

Opening Knowledge

A Guide for Open Ways to Enhance
Research and Teaching

Open@VT
August 2019



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VIRGINIA TECH.

>The Language of Open

Open Access

Open access refers to peer-reviewed research that is openly available and openly licensed. Open access can be achieved by publishing in an open access venue or archiving a version in an online repository.

Open Source

Open source refers to software that is free to use and reuse at no cost. Open Source software is made openly available under a license that allows anyone to access, use, share, and modify it without needing to ask permission.

Open Data

Open data refers to data that is openly available and openly licensed. Open data is free to everyone to use and re-use as they want, without restrictions.

Open Education

Open Education includes tools, practices, and resources that leverage knowledge sharing, technology, open licenses, and collaboration in service of learning. Open Educational Resources (OER) are freely and publicly available teaching, learning, and research resources (e.g. simulations, textbooks, or videos) in the public domain or openly licensed.

Open Licenses

Open license are applied to work to communicate up front what can and cannot be done. Creative Commons (CC) licenses are open content licenses that enable work to be used, adapted, and shared. To learn more visit creativecommons.org. Open software licenses give users freedom to use, modify, and distribute software and code without restriction.

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> Open Access - Open Knowledge at VT

At the University Libraries we've always been committed to the principle of access—access to information across a wide spectrum of disciplines in service to the Virginia Tech community. Today this commitment to access remains stronger than ever, further emboldened by the advent of new technologies that make possible unprecedented distribution of knowledge via the Internet, free of charge to all scientists, scholars, teachers, students, and other curious minds throughout the world.

We believe that openness is the future of higher education. Openness ensures greater dissemination, inclusiveness, and integrity for the advancement of knowledge and the education of the next generation. While not all knowledge can be open, we believe that the vast majority can and should be.

This booklet introduces a few of the many open resources you can find in and through the Library. The first section, “For Scholars,” highlights the wealth of open scholarship in the Library’s collections as well as tools we make available to researchers for writing and publishing open scholarship. The second section, “For Instructors and Students,” focuses on tools and resources specifically aimed at making learning accessible, abundant, and customizable for all.

These resources, tools, and services, plus a great deal more, can be found on the Library website by visiting lib.vt.edu/open-access and Open@VT, blogs.lt.vt.edu/openvt.

Throughout the booklet tools and resources marked in maroon, orange, and grey indicate the following:

Maroon are resources provided by VT.

Orange are tools supported by VT.

Grey are resources created at VT.

> For Scholars

Open access allows for researchers all over the world to find a publication online and cost-free. Scholarship can be made open access in two ways, through publishing or archiving a version.

Over the years the Library has allocated a growing portion of the collections budget to the production and the unlatching of open access scholarship. We believe that by supporting these open access efforts we are promoting innovation, diversification of scholarly publishing models, and reducing barriers to information. Here are some of the initiatives we support.

Log in to **HathiTrust Digital Library** with your VT.edu account to access millions of public domain and in copyright works (books, journals, dissertations, and more) from libraries around the world as well as Google, the Internet Archive, and Microsoft. HathiTrust provides long-term preservation and access services including computational analysis of the collection. Visit hathitrust.org.

Knowledge Unlatched (KU) is an online collection of over 1,500 open access scholarly books and journals from university presses and other leading publishing houses. KU is made possible by financial support from libraries, including Virginia Tech. Visit knowledgeunlatched.org.

The Library's financial contributions to **SCOAP3** (Sponsoring Consortium for Open Access Publishing in Particle Physics) have helped convert key journals in the field of high-energy physics to open access at no cost to authors. SCOAP3 journals are open for any scientist to publish in without any financial barriers. Visit scoap3.org.

The Library is a member of **arXiv**, an automated archive and distribution server for articles in physics, mathematics, computer science, nonlinear sciences, quantitative biology, quantitative finance, statistics, electrical engineering, systems science, and economics. Authors can submit and update their articles to arXiv for users to retrieve through the website. Visit arxiv.org.

DOAJ (Directory of Open Access Journals) is an online directory that provides access to 12,000 open access peer reviewed journals in science, technology, medicine, social science and the humanities. DOAJ is a membership organization. Visit doaj.org.

Independent Voices is an open access digital collection containing alternative press newspapers, journals, and magazines obtained from library special collections. The collection features work produced by alternative sources during the later half of the 20th century. Content is curated by librarians, scholars, and publishers. Visit voices.revealdigital.com.

Open Library of Humanities (OLH) is a charitable organization with a commitment to make scholarly publishing more accessible. OLH publishes articles at no cost to authors and features multidisciplinary and humanities academic journals. Visit openlibhums.org.

