories of women making significant impacts and explore why inclusivity in wargaming is not just equitable but essential for innovation in national security. Join us for an insightful journey into reshaping the future of wargaming.





## The Prussian Kriegsspiel 1824 – 2024

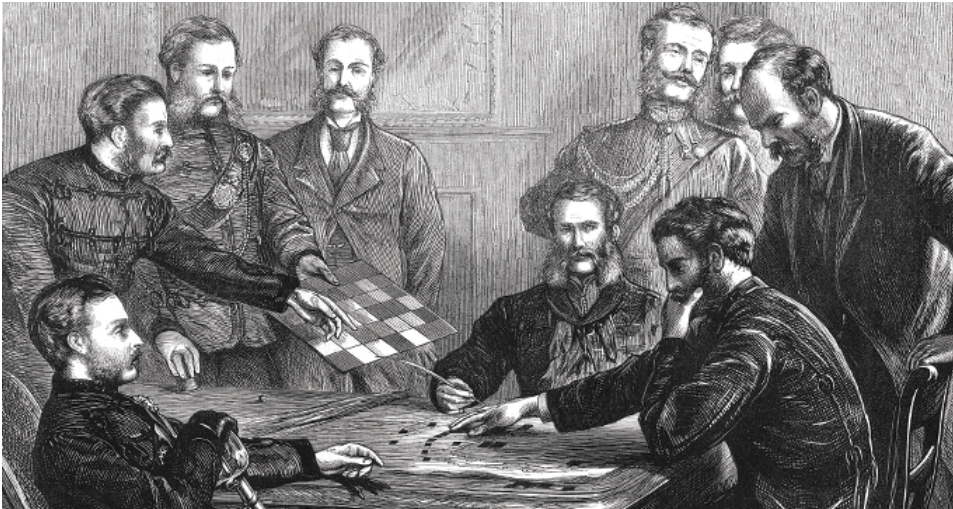
200 years ago, the Prussian Kriegsspiel was introduced as a training instrument into the Prussian army; this marks the very beginning of the organized use of wargaming in military education and training. At the time, the Kriegsspiel, while emerging from a longer tradition of military-themed board-games, was something entirely new. Up to that point, such games had been developed from chess, required complex rules, and displayed a high level of abstraction; in most cases, contemporary military observers considered them to be of little value to military training. The Prussian Kriegsspiel, however, was radically different: it is essentially a competitive two-party staff exercise ideally run in real time. Participants are separated from each other, and as the Kriegsspiel is run by a team of facilitators, general accessibility is extremely high; participants do not require any knowledge of rules; Kriegsspiel facilitators represent all levels of command below that of the participants, providing them only with those pieces of information that would reach them in a real-life situation.

After its introduction in 1824, the Prussian Kriegsspiel was initially mostly used as a manoeuvre simulator, something sorely needed in an army that in the 1820s and 1830s was cash-starved and spent most of its time inside the walls of its garrisons. After having overcome some initial opposition – the concept of having lieutenants or captains, during a Kriegsspiel, exerting command over battalions or even brigades, was seen as detrimental to overall discipline by quite a few older officers – the Kriegsspiel found an important supporter in Helmuth

von Moltke, and by the early 1860s its use in the Prussian army was widespread. By that time, while still employed as a manoeuvre simulator, the Kriegsspiel was also increasingly used to train decision making.

So far, Kriegsspiel development had been gradually evolving; the early 1870s however saw two important transformational steps that had an enormous influence on the history of wargaming in general: one, Prussian success in the War of 1870/71, which had come unexpected to many contemporary observers, resulted in the Kriegsspiel – the use of which up to that point, while known outside Prussia, was confined to the Prussian army – getting adopted by nearly all modern militaries within a decade; while 1824 saw the very beginning of educational wargaming, the Kriegsspiel's adoption by the British army in 1872 marks the beginning of the widespread use of wargaming that continues today. And two, the Prussian Kriegsspiel was branching out both vertically with the distinction of tactical, operational, and strategic levels now introduced, and horizontally, as Kriegsspiele were developed covering specific aspects of warfare including logistics, casualty management, siege warfare, naval warfare and eventually during WW1 aerial warfare.

Easily the most important characteristic of the Kriegsspiel's developmental history is its broadening of purpose. Originally introduced as a manoeuvre simulator – a fact reflected by the title of the very first ruleset, "Introduction to the execution of manoeuvres by using the Kriegsspiel" – it eventually developed even beyond educational contexts and was used as a tool for analysing



war plans; by the time of WW1, the term “Kriegsspiel” was applied to a fairly wide variety of activities, just as “wargaming” nowadays is. When used for training military decision makers, however, the Kriegsspiel’s main purpose was threefold: first, it was used to teach how to write orders and reports, and to let participants experience the effects of imprecise orders and reports. Second, the Kriegsspiel made it possible to have participants face the uncertainty of battle caused by ever-present friction and fog-of-war; with only those pieces of information available that participants would have access to in an actual combat situation, dealing with imperfect, incomplete or even wrong information is a central aspect of any Kriegsspiel. And third, and perhaps most importantly, the Kriegsspiel could expose participants to failure and the need to continue making decisions even in the face of plans unravelling and battles going the wrong way; its potential to let participants at least in some ways experience the need

of continuing to function as decision makers in a situation spiralling out of control was – and still is – unmatched.

