

Research & Scholarship Support at JMU

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Background

During the 2012-2013 academic year, Ken Newbold from the Office of Research and Public Service (now the Office of Research and Scholarship) and Dale Hulvey and Darlene Quackenbush from JMU IT began meeting informally to discuss infrastructure, support services and other resources available to researchers and scholars at JMU. In a meeting with the Faculty Research Council (FRC) it became clear that at least some portion of the faculty are unaware of research resources while others are mistaken about what is and what is not available. Furthermore there is demand for certain support resources, for example, software, that is often diffused and not expressed to support agencies in a way that helps those agencies establish priorities.

Later Ralph Alberico, Libraries & Educational Technologies and Sarah Cheverton, Center for Instructional Technology joined the group. As the conversations progressed it seemed that it might be helpful to develop an outline of research and scholarship infrastructure, resources and services at JMU as a method for understanding what is available and where there might be gaps. Part of the rationale for developing the outline was to provide internal background to inform the search for the Vice Provost for Research and Scholarship position.

The draft outline included in this document is intended to promote further conversation at JMU about support resources for research and scholarship at JMU. It is not intended to be a comprehensive or detailed public description of research and scholarship resources at JMU. Emphasis is on centrally provided resources and services and on technology. Nor does it cover all types of research and scholarship resources at JMU with the most notable exclusion being faculty and other human resources. So it is not about research and scholarship support in general – i.e. faculty release time, research assistants and GAs, access to research funding etc. Instead it is intended to provide a top level taxonomy of infrastructure and material resources along with pointers to campus agencies and services that are available to research and scholarship resources at JMU. In order to enable use of this document as a Launchpad for exploration of research and scholarship resources at JMU, URLs that link to additional information are provided when available.

As the central research administration organization, the Office of Research and Scholarship broadly supports the scholarly endeavors of the JMU community but relies on collaborative relationships across the institution to implement programs, administer policies and develop creative solutions to challenges impacting researchers. The development of this document serves as just one small example of collaboration between areas of the university seeking to support research administration.

Research & Scholarship Administration & Campus Agencies

The campus agencies listed in this section are involved in administration of research and scholarship activities at JMU. The Faculty Research Council listed below is an advisory body composed of faculty from each college of the university that works with the leadership of the Office of Research and Scholarship and the Provost's Office to address strategic matters impacting the scholarly community.

Research and Scholarship Office - http://www.jmu.edu/research/index.shtml

The Research and Scholarship Office serves as a central hub for research at the university, publicizing faculty and student accomplishments, research related events, and funding opportunities. It also hosts several strategic alliances with public and academic institutions.

Research and Scholarship Facebook - www.facebook.com/jmuresearch

The Research and Scholarship Facebook page offers easy browsing of research accomplishments, events, and funding opportunities.

Office of Sponsored Programs - http://www.jmu.edu/sponsprog/

The Office of Sponsored Programs assists in the preparation for, compliance with, and execution of external funding opportunities. It also hosts a database to assist searches for funding opportunities.

Office of Technology Innovation and Economic Development - http://www.jmu.edu/innovation/

The Office of Technology Innovation and Economic Development supports faculty and students as they transfer inventions created at the university to the public sector. Focus for support includes business, patent, and licensing.

Office of Research Integrity - http://www.jmu.edu/researchintegrity/index.shtml

"The Office of Research Integrity (ORI) promotes a culture of compliance, research integrity, and high quality research within the University community." Most notably, the ORI houses the Institutional Review Board (IRB)

Faculty Research Council (FRC) - <u>https://www.jmu.edu/research/faculty-research-</u> <u>council/index.shtml</u>

The Faculty Research Council (FRC) serves as a forum for faculty and staff to offer feedback to external funding and grant processes at JMU. It also seeks to develop networks that share funding information and develop interdisciplinary collaboration.

Campus Agencies that Support Research & Scholarship

The campus agencies listed in this section support research and scholarship activities of JMU faculty and students. The support provided by these central agencies is in addition to support provided by the colleges, academic programs, centers and institutes at the university. Additionally, JMU has a strong tradition of collaboration on research and scholarship between the academic division and other parts of the

university. For example, the <u>Office of Environmental Stewardship and Sustainability</u> fosters research and scholarship involving the university's Facilities Management department and academic programs.