PhilPapers indexes content in philosophy and provides an open access archive of philosophy research. PhilPapers also provides a structured bibliography with has half a million entries classified at varying levels. Visit philpapers.org.

VTechWorks is Virginia Tech’s research repository and contains more than 75,000 items including journal articles, presentations, theses and dissertations, open textbooks, and videos. Items in VTechWorks are readily discoverable because they are indexed by search engines, Google Scholar, and Unpaywall. Faculty can also use Elements (EFARs) to deposit to or claim items in VTechWorks. To register and add your work visit vtechworks.lib.vt.edu or contact vtechworks@vt.edu.

VTechData is Virginia Tech’s data repository and makes it easy to publish your data and make it openly accessible and discoverable. (N.B. You have the option of making your datasets open immediately or upon delayed release.) VTechData also provides DOIs as well as guidance in meeting funder and journal data requirements. For assistance or to upload your data visit data.lib.vt.edu or contact dataservices@vt.edu.

Use **Unpaywall** to find freely available research articles, including those from VTechWorks. Install the extension in your Chrome or Firefox browser, and when you land on a pay-walled article, look for the “unlock” tab on the right side of your browser and click. For more information or to install the extension visit unpaywall.org.



OA Button, like Unpaywall, works as an extension in your browser to help you find millions of free research articles instantly. When you hit a paywall, the Button will either retrieve a free copy of the article or help you ask the author to deposit the article in a repository. To install the extension visit openaccessbutton.org.



ORCID (Open Researcher and Contributor Identifier) is a 16-digit number that distinguishes you from other researchers, thereby ensuring that your work is recognized. Increasingly required by funders and journals, ORCID helps automate publication lists. Faculty can also sync their Elements (EFARs) profile with ORCID. Sign up at orcid.org, and get help at guides.lib.vt.edu/orcid or email orcid@vt.edu.



The **Open Science Framework** (OSF) is a powerful tool that enables you to collaborate on research and writing, keeping all your files, data, and protocols in one centralized cloud-based location. You control which parts of your project are public or private making it easy to collaborate with the world or just your team. OSF can be connected to other tools such as Google Drive, Dropbox, and Git to share data, archive data, track project changes, assist in project management, and more. Sign in with your VT or ORCID ID. Visit osf.io or osf.io/institutions/vt.



Overleaf is an online collaborative writing and publishing platform that makes writing, editing, and producing your research papers and reports faster and more efficient. Overleaf is LaTeX-based but can use the rich text mode. Publisher-specific templates enable you to submit directly to journals. Overleaf can also be linked to other services such as Mendeley, Git, and Plot.ly to best fit into your workflow. Virginia Tech has partnered with Overleaf to provide all VT students, faculty, and staff with Overleaf Pro+Teach accounts. Visit overleaf.com/edu/vtech.



Tell Your Story- Impact and Engagement is a library curated guide dedicated to providing information about managing an online professional identity. The guide contains information for developing your online identity, making your work available, and promoting your research. The guide also provides information on selecting and maintaining platforms. Visit guides.lib.vt.edu/TellYourStory/Professional-Identity.

Zotero is a free citation manager that can be used online, on your desktop, or as a browser extension. With it, you can collect citation information from web pages and databases, and create groups to share citations. The libguide on Zotero provides additional information on how and when to cite, as well as more information on using a citation manager. Visit zotero.org or guides.lib.vt.edu/citationmanagers/Zotero.



VT Github facilitates collaboration among Virginia Tech programming projects. It is open to students, faculty, and staff to share their ongoing projects throughout the university. Members can add projects and view the profiles and projects of others. Visit virginiatech.github.io.



Perma.cc is a free open source tool to prevent link rot in your scholarship. When you give Perma.cc a URL of the page you want to cite, their software visits that URL, preserves what's there, deposits it into the Perma.cc collection, and gives you a unique URL (e.g. "perma.cc/ABCD-1234") that will never break. Visit perma.cc or guides.lib.vt.edu/permacc. To sign up for an unlimited account, email permacc@vt.edu.

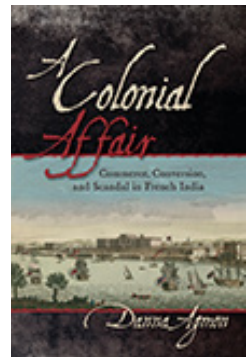


Funding Opportunities Available at VT

The **Open Access Subvention Fund** subsidizes article processing fees for peer-reviewed articles accepted for publication in open access journals. All VT faculty, students, and staff are eligible. For more information, visit guides.lib.vt.edu/oasf or contact Gail McMillan (Director, Scholarly Communication): gailmac@vt.edu.

