



13 – 22 July
Rhine-Waal University
Germany

steam

The background of the entire page is a vibrant red. Overlaid on this background are numerous white, hand-drawn style lines that form various organic, rounded shapes, some resembling droplets or abstract figures. These lines are scattered across the page, with a higher concentration in the upper half.

contributors

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welcome to steam

STEAM is a 10-day intensive summer school in science communication. We introduce an innovative form of education that includes Arts into the classical STEM (Science, Technology, Engineering, and Mathematics). Interactive experiments and informal learning with the use of creativity and arts are the key ingredients of our approach. Our ultimate goals are to improve science awareness and develop informed opinions, increase student uptake of STEM careers for high-level jobs, stimulate the socio-economic wellbeing of partner countries, and enhance the transferable skills of current researchers.

The Host: Rhine-Waal University

Rhine-Waal is a public university with a comparatively international profile. More than 80% of the students in the faculty of technology and bionics are from abroad. The university offers Europe's only full-fledged undergraduate degree programme for Science Communication, by which it can contribute ready-made teaching materials and didactic experience for the entire spectrum of

science communication relevant to the STEAM Summer School.

In addition to what most other institutions offer as Master's programmes, Science Communication does not focus as much on the journalistic or marketing side, but requires students to excel also in areas such as communication controlling and crisis management, public affairs, and social science research methods. ✨



HSRW campus Cleves during spring with the Spoy-Canal running right through

Cleves – A Town of Swans

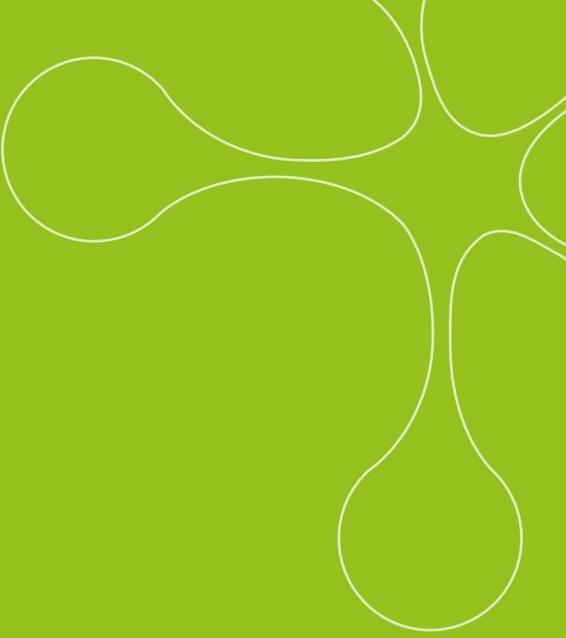
Cleves (in German: Kleve) is a rather small town close to the Dutch border and Nijmegen. Although it only has around 48,000 inhabitants, Cleves has surprisingly many nice places to offer. Highlights are the Swan Castel (Schwanenburg), the French Formal Gardens (Barockgärten) and, of course, the Campus of the Rhine-Waal University.

Because of its small size, most of the important places are easily reachable by foot. The university is situated only a five minute walk away from the city centre and train station. While mostly families and tourists fill



Elsa-Fountain in the heart of Cleves

the city's streets during the day, the students take over at night. With over 7,500 people studying at Rhine-Waal University, this should be no surprise. ✨



speakers

The STEAM consortium brings together outstanding higher education institutions, science communication companies, and a European-wide network of science journalists. Through the exchange of best practice an intensive study programme will train students and researchers to engage with the public.



Alexander Gerber

Rhine-Waal University, Germany
Professor and Course Director for
Science Communication

Alexander Gerber is a professor of International Science Communication at Rhine-Waal University, Germany, where he coordinates a full-fledged 3-year Science Communication degree programme in English. His research mainly focuses on socio-political dimensions of science-society issues.

Calling for an 'Open Science Communication' he emphasises the shared responsibilities of the different stakeholders of science.

The degree programme at Rhine-Waal University puts less emphasis on training basic technical/journalistic skills such as writing or storytelling, but more on strategy and management, evaluation and even entrepreneurship. Additionally, students

are trained in the methods of approaching science communication as a research discipline. 'Our graduates will be well-equipped, with both strategic capacities and tools of trade, to succeed in an increasingly complex, demanding, or even hostile work environment,' says Gerber while emphasising the importance of employability.

In 2011, Prof. Gerber initiated a series of 'Trend Studies' on Science Communication. Before, the information scientist and long-time science journalist/author/film director was Head of Marketing & Communications at Fraunhofer (ICT) for seven years, and founder and editor-in-chief of InnoVisions Magazine. ✨

Heather Rea

University of Edinburgh, United Kingdom
Project Leader of the
Beltane Public Engagement Network



Heather Rea is the project leader of the Beltane Public Engagement Network at the Institute for Academic Development at the University of Edinburgh.

Dr Rea is project manager on a culture change project improving the participation in and perception of public engagement activities in academia. She has had three years experience in producing and delivering pu-

blic engagement with engineering projects for science festivals, museums and schools, following 11 years of research in engineering information management tools.

She is specialised in public engagement, participation and dialogue, public policy, social media, knowledge information management, 3D shape content retrieval, and robot kinematics. ✨



speakers



Edward Duca

University of Malta
Think Magazine Editor, Science in the City (Malta) Festival
Manager, Innovation Communication Lecturer

Edward Duca is the Publications Developer and Editor at the University of Malta for the research magazine Think, that has reached three million online views. He is a PhD graduate in Genetics (University of Edinburgh) and a freelance science writer, editor and communicator. He has written for several local and international organisations including The Times of Malta – Science and Nature.

