

Nature Masterclasses On-demand courses (November 2024)

Nature Masterclasses On-demand currently offers 22 courses designed to support researchers across the whole research life cycle.



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Nature Masterclasses On-demand courses by job position

	Course	for PhDs	for Postdocs
Design Research	Experiments: From Idea to Design	✓	
Secure Funding	Finding Funding Opportunities		✓
	Persuasive Grant Writing		✓
Experiment and Analyse	Data Analysis: Planning and Preparing	✓	
	Data Analysis: Conducting and Troubleshooting	✓	
	Interpreting Scientific Results	✓	
	Managing Research Data	✓	
Write and Publish	Writing a Research Paper: 2nd Edition	✓	✓
	Publishing a Research Paper: 2nd Edition	✓	✓
	Writing and Publishing a Review Paper: 2nd Edition		✓
	Focus on Peer Review		✓
	Research Integrity: Publication Ethics		✓
Share and Disseminate	Advancing Your Scientific Presentations		✓
	Creating Successful Research Posters	✓	
	Effective Science Communication		✓
	Narrative Tools for Researchers	✓	✓
Develop your Career	Building a Strong Online Researcher Profile	✓	
	Getting an Academic Research Position	✓	✓
Work with Others	Introduction to Collaboration	✓	
	Participating in a Collaboration	✓	✓
	Leading a Collaboration		✓
	Networking for Researchers		✓



Experiments: From Idea to Design



About this course

This course equips you with the right tools to help develop, plan and refine robust, impactful experiments. You will cover all the core concepts of experimental design and discover strategies to complete the full process of developing a research motivation, formulating hypotheses, assembling an experimental plan and utilising it.

What you'll learn

- The benefits of honing your experimental design skills before embarking on full-scale experiments
- How to develop research motivations, identify assumptions and formulate hypotheses
- How to select the precise methods, tools, techniques and protocols you need to answer your research question
- How to refine and make use of your experimental design

Course details

- For researchers in the natural sciences who want to develop their experimental design skills
- 9 experts in experimental design, including experienced researchers and *Nature Portfolio* journal Editors
- 8.5 hours of learning, 10-30-minute bite-sized lessons, 4-module course with certificate

Modules

- Foundations of experimental design
- Developing your motivation, assumptions and hypotheses
- Assembling your experimental plan
- Utilising your experimental design



Finding Funding Opportunities



About this course

This course provides researchers with the skills needed to identify their professional and personal circumstances as well as research needs, and to find and prioritise funding opportunities that best fit their requirements and expertise.

What you'll learn

- The funding landscape and the benefits of searching for and prioritising the best-fitting funding opportunities
- How to analyse your funding requirements while considering your personal and professional circumstances
- Strategies to find and keep track of suitable funding opportunities
- How best to shortlist different funding opportunities
- Strategies to prioritise and select those opportunities that best fit your needs

Course details

- For researchers in the natural sciences who want to find and prioritise funding opportunities to fit their needs or mentor others through the process
- 5 experts in obtaining research funding, including a former programme director at a major funder, experienced researchers, and a research management consultant
- 3.5 hours of learning, 10-30-minute bite-sized lessons, 1-module course with certificate

Module

- Finding Funding Opportunities



Persuasive Grant Writing



About this course

This course explains how to use narrative tools to create grant applications that resonate with the audience - your chosen funder. In the course, you will discover how narrative tools can improve the quality of your grant applications, how understanding your funder will help you align your research question with their objectives and how to apply narrative tools across your grant applications to make them more informative and persuasive.