TOME (Toward an Open Monograph Ecosystem), a pilot project Virginia Tech is participating in, supports the publication of long-form, peer-reviewed scholarship by faculty members in the humanities and humanistic social sciences. Grants in the amount of \$15,000 (baseline) are awarded to the publisher so that an open access version of the monograph can be published online. For more information visit lib.vt.edu/open-access or contact Peter Potter (Director, Publishing Strategy): pjp33@vt.edu.

A Colonial Affair by Danna Agmon (History) was published by Cornell University Press in 2017. The publisher also released an Open access edition of the book (supported by TOME), which can be found on the Cornell University Press website cornellopen.org as well as on other select sites including Project Muse, JSTOR, and VTech Works (hdl.handle.net/10919/85229).



> For Instructors and Students

Open Educational Practices (OEP) leverage new ideas in teaching and learning as well as the use and creation of open educational resources to facilitate deeper engagement and learning. The Library encourages and supports the use of **Open Educational Resources** (OER) because they reduce the high costs of education for students while giving instructors more freedom to create and adapt course materials through the use of open licenses. Here are a few tools for instructors and students to find and create OER followed by funding opportunities for VT faculty to produce their own OER.

The **OER Overview** is a Library-curated guide and an excellent starting point if you have questions about OER. It provides an overview of existing OER collections in various disciplines and also includes information about Creative Commons licenses, copyright, and the public domain. Access the guide at guides.lib.vt.edu/oer.

Odyssey is a learning object and educational resources repository created and maintained by the Library. It features videos, handouts, infographics, lesson plans, and more. Visit odyssey.lib.vt.edu or contact odyssey@vt.edu.

Open Pedagogy Notebook is designed to serve as a resource for educators interested in learning more about open teaching and learning. It features examples of classroom-tested practices and serves as an incubator for educators to showcase new ideas. Visit openpedagogy.org.

The **Open Textbook Library** is an online collection contains over 500 freely available electronic textbooks with Creative Commons licenses that allow adaptation. All can be read online or are downloadable for offline reading. Visit open.umn.edu/opentextbooks.



OpenStax is a growing collection of professional quality and peer-reviewed intro-level textbooks with Creative Commons Attribution licenses (CC BY). Many have companion online homework systems available at a discounted rate. For more information, visit openstax.org.

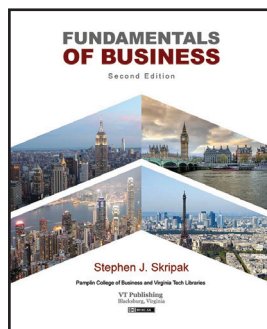


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Funding Opportunities Available at VT

Through the **Open Education Initiative Faculty Grants**, the Library supports the creation of new openly licensed information resources through this competitive grant program. Virginia Tech faculty are invited to apply. For complete information on the Open Education Initiative Grants, please download the Grants Information document at guides.lib.vt.edu/oer/grants.

Fundamentals of Business by Stephen J. Skripak was created for Virginia Tech's MGT 1104 Foundations of Business through a collaboration between the Pamplin College of Business and the University Libraries. It is licensed with a Creative Commons-NonCommercial ShareAlike 3.0 license. The 2016 and 2018 editions of *Fundamentals of Business* have been downloaded over 200,000 times worldwide, been adapted into a Canadian version, and have saved Virginia Tech students around \$250,000 in course material costs. View the latest edition at hdl.handle.net/10919/84848.



> Resources and Contacts

Open Access

Open Access Guide guides.lib.vt.edu/oa

Open Access Subvention Fund guides.lib.vt.edu/oasf

Open Monograph Funding pjp33@vt.edu

VT Publishing publishing.vt.edu | publishing@vt.edu

VTechWorks vtechworks.lib.vt.edu | vtechworks@vt.edu

Proposed Faculty Open Access Policy bit.ly/vtoapolicy | openaccess@vt.edu

Data

VTechData data.lib.vt.edu

Research Data Management guides.lib.vt.edu/RDM_assistance

Finding Data guides.lib.vt.edu/FindData

Data Services dataservices@vt.edu

Open Education

Open Education Guide guides.lib.vt.edu/oer

Open Education Faculty Grants guides.lib.vt.edu/oer/grants

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Persistent Links for Web References

Perma.cc guides.lib.vt.edu/permacc | permacc@vt.edu

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