In Malta, he founded Malta Cafe Scientifique, which is the public outreach arm of

the Malta Chamber of Scientists. By setting up the science and arts festival Science in the City (visited by over 20,000 per year), he aims to bridge the gap between the sciences and arts, that can benefit each other by providing inspiration, bringing new audiences to cultural events and pushing the boundaries of art into new fields, while shining a critical lens on science. He aims to continue setting up projects that communicate science to the public to create a scientifically literate society. ✨

Silvia Verdolini

University of Malta
EU Project Officer for Science Communication



Silvia Verdolini is the EU Project Officer at the University of Malta responsible for Science Communication. She manages EU funded projects (Creations, STEAM and NUCLEUS) aimed at public engagement, improving science literacy, and developing the next generation of scientists.

In February 2014 Dr Verdolini completed her PhD in Astrophysics at Leiden University (The Netherlands). She graduated at the University of Bologna (Italy) and spent the last year of the master's degree at the University of California Santa Cruz (United States) as part of an exchange project.

Over the years of her studies, she has contributed and collaborated on a number of outreach events, conveying the beauty of physics through the vastness of our cosmos. She participated at a science and arts festival with an interactive installation. Currently she is a science project consultant for the Story of Space 2017 Festival.

Finally, in 2015, she changed career and worked as a visiting fellow at the International Astronomical Union at the Office of Astronomy for Development, where she got training in management, monitoring, and evaluation of outreach projects. ✨

Menelaos Sotiriou

Science View, Greece
Editor of the Research Magazine E&T



Menelaos Sotiriou is a science writer and communicator. He is currently the editor of the official Research and Technology online magazine in Greece, E&T, that is published from the General Secretariat of Research and Technology.

For more than 5 years he is involved in the production of videos in many scientific fields – health, science educations, environment, engineering. He started his professional career by developing various management systems, mostly in the field of education as well as health care and telecommunications, in over 40 public and private organisations.

In the last twelve years he has managed and organised European and national projects for several institutions (including rese-

arch institutions), mainly in the areas of innovative technologies. He has vast experience in networking activities, organisation of brokerage events and information training days.

He is also the President of Science View, a non profit, non governmental organisation that has expertise in science communication and science journalism.

He is specialised in science communication, organisation of events (science cafes, conferences, science festivals, exhibitions, science weeks), science writing, outreach activities for young students (mainly in the fields of mathematics, physics, astronomy and health), and creativity in science education (Introduction of creative ways to provide science education like science theatre, music and science). ✨



Elizabeth Stevenson

University of Edinburgh, United Kingdom
Programme Director for Science Communication and Public Engagement

Elizabeth Stevenson is the Programme Director for the on-campus and online Masters in Science Communication and Public Engagement at the University of Edinburgh. In addition to her teaching experience in science communication and public engagement, Elizabeth Stevenson has six years of undergraduate chemistry

teaching experience. She also has twenty years of experience in engaging public audiences with science in schools, museums, science and community festivals. She is specialised in public engagement, science communication, researcher training, collaborative working, chemistry demonstrations and hands-on activities. ✨



Satu Lipponen

EUSJA, France
Emeritus President of EUSJA



Satu Lipponen is a professional journalist with experience of leadership and strategy. The last ten years she has been active in science journalism. She is emeritus president of the European Union of Science Journalists' Associations (EUSJA) and EUSJA president 2014-2016.

Before that she was president, vice-president and board member of the Finnish Association of Science Editors and Journalists 2007-2014 and president of the WFSJ's 8th World Conference of Science Journalists 2013 in Helsinki. She has worked since 2000 for one of the biggest public health NGOs in Finland, the Cancer Society of Finland, currently as Director of communications and foresight, managing editor of the Cancer magazine and editor-

in-chief of the Focus Research magazine of the Cancer Foundation. Satu Lipponen holds a master's degree in Social Sciences from the University of Tampere (international relations, journalism, economics). She has post-graduate qualifications from the University of Helsinki (foreign policy) and from the Helsinki University of Technology (industrial leadership).

Ms Lipponen is an active member in professional journalism associations for four decades. She has written reports and articles and given talks at many global and European conferences related to health, science, journalism and communications.

Her specialisation is cancer. She is in the Global Board of Directors of the International Cancer Information Service Group, ICISG. ✨



Bernd Müller

Rhine-Waal University, Germany
Journalist Consultant and
Science Communication Lecturer

Bernd Müller is a German journalist, consultant and lecturer in science communication. He has a degree in physics, journalism and innovation management. He works as a journalist for science and innovation topics near Bonn. Among other things, he writes for well-known maga-

zines like Wirtschaftswoche, VDI-Nachrichten, Bild der Wissenschaft, Technology Review, and for corporate magazines including Siemens and the Fraunhofer-Gesellschaft. His topics range from particle physics to new energy sources, the 'Internet of Things', to medical technology. ➡

Previously, Bernd Müller was editor of Bild der Wissenschaft, Wirtschaftswoche and spokesman for the Fraunhofer Institute for Systems and Innovation Research, the leading Foresight Institute in Germany.

Bernd Müller is a researcher at the Rhine-Waal University for the EU project 'Creations'. The aim of the project is to increase the interest of children and young people in science topics with the help of art. He also

teaches journalism and other subjects at the Rhine-Waal University.