JMU Center for Faculty Innovation (CFI) - <u>http://www.jmu.edu/cfi/</u>

The Center for Faculty Innovation offers "comprehensive professional development for all faculty" addressing both teaching and research. The center offers courses, conferences, fellowships, and individual advisement.

JMU Center for Instructional Technology (CIT) - <u>http://cit.jmu.edu/</u>

The Center for Instructional Technology (CIT) offers a wide range of instructional support including: workshops and online tutorials on pedagogical technologies, development of online courses, classroom support, and video and multi-media development for pedagogical purposes. They also offer small seed grants to support technology use in the classroom.

JMU Corporate and Foundation Relations - <u>http://www.jmu.edu/corporatefoundationrelations/</u>

The Corporate and Foundation Relations office focuses on the development of "strategic alliances that truly engage local, regional and national organizations that link to James Madison University initiatives." The office seeks to link "philanthropic desires with university priorities."

JMU Graduate School - http://www.jmu.edu/grad/

The graduate school houses 61 different graduate programs across the university. The website offers faculty information on directing student research and hiring students as teaching and research assistants.

JMU Honors Program - <u>http://www.jmu.edu/honorsprog/</u>

The Honors program provides an opportunity for faculty to work in smaller specialized classes with students who excel. This takes the form of directing theses, teaching small seminars, or honors options on regular classes.

JMU IT - http://www.jmu.edu/computing/

The JMU computing website includes links offering information on connectivity, hardware, software, training, security, email, labs, printing, help desk, web development, and other initiatives. It also offers information on file sharing and other collaboration technology tools.

JMU Libraries - http://www.lib.jmu.edu/resources/

The library resources page offers links to Databases and resources by academic subject.

JMU Office of International Programs - http://www.jmu.edu/international/

The office of International Programs serves the community of international faculty and students here at JMU, as well as international outreach and engagement. Faculty support includes International Development grants for research travel, as well as educational opportunities abroad.

JMU Outreach & Engagement - http://www.jmu.edu/outreach/

The Outreach & Engagement office serves "non-traditional students, offering access to higher education for multiple audiences." They also host the Provost's Award for Excellence in Outreach and Engagement.

JMU Memberships and Strategic Partnerships

JMU participates in several strategic alliances that promote research and scholarship in the region, the state and beyond. The list below includes affiliated agencies that promote research and scholarly endeavors of the university. A <u>policy</u> has been adopted by the university to help define <u>Strategic Alliances</u> and guides an annual reporting process recognizing key relationships with external constituencies.

25X25 America's Energy Future - http://www.25x25.org/

The 25x'25 Alliance is a coalition seeking to secure 25 percent of the nation's energy needs from renewable sources by the year 2025. "To date, the 25x'25 goal has been endorsed by nearly 1,000 partners, 35 current and former governors, 15 state legislatures and the U.S. Congress through The Energy Independence and Security Act of 2007."

4-VA - http://www.4-va.org/, http://www.jmu.edu/4-va/index.shtml

"4-VA is a statewide initiative dedicated to fostering collaboration among Virginia universities with the goal of improving all Virginians' access to higher education. 4-VA advances initiatives to increase the number of college graduates, especially in fields important to the state's economic development. 4-VA is charged with increasing access to science, technology, engineering, and math (STEM) courses for Virginia students."

Chesapeake Crescent Initiative - http://chesapeakecrescent.org

"The Chesapeake Crescent Initiative (CCI) is a regional collaborative to advance innovation in energy, life sciences and security in the 'Chesapeake Crescent' Region of Virginia, Maryland, Delaware and the District of Columbia. CCI's leadership includes federal government agencies, state and local government leaders, major private sector companies as well as academic institutions. "

Colonial Academic Alliance - http://colonialacademicalliance.org

"The Colonial Academic Alliance was founded in 2002 by the provosts of the universities of the <u>Colonial Athletic Association</u>. The Alliance has offered outstanding programming to its <u>members</u>, including many ways to exchange best practices, a conference on Global Education, and a highly successful, annual conference on Undergraduate Research."

