LEARNING PATH 1

QUALITIES OF A SUCCESSFUL SCIENTIFIC RESEARCHER

Understand the key skills and ethical values associated with success in writing, submitting and publication of research papers. Learn about the characteristics, qualities and cognitive abilities of a good researcher and help with developing strategies for improving scientific writing skills.

MODULES:
- Changing gear: becoming a true researcher
- Organizing student journal clubs
- Toward your research goal
- Career paths in research
- The roles of luck and failure
- Leadership, networking and other qualities to succeed
- Personal missions and ethical values in research
- Six cognitive qualities of successful researchers
- Time management and smarter working
- Poster presentations
- Developing communication and presentation skills
- Teamwork for successful research
- Problem-solving as a key cognitive quality
- Success strategies that look inward
- Success strategies that look outward
- Qualities of a successful scientific researcher - final exam

Duration: 6h 32min

LEARNING PATH 2

RESEARCH AND PUBLICATION: THE ESSENTIAL LINK

Grasp the essential purpose of the journal article to communicate scientific research and develop the skills needed to plan a research project effectively. Learn more about the challenges around getting published, and look at gathering, interpreting and reproducing research and data.

MODULES:
- Why write and publish?
- If it is not documented, it does not exist
- Benefits of publishing your work
- Primary and secondary research
- English as the lingua franca of scientific research
- Selling your paper to the editor, the reviewers and the readers
- Requirements and phases of the publication process
- Who should be the first author?
- Posing your research question
- Reproducibility and repeatability
- Relying on theoretical frameworks
- The theoretical basis of the research question
- Aims and approaches of the research
- The potential and limitations of the study
- Meeting the research objective
- Variables and methodology
- How to plan a literature search and review
- Building a realistic chronogram
- Project management tools
- Planning your research
- A data plan, instruments and techniques
- Data verification, cleansing and analysis
- Research and publication - final exam

Duration: 5h 25min

LEARNING PATH 3

FUNDING THE RESEARCH PROJECT

Discover how to develop a well-structured research funding proposal and gain an understanding of how grant applications are evaluated. Learn about international funding agencies, Open Access (OA) mandates, and reimbursement guidelines for Article Processing Charges (APC).

MODULES:
- Types of funding and funder
- Preparations: Steps and timing in relationship to the grant submission deadline
- Writing the funding application
- Understanding the review process
- Funding the research project - final exam

Duration: 2h 25min

LEARNING PATH 4

SELECTING AN APPROPRIATE JOURNAL

Recognize the range of texts that can be used for scholarly communication and identify the best ways to measure journal quality. Learn essential tools to help with journal selection and publishing platforms.

MODULES:
- What is it I want to publish?
- Choosing an appropriate journal
- Understanding the target journal’s typical reader
- Journal directories and indexes
- Why publish in high impact journals
- Other methods for comparing journals within a given field
- The Impact Factor
- Choosing a journal according to measures of quality
- Open Access (OA) and publication charges
- Understanding journal publication schedules and frequency
- Where not to publish
- Selecting an appropriate journal – final exam

Duration: 4h 32min
LEARNING PATH 5
BEST PRACTICES IN WRITING SCIENTIFIC ARTICLES
Understand international standards and conventions in scientific writing and develop techniques to help with the writing process. Learn how to structure an article, use images and explain the contribution the research has made.

MODULES:
• Writing the article that the journal editor wants to publish
• What you can expect to find in the author guidelines
• Manuscript formatting services
• Key information
•Writing sequence
• Writing iteratively
• The discussion in the context of the larger paper
• Spelling and style
• Formal language and consistent use of vocabulary
• Economic writing and limitation to what is relevant
• Objectivity, courtesy and modesty
• Use of tenses, structuring phrases and syntax
• Write to be understood with minimum effort
• Metadata and Google
• Google Adwords Keyword Tool
• Translation into English
• Getting a colleague’s opinion of your article
• Best practices in writing scientific articles – final exam

Duration: 6h

LEARNING PATH 6
KEY COMPONENTS OF A RESEARCH ARTICLE
Learn about the purpose of the main sections of an article and what they should contain. Discuss writing methodology, representing results, references and citations, translations and pre-submission review.

MODULES:
• What makes a good title: succinct, substantial and specific
• The abstract
• The author list
• Keywords
• Introduction: what problem or question are we addressing?
• Methods: how did we research the problem or question?
• Results: What were the findings?
• Discussion: What do the results signify?
• Conclusions
• Acknowledgments
• Figures and tables that help clarify your findings
• Compiling your bibliographical references and citations
• Letter to the Editor-in-Chief
• Key components of a research article – final exam

Duration: 4h 50min

LEARNING PATH 7
MANUSCRIPT SUBMISSION
Discover the steps involved in submitting a manuscript to an international journal and the procedures that follow this process. Benefit from author guidelines and submission information. Learn more about peer review, copyright, publication charges, OA and Creative Commons Licenses; along with typesetting and editing.

MODULES:
• Duties of the corresponding author
• Obtaining permission to use previously published materials
• How to facilitate the editorial process
• Online manuscript submission
• Article processing charges and predatory journals
• Initial processing of your manuscript
• The editorial team
• Revision, acceptance and copy editing
• Typesetting and tagging
• Checking the proofs and publication
• Copyright transfer agreements
• Creative Commons Licenses
• Manuscript submission –final exam

Duration: 4h 25min

LEARNING PATH 8
PEER REVIEW
Understand the purpose of peer review and develop skills to handle the process professionally and successfully. Learn techniques for using feedback as an opportunity for improvement and how to communicate effectively with the reviewer.