Bernd Müller is also CEO of Inscico, a private institute, which advises institutions and companies in science and innovation communication. Among others, the Institute is currently conducting a study on the trend in science communication for the Federal Ministry of Education and Research. ✨



Theoni Charalampidou

Science View, Greece
Administrative Management
of European Projects and E&T Online Magazine

Theoni Charalampidou graduated in 2004 from the University of Ioannina, School of Philosophy, Department of Philosophy, Education and Psychology. She has worked as an administrative assistant in various Greek and multinational companies as well as public institutions. In particular, she worked at Greek National Tourism Organisation (G.N.T.O) where she was actively involved in the communication and dissemination of the tourist product of the country, under the supervision of the President and

Secretary General of the Organisation, and at the Organisation for Vocational Education & Training, Ministry of Education where she was involved in adult education.

Over the last six years she is cooperating with Science View, initially as an external associate, later as permanent staff, being responsible for the coordination and administration of European projects, the implementation of educational activities and the organization of events such as Science Café's, conferences and trainings. ✨

the programme

DAY	TIME	WED 13	THU 14	FRI 15	SAT 16
Morning Session	9:00 am	Ice breakers & Introduction	Dialogue & Deliberation	Present & Moderate	Online & Social
	10:00 am				
	11:00 am	Expectations & assess skill levels			
	12:00 pm				
Lunch	1:00 pm				
Afternoon Session	2:00 pm	Dialogue & Deliberation	Dialogue & Deliberation	Case Study Present & Moderate	Case Study Online & Social
	3:00 pm				
	4:00 pm				
Break Dinner	5:00 pm				
	6:00 pm				
Evening Social Public Engagement Event	7:00 pm				
	8:00 pm				
	9:00 pm	Social event & Drinks	Science & Cinema		
	10:00 pm				FameLab
	11:00 pm				

Where should I go?

Most of the STEAM Summer School (if not communicated otherwise) will take place in the Senate Hall of Building 04, on the 2nd floor. Building 04 is also the main administration building, and lies to the right, when facing the biggest building on campus, the Audimax.

	Theory	Practical	Social / PE Event			
	SUN 17	MON 18	TUE 19	WED 20	THU 21	FRI 22
		Manage & Monitor	Create & Act	Media & Journalism	Advocate & Influence	Reflect
		Case Study Manage & Monitor	Case Study Create & Act	Case Study Media & Journalism	Case Study Advocate & Influence	Evaluation
Field Trip to Nemo Science Centre in Amsterdam		Project Work	Project Work	Project Work	Project Work	Closing Ceremony
			Bright Club		Science Theatre	

dialogue & deliberation

2 pm – 5 pm
Wed 13

9 am – 5 pm
Thu 14

focus

historical development
stakeholder theory
participation theory
dialogue and participating
in the dialogue process
identifying stakeholders

speakers

Heather
Rea



Alexander
Gerber



Elizabeth
Stevenson



Introduction

Context, dialogue and deliberation aims to deliver a background to public engagement with research in the European Union and the process of dialogue and deliberation methodologies. The history and current situation around public engagement with research will be introduced, in particular the current trend to consult publics on new technologies. Furthermore, we will introduce the definition, theory and some techniques to enable group discussions and deliberation for effective decision-making.



Theory

We will discuss theory on the history of public engagement with research, stakeholder analysis and audience segmentation, participation and communication theory, and, the role of ground rules and facilitators. We will explore the circumstances which make it appropriate to engage public participation and which methodology is adequate for such a task. Professional researchers need to ensure rigor of research and bring a vast array of empirical and theoretical background to the table.

The involvement of independent stakeholders enhances the reach of the research, as an independent entity has the responsibility of setting the research agenda and overseeing the accountability and ethical qualities of the body of work overall. This relationship allows a consensus to develop, and thus enhances efficiency and reach, which contributes to the overall public enthusiasm towards the research.



The goal is to engage research with aware and active citizens. This type of outreach can promote lifelong learning, and enable the lived experiences of citizens to inform research and researches.

present & moderate

9 am – 5 pm
Fri 15

focus

PREZI and dramaturgy
presentation and moderation
presentations and public
speaking

speakers

Edward
Duca



Alexander
Gerber



Heather
Rea



Elizabeth
Stevenson



Introduction

The amount of STEM graduates around Europe has remained level for a decade while jobs have increased. In addition STEM graduates can lack communication and team working skills. A key need is the ability to present effectively to various audiences, be it when trying to inspire the next generation of researchers or presenting a conference keynote conveying the latest research.

There are countless resources outlining key public speaking tips. However, there can be a significant time lag between learning this theory and practicing it. Public speaking is a skill that requires practice, coupled with reflection and constructive criticism in order to perfect.

Apart from presentation skills, this module will convey public event moderation skills. The aim is to cover different science communication events since good moderation of a public event can change an average activity into a memorable one.

Theory

The theoretical part of this module will be structured as follows. The first two hours will include a basic framework to introduce presentation tips and pit falls to avoid. This theory will be followed by a break out session that initially helps people relax and warm up. The session will involve practicing these newly learnt presentation skills while receiving constructive feedback. Repetition will help hone these skills.

After these two hours, an hour will be spent on using interactive experiments in order to engage an audience with a scientific phenomenon. The experiments will be used to showcase two key things. First is the use of inquiry-based learning. Second is how to understand your audience to be able to use the same experiment with different audiences.

This section will be finalised by a theoretical session on moderation skills and difference science communication events followed by a mock-event. You will need to moderate and participate in a dialogue on a controversial topic within science communication/ journalism to be unveiled during STEAM.





Practice

The case study will focus on using Prezi as an innovative presentation tool. Used correctly Prezi software helps bring storytelling and dramaturgy to the most formal talks. A short session on its basic functionality will be followed by a practical session where you will be expected to create a short presentation. These will then be evaluated with feedback given.