Council on Undergraduate Research (CUR) - http://www.cur.org/

"The mission of the Council on Undergraduate Research is to support and promote high-quality undergraduate student-faculty collaborative research and scholarship. CUR provides support for faculty development. Our publications and outreach activities are designed to share successful models and strategies for establishing and institutionalizing undergraduate research programs. We assist administrators and faculty members in improving and assessing the research environment at their institutions."

Educause - <u>http://www.educause.edu/</u>, including Educause Center for Analysis and Research

"EDUCAUSE® is a nonprofit association and the foremost community of IT leaders and professionals committed to advancing higher education. <u>EDUCAUSE programs and services</u> focus on analysis, advocacy, community building, professional development, and knowledge creation to support the transformative role that IT can play in higher education."

ECAR - <u>http://www.educause.edu/ecar</u> and Educause Learning Initiative (ELI) - <u>http://www.educause.edu/eli</u>

"ECAR provides research and analysis about information technology in higher education for IT professionals and higher education leaders. ECAR is the only subscriber-driven research organization dedicated to improving IT's contribution to higher education."

Grants Resource Center - <u>http://aascu.org/grc/</u>

"The Grants Resource Center (GRC), a unit of the American Association of State Colleges and Universities (AASCU), ... provides [universities] with access to a comprehensive suite of tools, services, and expertise to ... increase your institution's success in securing competitive grants from federal and private sponsors."

ICPSR (Inter-University Consortium for Political and Social Research) http://www.icpsr.umich.edu/icpsrweb/landing.jsp

"CPSR advances and expands social and behavioral research, acting as a global leader in data stewardship and providing rich data resources and responsive educational opportunities for present and future generations."

InCommon Federation - http://www.incommon.org/

"InCommon, operated by Internet2, provides a secure and privacy-preserving trust fabric for research and higher education, and their partners, in the United States."

Internet2 - http://www.internet2.edu/

"Internet2 is an exceptional community of U.S. and international leaders in research, academia, industry and government who create and collaborate via innovative technologies. Together, we accelerate research discovery, advance national and global education, and improve the delivery of public services. Our community touches nearly every major innovation that defines our modern digital lives—and continues to define "what's next."

International Network of Universities (INU) - <u>http://www.inunis.net/</u>

"The International Network of Universities (INU) is a global consortium comprised of higher education institutions that actively seek international partnerships and experiences, create innovative programming and delivery methods, and embrace the internationalization movement."

James Madison Innovations, Inc. - http://www.jmu.edu/innovation/

Technology Innovation and Economic Development serves the faculty, staff, and students of JMU by helping to identify and promote innovations developed at the university. James Madison Innovations, Inc. (JMI) serves as JMU's affiliated entity for licensing inventions, ensuring effective commercialization of the innovation with a high level of service to the inventor.

JMU Foundation - http://www.jmu.edu/foundation/

All great universities have an active and vital foundation working solely to support them. Madison has declared its ambitions to become the national model of the Engaged University and to undertake a comprehensive campaign to achieve that goal. JMU's aspiration means the time is right for us at the JMU Foundation to activate our vision of providing an ever-growing and sustainable source of private support to the cause of James Madison University.

Mid-Atlantic Research Infrastructure Alliance - http://www.marialliance.net/

MARIA, Inc. is dedicated to facilitating access to advanced information, instruction, and research infrastructure technology and advancing research and education in the United States.

JMU-SRMH Collaborative - <u>http://www.jmu.edu/rmh-jmu/</u>

"The mission of the JMU-RMH Collaborative is to create a climate that fosters innovation together. The Collaborative was launched on January 26, 2007 providing a framework to foster innovation between Rockingham Memorial Hospital and James Madison University and to facilitate ideas for collaborative projects."