What you'll learn

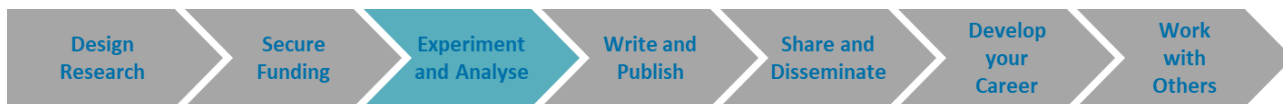
- Understand how narrative tools can improve the quality of your grant applications
- How to align your grant proposal with the requirements and objectives of your chosen funder
- How to apply narrative tools when writing your grant proposal, to make it more informative, persuasive and engaging

Course details

- For researchers in the natural sciences who want to use narrative tools to improve the quality of their grant applications to make them more informative and persuasive
- 9 experts in grant writing, including researchers, programme officers from funding bodies, and the Chief Editor of the *Nature Research* Editing Service
- 7.5 hours of learning, 15-minute bite-sized lessons, 3-module course with certificate

Modules

- Before starting your grant application
- Targeting your audience
- Creating a narrative



Data Analysis: Planning and Preparing



About this course

This course introduces the essential elements of robust data analysis during a research project. In this course, you will discover how planning and preparing for data analysis will avoid time-consuming and costly mistakes, benefitting your immediate research and ultimately your reputation and career.

What you'll learn

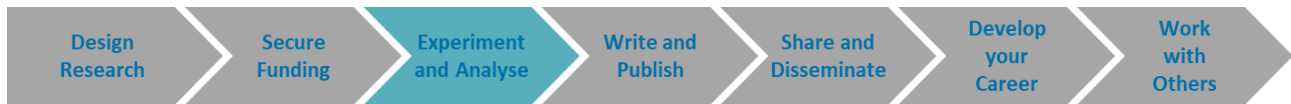
- The importance of planning and preparing for data analysis
- The key terms and processes relating to data analysis
- The principles of creating and updating a data analysis plan

Course details

- For researchers in the natural sciences who want to develop their data analysis skills or mentor others through the process
- 10 experts in data analysis, including experienced statisticians and data scientists, *Nature Portfolio* journal Editors and early career researchers
- 4 hours of learning, 15-minute bite-sized lessons, 2-module course with certificate

Modules

- Introduction to data analysis and the importance of planning
- Preparing your data for analysis



Data Analysis: Conducting and Troubleshooting



About this course

This course introduces the key concepts, processes and methodologies of effective data analysis during research projects. In this course, you will discover how conducting effective data analysis will benefit your research and career, and learn how to implement best practices in order to maximise the outputs of your research.

What you'll learn

- The importance of conducting effective data analysis
- The best tools for exploring various datasets
- The range of analytic methods available, and understanding which is most suited to your data
- Strategies for obtaining feedback, troubleshooting, and expressing the limitations of your analysis

Course details

- For researchers in the natural sciences who want to develop their data analysis skills or mentor others through the process
- 10 experts in data analysis, including experienced statisticians and data scientists, *Nature Portfolio* journal Editors and early career researchers
- 5 hours of learning, 15-minute bite-sized lessons, 3-module course with certificate

Modules

- Introduction to Data Analysis
- Exploring Your Data and Reviewing Your Analysis Plan
- Analysing Your Data



Interpreting Scientific Results



About this course

This course is aimed at all researchers in the natural sciences who want to develop their skills in adequately interpreting results. It provides the knowledge, life-long practical skills and confidence required to address their scientific question, contextualise their findings to understand the bigger picture, as well as what they bring to their scientific field, and write an interpretation with a focus on their key message.

What you'll learn

- Recognise and avoid the most common pitfalls when interpreting results
- Understand the steps you can take if their results are unexpected
- Address your research aims, contextualise your findings and understand how they advance their scientific field
- Communicate findings with a focus on your key message

Course details

- For researchers in the natural sciences who want to interpret their scientific findings with more confidence, or mentor others through the process
- 5 experts in interpreting results, including a *Nature Portfolio* journal Editor and experienced researchers, statisticians and data scientists
- 3.5 hours of learning, 10-20-minute bite-sized lessons, 1 module course with certificate

Module

- Interpreting Scientific Results



Managing Research Data



About this course

This course covers the key elements of effective data management during research projects. In this course you will discover how good data management will benefit your research and career, and learn how to implement best practices in research data management in order to maximise the outputs of your research.