FameLab & Bright Club

There are two project work assignments linked to this module. First is a mock FameLab-style event. FameLab is an initiative by the British Council and Cheltenham Science festival started in 2005. In this summer school, the idea will be to create three minute presentations that engage and entertain various publics.

Second is a Bright Club inspired event. Bright Club sees STEM topics turned into stand up comedy routines. It was started by University College London and has now spread across the United Kingdom and Ireland. For the summer school, you would need to give a short science comedy routine. You will have to choose between either option.



Read more about FameLab and Bright Club in Social & public engagement events on page 36



Additional Information

Domain specific objectives

What do you want participants to know and understand by the end of the lesson?

- ▶ Understand the difference between debate and dialogue.
- ▶ Understand the importance of repetition and reflection in order for self-improvement.
- ▶ Understand how to create a narrative around an idea to engage an audience
- ▶ Understand the importance of understanding your audience and tailoring a presentation to them.

General skills objectives

Which skill will participants learn by the end of the lesson?

- ▶ Learn how to convey a message effectively and clearly
- ▶ Learn basic oral communication skills to effectively deliver an engaging presentation
- ▶ Learn basic experiments that can be used to teach various STEM phenomena
- ▶ Learn how to communicate to different audiences
- ▶ Learn how to use PREZI to create a short presentation
- ▶ Learn how to handle difficult audience members in the appropriate manner
- ▶ Learn how to encourage discussion from reticent audience members
- ▶ Learn how to moderate various types of science communication events

Readings

Lloyd-Hughes, S. 2012. *How to Be Brilliant at Public Speaking: Any audience. Any situation.*, FT Press

online & social

9 am – 5 pm
Sat 16

focus

online self-marketing
apps
online strategy
video blogging
social media
blogging
talking and analysing

speakers

Alexander
Gerber



Edward
Duca



Heather
Rea



Elizabeth
Stevenson



Introduction

Considering the disruptive structural changes in the media landscape and the information behaviour of both lay-people and professionals, online and social addresses the most relevant drivers for this change.

The ability to use internet technologies and social media to regularly engage people, build an audience, and express your personality, is an essential skill in science communication. You will learn how to effectively put a marketing strategy in place, and how to create and activate a strong narrative to engage, not just your audience, but also possible investors and collaborators.



Theory & Practice

You will learn how to build a brand of yourself (or your organisation) online, how to create a professional profile and online personality, according to the audience you want to attract, and how to select the right channels. Online strategy combines all the elements together. Is it useful to have robust strategy on an environment that is constantly changing? How to become an ambassador for your workplace?

During this course we will start with developing a deeper understanding of internet technologies, and continue with the analysis of useful apps, that are available to help monitor your progress. We will explore social media, including Facebook, Twitter, and Instagram, and discuss how to best manage and use them for your science communication purposes. At the end you will be able to assess the potential of online concepts and technologies with regard to communication impact and usage patterns.

The course includes these practical tools for efficient science communication:

- ▶ Metrics made easy – analysing your activity online is essential
- ▶ These apps will ease your professional life – test and share your best experiences with others
- ▶ Listening to others – strategies for giving recognition, feedback and networking online
- ▶ Can't do it all – how to select and save time
- ▶ Protection of privacy and confidential contacts

manage & monitor

9 am – 5 pm
Mon 18

focus

evaluation and research
methods
festival/event management
stakeholder analysis
science dialogue and debates
working with schools
managing school events
informal science education

speakers

Elizabeth
Stevenson



Theoni
Charalampidou



Edward
Duca



Heather
Rea



Menelaos
Sotiriou



Silvia
Verdolini





Introduction

Manage and monitor session gives participants the opportunity to explore ways of delivering a scientific presentation to different audiences in formal and informal settings. The focus of the activities for schools and festivals is to encourage a deeper understanding of 'thinking from an audience's perspective'.

You will be encouraged to develop mini presentations and activities for schools and festivals. You will also explore the basics of evaluation, the principles of both formative and summative evaluation will be investigated and students will be challenged to develop imaginative evaluation activities.

Theory

Engaging with the community and having a two way conversation between the public and scientists may be the best way to communicate science. Scientists cannot only deliver information without getting any feedback. Through the manage and monitor approach, the community itself can participate in its own learning. This layer of communal engagement is important in the terms of the societal level of Responsible Research and Innovation – the innovators must be mutually responsive to the needs of their community.

Practice

You will be involved in three workshops:

1. Working with schools – after a small introduction, case studies will be explored (Learning Science Through Theatre, Students' Parliament on Science, The Global Science Opera).
2. Evaluation for science communication – look at the reasons for undertaking evaluation, the benefits of evaluation as a learning experience, and capturing the achievements/elements which require improvement of a project or activity. You will be engaged in an interactive session, which will enable you to explore and design evaluation strategies.
3. Working with festival – explore how to organise and manage large science festivals.



create & act

9 am – 5 pm
Tue 19

focus

scientist/artist relationships
science and art events
hands on festival activities
comedy as engagement
science theatre

speakers

Menelaos
Sotiriou



Theoni
Charalampidou



Heather
Rea



Elizabeth
Stevenson





Introduction

In a rich context where literature, philosophy, culture or society are involved, science benefits from art, and vice versa. Create and Act is about using art to communicate science more effectively in an interdisciplinary and multidisciplinary approach. The lesson's main aim is to give you the opportunity to stage a play and dramatised scientific concepts based on material from any field of science.