Shenandoah Valley Technology Council (SVTC) - http://www.svtc-va.org/

"The Shenandoah Valley Technology Council (SVTC) is a non-profit membership organization serving the greater Shenandoah Valley of Virginia. Its members are creators and users of technology who gather together for education, networking and business development. By helping technology businesses in the area succeed and grow, the Shenandoah Valley Technology Council is an integral component of the region, helping to bring high-paying technology jobs to the Valley."

Southeastern Universities Research Association (SURA) - <u>http://www.sura.org/home/index.html</u>

"SURA's mission is to advance collaborative research and education and to strengthen the scientific capabilities of its members and our nation."

SRI Shenandoah Valley - <u>http://www.sri.com/research-development/specialized-facilites/sri-shenandoah-valley</u>

"SRI Shenandoah Valley focuses on health and biomedical research and drug discovery and development with the ultimate goal of bringing new therapies and diagnostics to market. As part of <u>SRI Biosciences</u>, the research complements research and development (R&D) capabilities at other SRI locations, including SRI's Menlo Park, California headquarters."

Stokesville Observatory - <u>http://en.wikipedia.org/wiki/Stokesville Observatory</u>, <u>http://www.valleystargazers.com/index.html</u>

This is a privately owned observatory available to JMU faculty.

Virginia Biotechnology Association (VaBio) - http://vabio.org

Virginia Bio connects members to life science innovators, investors, policymakers and emerging talent within the state. On their website, you'll find industry news and up-to-date information on ongoing research, bioscience and supporting companies, job opportunities, and events.

Virginia Coastal Energy Research Consortium (VCERC) - http://vcerc.org/

"VCERC was created by the VA legislature in 2007 and first received funds from the Commonwealth in fiscal year (July 1st 2007-June 30th 2008). Since July 2007 VCERC has developed coastal energy technologies and the Virginian knowledge base to assist the Commonwealth in meeting the targets set out in the VA Energy Plan. VCERC's ongoing efforts impact three key VA Energy Plan objectives: creation of renewable energy resources; improving the environment; and economic development."

Virtual Library of Virginia (VIVA) - http://www.vivalib.org/

"Through VIVA, students and faculty at institutions of higher education in the Commonwealth have access to digital and print journals, books, reference sources, and databases that are essential for educational success and research enterprise. Whether you are at a community college or a large public university, a small liberal arts college or an elite private university, the same VIVA is available to you."

Infrastructure & Facilities

JMU provides a robust computing and network infrastructure to students and faculty along with facilities (including labs, classrooms, galleries, and performance facilities) and equipment that enable and support multiple forms of research and scholarship. That infrastructure is managed centrally and complemented by labs and research facilities at JMU that are typically managed by individual colleges or departments and occasionally by interdisciplinary academic centers. Collaboration across colleges is strongly encouraged and students and faculty from multiple departments often share facilities and equipment to accomplish research and scholarship goals. For each non-centralized facility listed below the affiliated College or Department is listed in parentheses. This list is not meant to be exhaustive.

Information Technology Infrastructure

Network bandwidth – JMU participates in Internet2 under sponsorship of Virginia Tech as part of the MARIA alliance; supports 100-GBPS infrastructure

Network storage - <u>http://www.jmu.edu/computing/file/services.shtml</u>; in addition to secure storage on shared drives; members of the JMU community have access to secure storage in SharePoint on premises and online and via a campus OneDrive presence in the cloud

Remote access to compute cycles - available via Internet2, SURA and other alliances

Remote access to instrumentation - available via Internet2, SURA and other alliances

Videoconferencing & collaboration facilities & tools - <u>http://www.jmu.edu/4-va/telepresence.shtml</u>

The tools available include TelePresence, which is a system that employs HD video, spatial audio, etc. to allow users to feel as if they were meeting in the same room. This technology can connect to many other conferencing systems.

Laboratory Facilities

3-D Printing Labs (Engineering, Mathematics) - <u>http://www.jmu.edu/engineering/labs.html</u>, <u>https://cit.jmu.edu/high five/playing in the 3d printing sandbox</u>

The Department of Engineering offers lab space with computers that can produce 3-D models and printed objects. The current technology available includes: Stratasys Elite, Objet 30 Pro, MakerBot Replicator 2, Z-Print 450, UP! 3D.