What you'll learn

- Why effective data management is beneficial to your research and your career
- How to create and maintain a data management plan
- How to apply best practices for organising, storing, archiving and quality checking your data
- How to ensure that your data is understandable to yourself and others
- The pros and cons of different options for sharing your data

Course details

- For researchers in the natural sciences who want to develop their data management skills or mentor others through the process
- 10 experts in data management, including researchers, funders, data publishing and institutional data management specialists
- 10 hours of learning, 15-minute bite-sized lessons. 4-module course with certificate

Modules

- Welcome and introduction
- Creating and maintaining your data management plans
- Managing data in the short and long term
- Sharing your data



Writing a Research Paper: 2nd Edition



About this course

Writing research papers allows you to contribute to the scientific record, and is critical for advancing your career. To ensure that the findings you have invested so much effort in have an impact on your scientific community, it is pivotal that the paper you write is effective. This course will introduce you to powerful narrative tools and principles of scientific writing to help you write effective research papers.

What you'll learn

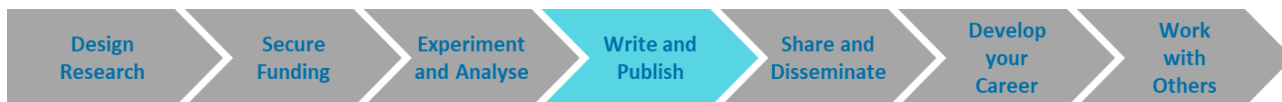
- Understand what makes an effective research paper
- Gain insights on the preferred structure of a Nature published paper
- Leverage narrative tools and their application to scientific writing
- Master the principles of scientific writing style
- Write a research paper section by section
- Develop effective titles and abstracts
- Finalise your research paper for submission

Course details

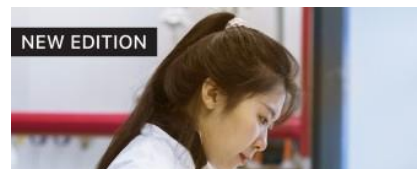
- For researchers in the natural sciences looking to write effective research papers
- 12 experts in scientific writing, including *Nature Portfolio* Editors
- 14.5 hours of learning, 10-50-minute lessons, 5-module course with certificate

Modules

- Understanding the elements of an effective research paper
- Applying narrative tools to your research paper
- Using the principles of scientific writing style for your research paper
- Writing your research paper section by section
- Finalising your research paper for submission



[Publishing a Research Paper: 2nd Edition](#)



About this course

Publishing a scientific paper is an essential stage in the research process. Whether you are new to academic publishing or seeking to improve your publication success, this course offers a comprehensive overview of how to navigate the editorial process, including submissions, peer review and revisions.

What you'll learn

- Become familiar with journal editorial guidance and policies
- Format your paper for submission and write an engaging cover letter
- Understand the editorial and peer review process and different editorial decisions
- Learn how to revise your manuscript and respond to reviewer comments, and understand your options if your manuscript is rejected
- Be aware of self-archiving and embargo policies to ensure you share your paper appropriately

Course details

- For researchers in the natural sciences seeking to improve their chances of successfully publishing research papers
- 12 experts in scientific publishing, including *Nature Portfolio* Editors and prominent researchers
- 6 hours of learning, 10-30-minute lessons, 2-module course with certificate

Modules

- Submitting your paper
- From submission to publication



Writing and Publishing a Review Paper: 2nd Edition



About this course

Review papers are critical for advancing scientific knowledge. They bring together recent literature and provide critical analysis on specific topics, helping researchers explore future directions and challenges in the field. In this course, you will learn approaches, techniques and skills important for writing a strong review paper as you are guided through the writing and publishing process.