Theory

When it comes to educational purposes, traditionally the body is rarely used to its full potential. Every involvement of the body had mostly been consistently excluded from the educational practice, the process of learning, and the interaction among students. The notion of embodied learning is accepted more and more by the educational community. The body does not solely constitute a means of knowledge, or functions as a mediator, but also reflects people's interaction with their environment.

People can utilise their bodies as a source of knowledge, while feeling alive and active in the process. As a result, the body can be activated and used as a communication channel with others. Each time the human motor-sensory system is involved, the stimuli it perceives can be converted into a more stable, powerful memory and cognitive representations form through embodied learning. This allows people to directly connect their movements and gestures to communicate scientific concepts, which they perceive as embedded in educational activities.



The activities will be based on the 4Ps of engagement in creative science education and communication:

- ▶ **pluralities:** opportunities for students and teachers to experiment with many different places, activities, personal identities, and people
- ▶ **possibilities:** opportunities for possibility thinking, transitioning from what is to what might be, in open possibility spaces
- ▶ **participation:** opportunities for students and teachers to take action, make themselves visible on their own terms, and act as agents of change
- ▶ **playfulness:** opportunities for students and teachers to learn, create and self-create in emotionally rich, learning environments



Dance performance by Moveo Dance Company at Science in the City, Malta

Practice

During the practical activity you will work towards creating a science performance by following 7 phases:

Phase 1: Investigate a scientifically orientated question by analysing its scientific significance, and its social impact by a brainstorming session first, and web research later.

Phase 2: Look for evidence behind the theory, and see how it can be implemented into a theatrical design concept in smaller groups:

- ▶ **Script/directing group:** Investigate characters and generate ideas for dialogues/actions.
- ▶ **Actor group:** Investigate characters and work on performance in collaboration with script/directing group
- ▶ **Music group:** Generate musical ideas which correspond to the script.
- ▶ **Dance group:** After consulting with script/directing, actor and music groups, generate choreography ideas to incorporate in the play.
- ▶ **Set/costumes group:** Generate ideas after consulting script group and collect materials.
- ▶ **Video group:** Generate ideas after consulting script group and collect or create video clips.

Phase 3: Analyse the data by organising it, finding patterns, and assessing its quality, with regards to your group role from Phase 2.

Phase 4: Formulate an explanation, of the scientific topic chosen, based on evidence, while considering alternative scenarios. Provide creative theatrical scenarios or scripts to strengthen it.

Phase 5: Connect your explanations to scientific knowledge, and connect the theory to other disciplines, such as music or technology. Consult with your peers specialised in arts, theatre and music.

Phase 6: Communicate and justify your explanations by performing a science theatre play.

Phase 7: Reflect on the inquiry process and your progress, in particular discuss stage design and ethical decision making.

media & journalism

9 am – 5 pm
Wed 20

focus

data driven journalism and
storytelling
entrepreneurial journalism
writing and editing skills
magazine production
media relations
and mechanisms
analysing media
environment
video production

speakers

Satu
Lipponen



Edward
Duca



Alexander
Gerber



Bernd
Müller



Menelaos
Sotiriou



Theory

We will give a general overview of Europe's current media landscape. We will analyse news cultures within European countries in the context of present turmoils and national issues.

Afterwards, in small groups you will discuss how science can be communicated to larger communities. The discussions will focus on methodology and concepts.

Finally, communications and journalism have the common goal of disseminating information to various sources ranging from an individual to a large organisation. You will discuss differences between communication and journalism, in general and in the context of science.



Practice

You will practice and experiment with some techniques, that will be useful in science journalism and science communication. In particular two activities, that will be carried out in workgroups:

- 1. Multimedia story** – A multimedia story is some combination of text, still photographs, video clips, audio, graphics and interactivity presented on a Web site in a nonlinear format in which the information in each medium is complementary, not redundant. You will be working in small groups, guided in the creation of a multimedia story.
- 2. 10 myths about journalism** – it will be organised as a 'reverse session' in which you have to list ten myths about journalism, followed by a discussion round.
- 3. Video production** – In small groups you will produce a short video using your smartphone. You will interview each other, include pictures and footage material from the web and finally edit it with apps on your smartphone or computer.

advocate & influence

9 am – 5 pm
Thu 21

focus

lobbyism and public affairs
social psychology
working with parliament
advocacy
journalism
media
EU-level strategy

speakers

Satu
Lipponen



Alexander
Gerber



Heather
Rea



Menelaos
Sotiriou



Elizabeth
Stevenson



Introduction & Theory

Lobbying and advocacy has a great role to play, not only as a vital part of science communication, but also to champion scientific research across the board and ease access of researchers to equipment and funding by justifying the scientific cause.

Advocacy works by making data and research accessible to the public, creating informative and effective campaigns that not only inform of the beneficial aspects of the research, but with enough public support creates a precedent for legitimizing that research. There are a lot of obstacles you need to work through while advocating, the process of policy writing requires stringent attention to detail and compliance to local, as well as EU regulation.

There are many good causes to champion, but the challenge is to do so by implementing Responsible Research and Innovation principles, and striving for the most accurate and ethical data possible. Advocacy can come in many shapes and forms, from dispelling and debunking popular myths, as well as rigorous fact checking. The aim of debate is not simply to know that you are right. You must strive to make your argument as convincing as possible.





Practical

The workshops will show you how advocacy works in action, what are the different roles of a lobbyist, and how these are to be implemented practically. Interactive work includes: identifying lobbying possibilities, building networks, nudging, as well as recognizing when and when not to lobby, or write policy briefs, amongst others.

Discussion session on policy briefs:

Policy briefs are evidence based collections of information that bring together global and local research in order to inform policymakers about scientific policies and programmes.