MODULES:
• What is peer review?
• Different types of peer review
• Principle steps in the peer review process
• The role of the journal editor
• Key things that a reviewer should look for
• Use of language
• Originality and topicality
• Article structure
• Discussion and conclusion
• Reliability of research
• Citations and bibliographical references
• Lack of experience
• Arriving at a decision
• Some common reasons for rejection
• What do I do if my manuscript gets rejected?
• Your reactions to the review
• Evaluating reviewer comments and planning your response
• Letter of reply
• Responding to bad reviews
• Peer review – final exam

Duration: 5h 30min
LEARNING PATH 9

OPEN ACCESS TO SCIENTIFIC LITERATURE

A comprehensive overview of the advantages (and inconveniences) of Open Access – one of the most challenging environments facing scientific authors. Learn about international trends, institutional policies, emerging OA models and predatory journals.

MODULES:
- Open access
- Creative Commons
- The cost of open access
- Advantages and disadvantages of open access
- Open access journals and repositories
- Open access trends and mandates
- The danger of predatory journals
- Open access to scientific literature – final exam

Duration: 3h 15min

LEARNING PATH 10

MANAGING RESEARCH DATA

Understand the fundamental requirements and best practices for managing and storing research data; discover current opportunities to make data available. Learn about Open Science and Open Data, data repositories, citation and licensing.

MODULES:
- Open science and open data
- Distinguishing raw data from the results of analysis
- A brief history of the open data movement
- Research data and the preservation of data
- Data protection and intellectual property
- Data formats and metadata
- In favor of data sharing: improving science
- In favor of data sharing: investment and researcher impact
- Against data sharing: data management and confidentiality
- Against data sharing: potentially malicious use
- Against data sharing: citation and intellectual property
- International trends and initiatives in data sharing
- Open data: standardization of procedures and licenses
- Managing research data – final exam

Duration: 4h 30min

LEARNING PATH 11

ETHICAL CONSIDERATIONS

Identify the best ethical practices through writing, submission and post-publication of a scientific article. Learn about fictitious authorship, false data, plagiarism and conflicts of interest.

MODULES:
- Unethical authorship
- Attribution and accountability
- Considerations in studies on humans or human-derived biologicals
- Issues related to studies on animals
- Privacy issues in research publishing
- Other privacy issues to be aware of
- Definitions of redundancy in research publishing
- Misconduct, fair use and plagiarism
- What can I do to foster trust in my research publishing?
- Issues related to appeals and academic debate
- Change and withdrawal requests
- Ethical questions in writing scientific papers – final exam

Duration: 4h 10min

LEARNING PATH 12

ROLES OF THE PUBLISHER AND JOURNAL EDITORS

Understand responsibilities of the various roles within scientific publishing from journal owner/ publisher through to editorial. Explore in depth the role of the Editor-in-Chief and their independence; plus, the production process, planning cycles, indexing; and strategies for maximizing impact and visibility.

MODULES:
- The international research publishers
- Learned societies and research publishing
- Six current trends in research publishing
- The role of the Editor-in-Chief
- Other responsibilities of the Editor-in-Chief
- Other editorial roles
- Coding languages and interoperability of systems
- Five common requirements for journal indexing services
- How publishers make content discoverable
- Key innovations in assessing, publishing and profiling research
- Key innovations in content and distribution
- Roles of the publisher and journal editors – final exam

Duration: 4h 25min
LEARNING PATH 13
POST-PUBLICATION ACTIVITIES AND DRIVING VISIBILITY

Learn best practice in postpublication activities to increase the visibility of your scientific article. Discussions cover abstracting, indexing and archiving, along with citations and social media. Understand the importance of researcher ID systems, building your author profile, and finally, measuring impact.

MODULES:
- Search engines, social networks and press releases
- Bookmarking, referencing and Wikipedia
- Using alternative metrics to support visibility
- Sharing an article
- Repositories and article versions
- Blogging
- Podcasting and Kudos
- Using ORCID to promote visibility
- Community networking
- Post-publication activities and driving visibility – final exam

Duration: 3h 50min

LEARNING PATH 14
BECOMING A PEER REVIEWER

Discover what it means to be a peer reviewer, the principles behind it and the benefits of becoming one. Learn how reviewers are recruited, how to structure a review and best practice guidelines and responsibilities. Plus, methods used to identify plagiarism and strategies for resolving conflicts.

MODULES:
- Becoming a peer reviewer
- Inside the reviewing experience
- Current trends in peer review
- Anonymity and peer review
- The role of reviewers in peer review
- The editor’s part in peer review
- The review report
- The outcomes of peer review
- Becoming a peer reviewer – final exam

Duration: 6h 32min

Learning tips

Complete the Learning Paths at your own pace, anytime, anywhere – progress is tracked and synchronized.

Participate in ‘Open Questions’, ‘Polls’ and ‘Share’ sections to network and collaborate with other researchers.

Download and share your certificate in LinkedIn upon completing each Learning Path.

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