What you'll learn

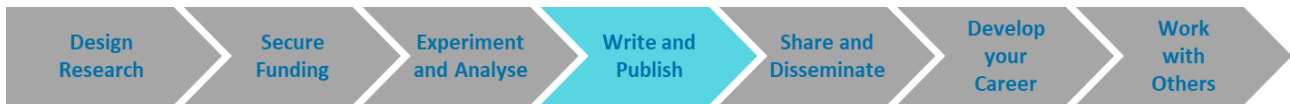
- Build the foundations of a strong review paper by identifying the motivation, refining the audience and choosing the writing team
- Select, evaluate and synthesise primary literature efficiently
- Apply scientific writing principles to construct an engaging and informative review paper
- Identify and create effective display items that will add value
- Navigate the submission process for both solicited and unsolicited reviews

Course details

- For researchers in the natural sciences looking to build or refine their review writing skills
- 7 experts in reviews, including four Nature Portfolio Chief Editors
- 4 hours of learning, 5-25-minute lessons, 17-lesson course with certificate

Lessons

- What are review papers?
- Why publish a review paper?
- What makes a great review paper?
- Editors' favourite review papers
- Build the foundation
- The outline
- Plan the written content of your review
- Select your primary literature
- Identify your display items
- Choose your journal
- Write a compelling cover letter
- Mechanics of Writing a review
- Write your review
- Prepare for submission
- Publish your review
- Frequently asked questions
- Key takeaways



Focus on Peer Review



About this course

This course teaches researchers the foundations of good peer review.

What you'll learn

- The importance and responsibilities of peer reviewers
- How to prepare a peer review report
- Ethics and innovations in peer review

Course details

- For researchers in the natural sciences who are new to peer review or wish to refresh their skills
- 11 *Nature Portfolio* journal Editors and 2 active researchers
- 3.5 hours of learning, 10-minute bite-sized lessons, 4-module course with certificate

Modules

- Your role as peer reviewer
- The peer review report
- Ethics in peer review
- Variations and Innovations in peer review



Research Integrity: Publication Ethics



About this course

This course assists researchers to master the essential steps for publishing work with the highest standards of integrity. By providing practical strategies to implement editorial policies the course serves as a toolbox, enabling researchers to navigate the whole writing and publishing process. This course supports researchers in publishing with integrity, allowing them to confidently contribute to the scientific record.

What you'll learn

- How to select a reputable journal and locate editorial policies and ethical guidance
- Maintain image and data integrity and availability
- Reuse material with appropriate permissions
- Properly cite your own work and that of others
- Avoid common authorship disputes
- Make relevant declarations about your research and publication, including conflicts of interest
- Appropriately navigate revisions
- Address post-publication issues

Course details

- For researchers in the natural sciences who want to improve their understanding of how to publish research ethically and with integrity
- 7 experts in publication ethics, including a *Nature Portfolio* journal Chief Editor, Caltech's Chief Research Policy Officer and an elected member of the Committee on Publication Ethics (COPE) Council
- 8 hours of learning, 10-40-minute lessons, 3-module course with a course certificate

Modules

- Preparing to publish with integrity
- Publication ethics during manuscript preparation
- Publication ethics after submission



Advancing Your Scientific Presentations



About this course

This course teaches you how to create more memorable and engaging presentations to your scientific peers. In the course, you will discover how you can develop your research story - the foundation of your presentation - using narrative tools, how to build a slide deck that supports and enhances your presentation, and how to prepare to deliver your presentation on the day.

What you'll learn

- To identify techniques that can help to overcome the challenges that researchers commonly face when creating and delivering oral presentations
- To build compelling research stories to use as the foundation for your presentations
- To create professional slide decks that effectively communicate your research findings to your audience
- To apply strategies to help you deliver your presentation effectively on the day, in both virtual and face-to-face environments

Course details

- For researchers in the natural sciences who want to improve the quality of their peer-to-peer scientific presentations with both virtual and face-to-face audiences
- 10 experts who excel at presenting their work, including renowned presentation designers, and trainers and experts in narrative tools
- 10 hours of learning, 15-minute lessons, 4-module course with course certificate

Modules

- Overcoming your research presentation challenges
- Developing the story behind your talk
- Building an engaging slide deck
- Preparing and navigating your talk



Creating Successful Research Posters



About this course

In today's fast-paced world of research, effective communication is key. An engaging research poster is a great way to visually share your findings concisely and broaden your professional network with other researchers. Learn how to craft great engaging research posters and prepare a handout and conversation that will captivate your audience.