#datasaveslives case study:

We will discuss the successful campaign #datasaveslives that lobbied the EU to stop it from restricting researcher's access to personal data.

Be an Advocate workshop:

In science communication and journalism there are plenty of good causes to advance. We will help you find your case.





How medical researches persuaded the European Parliament to compromise

Chat with Dr Beth Thomson.

Beth Thomson is Senior Policy Adviser at the Wellcome Trust, focusing on the regulation of research. Beth led Wellcome's advocacy work on the impact of the EU Data Protection Regulation. Beth undertook her PhD and postdoctoral research at the Medical Research Council Laboratory of Molecular Biology in Cambridge after studying Natural Sciences at the University of Cambridge.

Beth is leading advocacy to safeguard medical research when questions of data security and privacy are equally important. Data saves lives campaign is still continuing. How to communicate complex issues to legislators? What is the right time to act? How to mobilise your network and keep it active?

Beth Thomson will be joining the STEAM participants via Skype and answering your questions.



social & public engagement events

During STEAM Summer School we will be having various social and public engagement related events, with a Science & Cinema night being the first one. The goal is to give a better impression on the practical side of science communication, while combining it with various different forms of art.



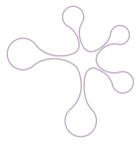
Science & Cinema

Have you ever wondered how much science, in contrast to fiction, your favourite movie really has? Mobile phones, nano technology or self driving cars are all concepts that have made their first appearance in science fiction, but have since become a reality through advancement in science.

The idea behind Science & Cinema is to watch a science related movie to spark interest and discussion around a selected field

of science. The focus varies depending on the movie screened and you might discuss technological advances or incredible biological discoveries. Many science fiction movies place their story in a very different societal context. You can discuss ethical problems and utopian societies, and compare them to our current, as well as past situation.

To help stay true to the facts, our experts will give answers and participate in the discussion themselves. ✨



FameLab

Over the years, FameLab has given scientists around the world the opportunity to compete against each other; testing their skill at engaging, entertaining and breaking down science for the public in short 3 minute presentations. It has also broken the barrier between scientists and the rest of society, depicting scientists as just normal people.

FameLab gives you a snapshot into the world of science and engineering and is dedicated to answering both bizarre and pertinent questions from 'Why do men have nipples?' to 'Is nuclear energy a good or bad thing?' Such questions intrigue curiosity and it is scientists' job to discover the answers and deliver them to the public.

You, as a member of the audience, can

also engage with the show. You have the power to judge the contestants along with the panel of scientists, journalists, writers and public figures.

The contestants will be judged on their ability to present accurate and well-balanced content clearly and charismatically. ✨



Bright Club

Bright Club is an event that takes STEM concepts and presents them through the medium of a stand up show. In something like a comedy club setting, Bright Club allows scientists, researchers, academics, or anyone with specialised knowledge in a STEM field to take the stage and present a short talk about their area of expertise in a

fun, engaging and largely humorous environment. Participation in Bright Club events presents an unprecedented opportunity to showcase ongoing research, educate a diverse audience on topical and current scientific study, as well as brush up on public speaking skills and comedic timing, all on a vibrant public platform. ✨

NEMO – Science Museum Amsterdam

NEMO's mission is to bring science and technology closer to the public. Through interactive and accessible activities, in the museum, at schools, at nationwide events, and online, NEMO inspires curiosity in both young and old about the power, importance, and nature of science and technology.

One of NEMO's aims is to make science accessible to all kinds of people. By developing its exhibitions and programmes, NEMO has worked closely with the scientific world- through advisory councils, research and meetings bringing scientists and the general public closer together. Universities and other

knowledge institutions are keen to communicate with a broader audience.

By making school children enthusiastic about science and technology they hope to inspire children and increase the size of the tomorrow's talent pool. ✨

Travel

STEAM Participants will be attending NEMO on Sunday 17 July. We will travel to Amsterdam by bus, leaving Cleves at 8.30am, and return at 9pm. Lunch and dinner are not included. Entrance ticket is not included either.

Rounding it off with ESOF

As the largest science conference in Europe, EuroScience Open Forum (ESOF) offers a three-day programme packed with talks and events. The first day focuses on the impacts of advancements in science and technology on our society and economies. The second day revolves around space, universe, and our own planet, and the last day looks at the interplay between humans and artificial intelligence.

The conference brings together leading thinkers in Europe, innovators, policy makers, journalists and educators to talk about

contemporary and future breakthroughs in science. It will be a unique occasion for you to practice recently learned concepts, access one of the largest networks of scientists and science communicators, and learn about the latest scientific discoveries.

We managed to provide the entry to ESOF free of charge for everyone participating in STEAM Summer School, excluding accommodation in Manchester. While we will arrange travel by bus from Cleves to ESOF on July 23, you would need to organise the trip home yourself. ✨

the venue

Shopping & Activities

Cleves' city centre is only a few minutes away from the campus, and offers everything you can possibly need during your stay. The main road (Herzogstraße) is lined by shops and cafés, going slightly uphill. Cars are not allowed, so you can enjoy shopping without having to worry about traffic. For your technology needs there is a SATURN market in a small mall (Neue Mitte) and groceries can best be bought at EDEKA, which is basically next to the university, or Kaufland (Flutstraße).

Visiting the Swan Castle (Schwanenburg) is basically a must, when in Cleves. It was built almost a millennium ago and is located only minutes away from the city centre. It is

open every day from 11am – 5pm and costs only €3 for adults to enter.