200 years after its introduction as a training instrument into the Prussian army, the purposes for which the Kriegsspiel was used are today as relevant as they were in 1824. Friction and fog of war are likely to accompany military operations for the foreseeable future and beyond; while technological progress has taken great strides when it comes to gathering and processing information; the problems arising from the use of processed information in the decision-making process remain on a fundamental level unchanged. Crucially, deciding whether the situation at hand has changed so much that initial plans have to be modified or even abandoned is still one of the greatest challenges to military decision-makers, and one for which there is no standard solution available. In 1871, Helmuth von Moltke famously noted that no operational plan retains validity beyond contact



with the enemy force de main, requiring a continuous adjustment depending on the opponent’s actions and – perceived – intentions. A competitive Kriegsspiel, where both sides actively try to out-general each other, provides an ideal environment in which to expose participants to the need of deciding when and how to adjust or deviate from their initial plans. It also confronts participants with the consequences of their decision-making process falling behind that of their opponent, resulting in a loss of operational tempo or even initiative, and with the possible results of getting the crucial decision how long to stick to the initial plan wrong. In a less famous but equally important passage Moltke noted that any campaign or battle presented the decision-makers with not one but a sequence of decisions in situations that are essentially unforeseeable. Having participants face this sequence of decisions is now, as it was in the days of Moltke, arguably the greatest benefit offered by the Prussian Kriegsspiel.



## DISCUSSION ON AI IN WARGAMING

In this workshop, experts from the USA, Germany and NATO will discuss the possibilities and limitations of using AI across the entire spectrum from analytical to educational wargaming, from the strategic to the tactical levels and from current to future applications.

- › **Professor Dr. Gary Schaal** will bring his experience from developing GHOST Play.
- › **Dr. Yuna Wong** will share her experience in game design of strategic and narrative-based wargames, and the possibility of incorporating generative AI into wargaming.
- › **Dr. Christian Nitzl** will bring his expertise from current AI related projects from the Center for Intelligence and Security Studies (CISS)
- › **1st Lt Dominic Weller** brings his experience from one of the last international hackathons using LLM.
- › **Elçin Ada Sayin** will bring her experience of using LMM from NATO research and development of a NATO Wargaming Tool Kit.



## COOPERATION BETWEEN R&D AND WARGAMING

In order to exchange ideas on cooperation between Research & Development and Wargaming for the German Navy a workshop to explore ideas and to increase understanding on how to include scientific work into wargaming efforts is offered. Participants will explore with Lieutenant Commander Marco von Koerber possibilities to include scientist from civil academics into the navies wargaming activities and cycle of research. In a first step the aim is to identify the people that can contribute to the German Navies Wargaming activities and how those contributions might benefit all parties involved.

**Topics** we want to improve the understanding in the pre-Game Design phase:

- › How to manage bias, introduced in the design while managing the tension between representation and playability.
- › How to determine the level of rigour required.
- › How to set benchmarks for level of confidence needed for in game events and conclusions.
- › How to balance research requirements, design time and player engagement.



## PICTURE DIRECTORY

**Cover picture, p. 2, p. 3, p. 6, p. 7, p. 8, p. 16, p. 17, p. 18, p. 33, p. 42, p. 45 (top):** are taken by Bundeswehr.

**Page 12+13:** Graphic map provided by HSU

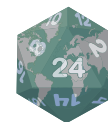
**Page 14:** has been provided by HAFEN-KLUB HAMBURG e.V.

**Page 15:** (top) has been provided by HAFEN-KLUB HAMBURG e.V.  
(bottom) has been provided by  
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**Page 32+33:** <https://pixabay.com/de/photos/einer-gegen-alle-alle-gegen-einen-1744083/>

**Page 44:** Joseph, the younger Nash - The Graphic, 17 August 1872  
The Autumn Manoeuvres, Officers playing at Kriegs Spiel, or the «Game of War». Illustration for The Graphic, 17 August 1872, [https://de.wikipedia.org/wiki/Kriegsspiel\\_\(Planspiel\)#/media/Datei:Joseph\\_Nash\\_Kriegsspiel.png](https://de.wikipedia.org/wiki/Kriegsspiel_(Planspiel)#/media/Datei:Joseph_Nash_Kriegsspiel.png)

**Page 45:** (bottom) has been provided by Jan Heinemann



Logo WIN 24 and D20 design '24 provided by LTC Dr. Elmar Heinz  
D20 design was originally provided by Team WIN 22

## IMPRINT

**Publisher:** Team WIN 24, Bundeswehr Command and Staff College

**Layout:** designed at Command and Staff College, GeoGT

**Printed:** at HSU

This Publication is part of the preparation for the WIN 24 conducted at the HSU in Hamburg.





# WIN 24

Wargaming Initiative for NATO