What you'll learn

- Set communication goals for your poster presentations
- Identify your audience and select your key message and supporting material
- Select the visual elements and supporting text for your poster
- Design a poster that will communicate your key message effectively
- Use your poster to spark great conversations about your research

Course details

- For researchers in the natural sciences who would like to learn how to create and present an effective research poster
- 5 experts in science communication and research poster design and presentation
- 4.5 hours of learning, 10–35-minute lessons, 1-module course with certificate

Module

- Creating Successful Research Posters



Effective Science Communication



About this course

Knowing how to effectively communicate research with non-experts requires a certain skillset that can be learned and developed with practice. This course will provide researchers with the core tools and techniques to help them communicate any piece of research, published or unpublished, to a variety of different audiences.

What you'll learn

- Compare different audience requirements to help you tailor your communications
- Select a relevant communication channel for your specific needs in a particular instance
- Understand how storytelling techniques can build a compelling scientific story to communicate your research
- Apply strategies to help you communicate your research in an accessible and persuasive way to a non-scientific audience
- Tips and techniques for communicating your research via writing, public talks and presentations, social media and media interviews

Course details

- For researchers in the natural sciences who would like to communicate their research to a broader audience
- 8 experts in science communication, science writing and editing, science outreach, engagement and presentations, and the Springer Nature press office
- 6.5 hours of learning, 10–30-minute lessons, 1-module course with certificate

Module

- Effective Science Communication



Narrative Tools for Researchers



About the course

This course explains how to use narrative techniques to help you communicate your research to the scientific community in an effective, compelling and memorable way.

What you'll learn

- The benefits of using narrative tools to communicate your research more effectively to scientific peers and stakeholders
- How to create and combine narrative elements to build a compelling scientific story
- How to refine your research story depending on the audience and format for your communication

Course details

- For researchers in the natural sciences who want to enhance their communication to their peers by using narrative tools to tell their research story
- 10 experts in using narrative techniques in scientific communication, including researchers, *Nature Portfolio* journal Editors and science journalists
- 8.5 hours of learning, 15-minute bite-sized lessons, 3-module course with certificate

Modules

- Why use a story?
- Building your story
- Refining your story



Building a Strong Online Researcher Profile



About this course

Being easily found and contacted online by different stakeholders such as journal editors, industry professionals, journalists and fellow researchers is crucial in fostering collaborations and advancing your career. This microlearning course aims to equip you with the essential skills to build and optimise your online researcher profile(s).

What you'll learn

- Understand the importance of having a strong online researcher profile
- Be familiar with the requirements of professionals who may look at your profile
- Strategically choose the right platforms for your researcher profile
- Generate great bios with the right keywords for your expertise
- Boost the visibility of your work and experience.

Course details

- For researchers in the natural sciences who would like to boost their online visibility and advance their career
- 5 experts including journal editors, researchers, journalists and recruiters
- Microlearning format, 1 hour of learning, 5 bite-sized lessons with certificate

Lessons

- What is an online researcher profile?
- Who might be searching for you online?
- Where can you build your online researcher profile?
- Which websites or platforms should you use?
- How can you make your researcher profile(s) stand out?



Getting an Academic Research Position



About this course

This course will show researchers how to get an academic research position that suits them perfectly. It will teach them the skills to find, select and apply to suitable roles, send tailored applications, and impress potential employers at the interview.