Moyland Castle, which is situated in Bebburg-Hau, one of Cleves neighbouring city, is one of the most important Neo-Gothic buildings in North Rhine-Westphalia. It can easily be reached by bus and costs only €7 for adults - all parts of the museum included.

Cleves also features a zoo with seals, horses, goats, pigs and many more animals. Most of them can be fed and even petted. Entry is €5 for adults, but students can get a €2 discount by showing their student ID. The Tichelpark Cinema in Cleves also offers some movies in english and is only a 5 minute walk away from Rhine-Waal University. ✨

A couple of arctic foxes in Cleves' animal park



Culinary & Nightlife

After a long day of learning everyone has earned a break. Luckily Cleves offers a vast selection of restaurants and bars to spend the evening. The recent increase in student numbers has brought a good amount of options to the plate.

Most restaurants are not located directly in the city centre, but a bit outside, near the Spoy Canal. Both Tijuana and Venga offer very good burgers, wraps, cocktails and the like. A full meal usually costs between €10 to €20, but high quality and a lovely atmosphere have their price. Other options are the China Palast, which offers Chinese and Mongolian food as an all-you-can-eat buffet, Athene, a Greek restaurant close to university, or the Königsgarten, if you desire a more intimate atmosphere.

Alternatively there are several takeaways in the area around campus, which usually offer good food for decent prices. Some that stick out are Dilan Döner, Mama's Pizza Place and Wurstkultur.

With a full stomach you then may want to enjoy the rest of the night by chatting over a nice cold beer. While most restaurants offer a good choice of drinks already, you might find yourself left alone, as most people move to bars for drinks. Tom's Lounge is a good choice. It is located in a side road of Cleves' main shopping street. If you want to have the true student experience, however, feel free to check out the Früh Kölsch and Le Journal in Gasthausstraße or the

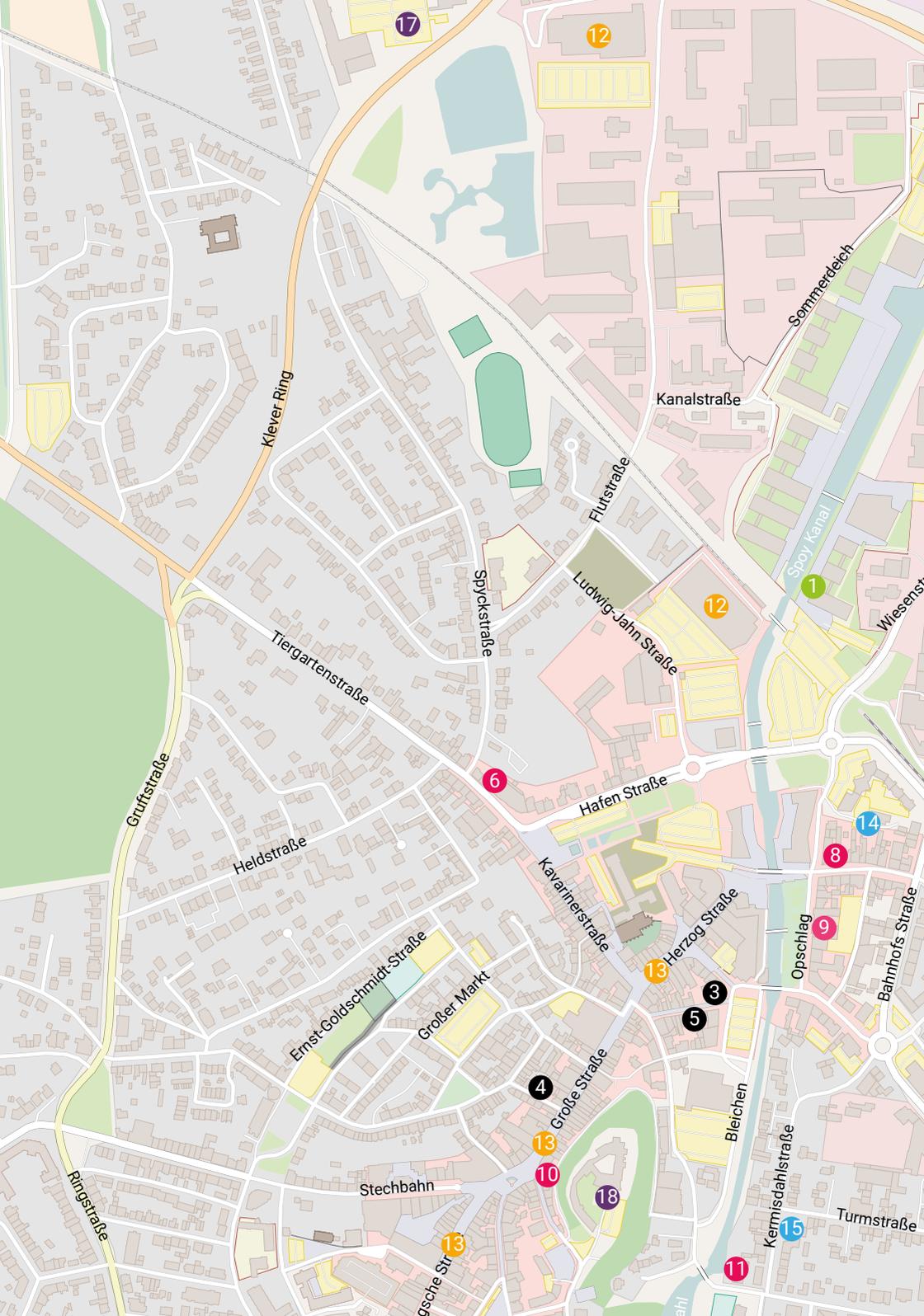


Sushi at Fujiyama (Hoffmannallee 1, Cleves)