Advanced Thermal Fluids Laboratory (Engineering) - <u>http://www.jmu.edu/engineering/features/thermalfluids.html</u>

The Advanced Thermal-Fluids Laboratory supports faculty research through two 3-D flow visualization systems, an open-circuit subsonic wind tunnel, and a cardiac flow tool that examines heat simulator system. These facilities are available to faculty and students from JMU and neighboring research and teaching institutions.

Alternative Fuels Vehicle (AFV) Lab (College of Integrated Science and Engineering) - <u>http://bsisat.jmu.edu/afvlab.html</u>

ISAT and Engineering created the AFV lab to investigate alternative fuels (biodiesel, ethanol, propane, electricity, etc.). Mandatory safety training is required to use this technology.

Astronomy Park - <u>http://csma31.csm.jmu.edu/physics/scully/outreach.html</u>-http://www.jmu.edu/planetarium/index.shtml

JMU's John C. Wells Planetarium is a hybrid facility that includes an Astronomy Park behind the Physics/Astronomy building on East Campus. This space hosts public events for stargazing as well as viewing eclipses.

Biology Facilities and Instrumentation - <u>http://www.jmu.edu/biology/department/facilities.shtml</u>

The biology building offers numerous facilities for faculty and students including a greenhouse with separate sections for teaching and research. The building also holds a core light microscopy facility

with a specimen preparation lab, an environmentally-controlled herbarium, and many other equipment rooms.

Biomanufacturing Lab (College of Integrated Science and Engineering) - <u>http://www.jmu.edu/vmic/Bio_mfg.htm</u>

The biomanufacturing lab is located in ISAT, and it houses a production platform with bioreactors and other tools needed for students and faculty involved in biotechnology.

Capital Markets Lab (College of Business) - <u>http://www.jmu.edu/stories/2012/employing-</u> <u>competitive-edge.shtml</u>

The Capital Markets Lab is used primarily as a teaching tool. The space holds 12 Bloomberg terminals, an investment computer system, 50-inch flat panel displays, and a stock ticker. This terminal is meant to provide students with tangible job skills.

Center for Wind Energy - <u>http://wind.jmu.edu/</u>

The Center for Wind Energy is a hub for community engagement, K-12 education, project development, research, and data collection. The center holds regular events for K-12, undergraduate, and graduate studies.

Chemistry Facilities and Instrumentation - http://www.jmu.edu/chemistry/instrumentation.shtml

The Chemistry building houses numerous facilities including NMR spectrometers, laser facilities, mass spectrometry labs, X-Ray facilities, and a Center for Materials Science.

Cleanroom Microfabrication Facility and Product Realization Lab (Center for Materials Science) - <u>http://csm.jmu.edu/materialsscience/microfab.html</u>

In addition to the microfabrication technology, the Center for Materials Science also offers a Cleanroom with numerous tools and a product realization lab with 3-D, prototyping, and molding technologies.

Communication Sciences and Disorders Research Labs (College of Health and Behavioral Studies) - <u>http://www.csd.jmu.edu/researchlabs.html</u>

The CSDR labs include numerous resources that can facilitate communication development, assist with better communication performance and processes, and focus on psychosocial/neurophysiological aspects of communication disorders.

Computer Science Facilities - http://www.cs.jmu.edu/facilities.html

The Computer Science facilities include a computer forensics lab, a program development lab, a software engineering lab, and a systems development lab. All of these labs are supported by High-Performance Computer Facility and a lab support room with 100 servers and preparation space.

Cybersecurity Lab (College of Business) http://www.jmu.edu/cob/cis/labpoliciesandprocedure.shtml

The Cybersecurity lab houses 26 student workstations and 1 instructor station. It is available to CIS faculty for instructional purposes, as well as qualified CIS students who need to complete class assignments on their own time.

Electron Microscopy Center - http://csm.jmu.edu/materialsscience/microscopy.html

The Center for Materials Science owns a collection of scanning probe, electron, and optical microscopes. This link offers the locations and specifications of these instruments.