What you'll learn

- How to find potential career opportunities that align with your personal attributes, desires and goals
- How to apply for positions in a way that will highlight your strongest attributes and most relevant qualities
- How to present yourself authentically and effectively during all stages of the interview process, giving you the best possible chance of success
- How to assess whether a job you are offered is suitable and choose between competing job offers

Course details

- For researchers in the natural sciences seeking to take their next career step, either as a new postdoc or in a new faculty role
- 11 experts in research career development, including experienced academic researchers, *Nature Portfolio* journal Editors, and coaching and careers specialists
- 9.5 hours of learning, 10-30-minute bite-sized lessons, 4-module course with certificate

Modules

- Exploring your values, interests, skills and career goals
- Finding a research position
- Applying for a research position
- Excelling at the interview



Introduction to Collaboration



About this course

This course introduces the idea of research collaboration and how becoming a more effective collaborator could help to further both your research and your career. Even if you've already participated in collaborative research, this course provides a useful introduction to the topic of research collaboration, as well as valuable context and advice around the pros and cons of collaborative projects and how they can help you reach your goals.

What you'll learn

- Why collaborative research is becoming more prevalent
- The pros and cons of collaborating
- The specifics of collaborating with industry
- How collaborative projects can help advance your research and career

Course details

- For researchers in the natural sciences who wish to participate in collaborative projects
- 14 experts in collaboration, including researchers, funders, editors and professionals
- 2.5 hours of learning, 15-minute bite-sized lessons, 1-module course with certificate

Module

- Introduction to collaboration



Participating in a Collaboration



About this course

This course focuses on how to ensure you make a meaningful contribution when you join a collaborative project. The course will help to equip you with the knowledge and skills you need to become an effective and valuable member of the team. This course is particularly suited to researchers who have little or no experience in working collaboratively.

What you'll learn

- Strategies for working in a new research team
- Key collaborative skills such as dividing tasks, managing your time, and communicating efficiently
- Tools to help you collaborate
- How to plan to maximise the skills, ideas and contacts you'll gain from collaborating
- How to overcome possible roadblocks when participating in collaborative projects

Course details

- For researchers in the natural sciences who wish to participate in collaborative projects
- 16 experts in collaboration, including researchers, funders, editors and professionals
- 5 hours of learning, 15-minute bite-sized lessons, 1-module course with certificate

Module

- Participating in a collaboration?



Leading a Collaboration



About this course

If you already have collaborative experience and are ready to initiate your own research collaboration, this course covers all aspects of setting up, leading, managing and closing down your own collaborative research project.

What you'll learn

- Identify and approach potential collaborators with the right skills and expertise
- Effective leadership behaviours to drive a successful project
- Set up collaboration agreements, codes of conduct, and project management plans
- Seek and apply for funding for your project
- Keep collaborators motivated, monitor progress, and address delays
- Manage challenges including conflict between collaborators, stress, ethical misconduct, administering shared funds and resources, and going over-budget
- Maximise the outputs, value and impact of your collaboration
- Publishing collaborative papers
- How to wrap-up a collaborative project that has reached its goals, or end a project early if required

Course details

- For researchers in the natural sciences who wish to lead collaborative projects
- 16 experts in collaboration, including researchers, funders, editors and professionals
- 11.5 hours of learning, 15-minute bite-sized lessons, 3-module course with certificate

Modules

- Initiating and leading a collaboration
- Running and troubleshooting a collaboration
- Outputs and next steps



Networking for Researchers



About this course

This course covers the key elements needed to acquire or perfect effective professional networking skills for scientific researchers. In this course you will discover how building a professional network will benefit your research and career, and learn the skills to build and maintain networking connections in a variety of settings, both in-person and online.

What you'll learn

- The theory behind and the importance of networking, and how to use your research and career goals to guide you to find appropriate networking opportunities
- How to research and prepare key resources to help you build an effective network
- Strategies to approach and connect with potential contacts, and how to follow up – both in person and online
- Strategies for nurturing your networking contacts, and how to leverage them to advance your research and career

Course details

- For researchers in the natural sciences who want to gain confidence by improving their networking skills or mentor others through the process
- 10 experts in networking, including researchers, experienced academic networkers, fellows, networking consultants and communications specialists
- 8 hours of learning, 15-minute bite-sized lessons, 4-module course with certificate

Modules

- Why network?
- Getting ready to work
- Connect with new networking contacts
- Nurturing and harnessing the power of your network