Beer from Cologne at Früh Kölsch

Tower Club. While these should generally be avoided for productive get-togethers, there is a great deal of fun to be had, especially if you want to meet up with the local student community. ✨



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Kiever Ring

Grufstraße

Tergartenstraße

Heldstraße

Ernst-Goldschmidt-Straße

Großer Markt

Ringstraße

Stechbahn

Bische Str

Spickstraße

Flutstraße

Ludwig-Jahn Straße

Hafen Straße

Kavalleriestraße

Herzog Straße

Große Straße

Bleichen

Kermisdahlstraße

Turmstraße

Kanalstraße

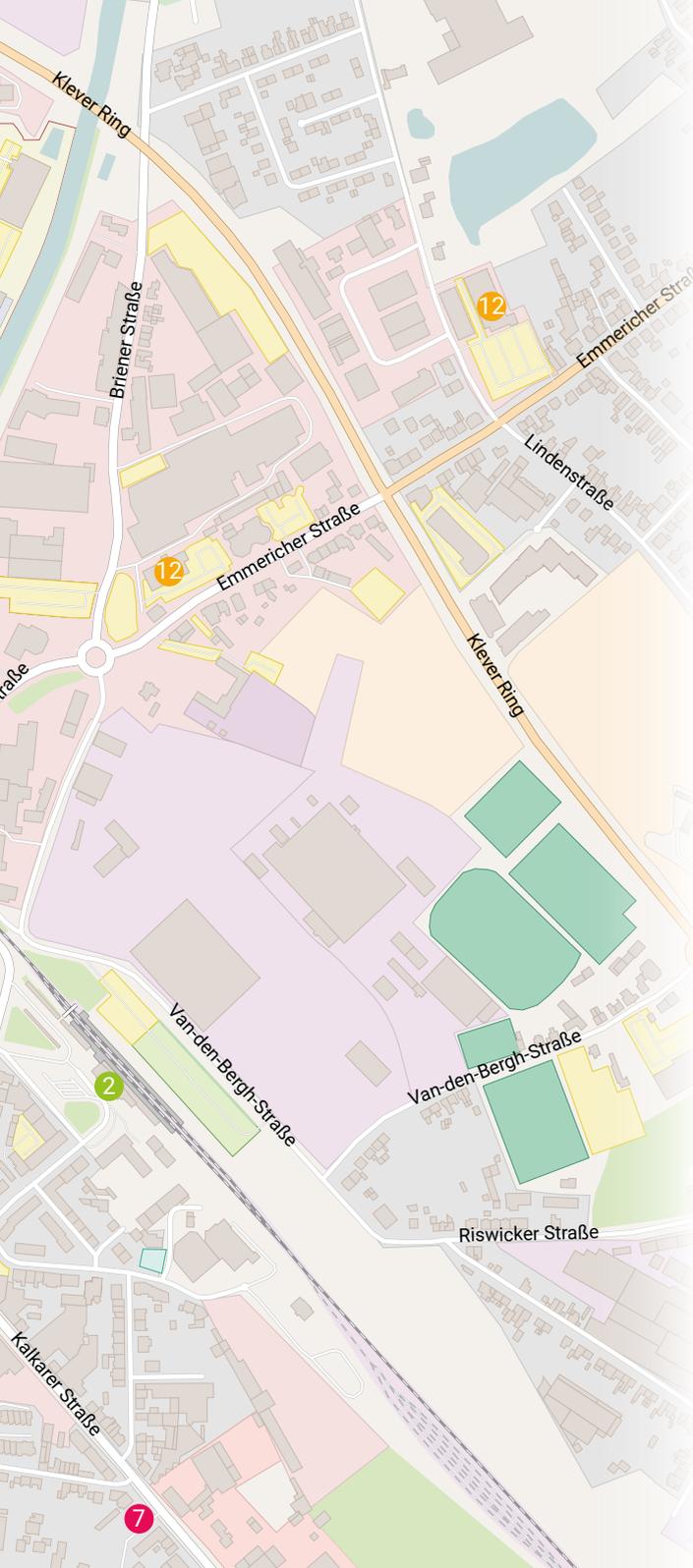
Sommerdeich

Opschlag

Wiesenst

Bahnhofs Straße

Spoyn Kanal



Important Places

- 1 Rhine-Waal University
- 2 Train Station/Bus Terminal

Restaurants & Takeaways

- 6 Dilan Döner
- 7 Mama's Pizza Place
- 8 Venga
- 9 Tijuana
- 10 Wurstkultur
- 11 Königsgarten

Shopping

- 12 Groceries
- 13 Shops

Bars & Nightlife

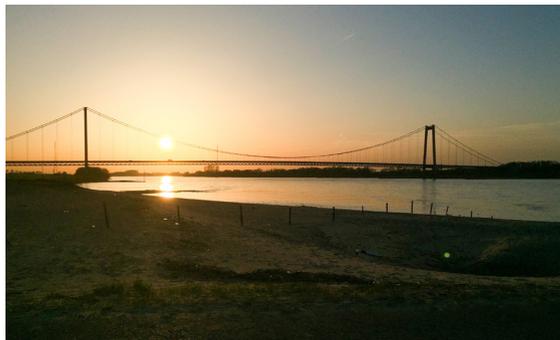
- 3 Le Journal
- 4 Thom's Lounge
- 5 Früh Kölsch

Accommodation

- 14 Rilano Hotel
- 15 Hotel Schwanenburg

Activities & Sightseeing

- 17 Tichelpark Cinema
- 18 Swan Castle



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