Engineering Labs and Classrooms - http://www.jmu.edu/engineering/labs.html

The Department of Engineering houses over ten different labs and instructional facilities. This page list each, its location, and the instruments that are available in each.

Geology and Environmental Science Equipment and facilities https://www.jmu.edu/geology/equipment-facilities.shtml

This page offers a listing of the many research instruments and facilities available for use in the Department of Geology and Environmental Science.

Human Anatomy Lab (College of Health and Behavioral Studies) - <u>http://cit.jmu.edu/high_five/anatomy_lab</u>

The human Anatomy lab is an instructional area that "consists of a centralized, shared plastinated cadaver lab connected on either side to the interactive lab classrooms." In this space, "traditional resources such as models, wall charts, and plastinated cadavers are now augmented with the use of Sharp AQUOS BOARD™ interactive displays."

Human Assessment Laboratory (Health Sciences, College of Health and Behavioral Studies) - <u>http://www.healthsci.jmu.edu/HAP/facilities.html</u>

The Human Performance Laboratory is used for teaching applications, research, and community outreach in the general area of health assessment and promotion.

Human Performance Laboratory (Kinesiology) - <u>http://www.jmu.edu/kinesiology/facilities.html</u> This large laboratory space is utilized as research and instructional space for numerous undergraduate and graduate Kinesiology classes. The lab is well equipped with a variety of physiological testing equipment.

JMU Regional Undergraduate Laser Facility (Chemistry) http://www.jmu.edu/chemistry/wm_preview/lasers.shtml

James Madison University has a large laser spectroscopy laboratory that distinguishes it from other primarily undergraduate institutions. Researchers are able to utilize the Facility's holdings to perform an abundance of interdisciplinary scientific research.

John C. Wells Planetarium - <u>http://www.jmu.edu/planetarium/</u>

The John C. Wells Planetarium at James Madison University is a \$2 million, <u>state-of-the-art hybrid</u> <u>facility</u>, the only one of its kind in the world. It hosts both an Evans & Sutherland Digistar 5, a ultrahigh resolution digital projection system, and a Goto Chronos opto-mechanical star projector that provides visitors with a superior and realistic night sky. Our digital system allows us to present unique full dome movies as well as project the multi-wavelength universe on the dome.

Liquid Chromatography/Mass Spectrometry Facility (Chemistry) http://www.jmu.edu/chemistry/spectroscopy.shtml

The JMU Department of Chemistry and Biochemistry holds an extensive collection of spectroscopic instruments which are used in both research and teaching laboratories. In addition to housing <u>NMR</u> (300, 400, 600 MHz) and <u>LC/MS facilities</u>, we have have 2 GC/MS systems, other mass spectrometers, numerous FT-IR spectrometers, numerous UV-Vis spectrophotometers (some with variable temperature and multisampler capability), several diode array spectrophotometers, two atomic absorption spectrophotometers, an ICP/MS , several HPLC systems, several Gas Chromatographs with various detectors, CD/ORD, a nanodrop spectrometer, fluorescence plate readers, fluorometers, polarimeters and a variety of other equipment to support these instruments.

Microscopy Facility - <u>http://csm.jmu.edu/biology/microscopy/</u>

The Microscopy Facility provides instrumentation, resources, and training to empower high-quality research and education across JMU and in the surrounding community.

Nursing Simulation and Clinical Labs - http://www.nursing.jmu.edu/simulation/index.html

The Simulation Laboratory provides nursing students the opportunity to enhance their skills in a life-like learning environment through practice-based, hands-on education. The simulation laboratories are equipped with low, moderate, and high-fidelity patient simulators from across the lifespan allowing students to experience realistic patient care scenarios in a positive learning environment.

Psychology Labs - http://www.psyc.jmu.edu/undergraduate/labdescriptions.html

These labs include the following spaces: Animal Research Facility, Auditory Perception Laboratory, Cognitive Development Lab, Health and Exercise Psychology Lab, Human Behavior Labs, Psychophysiology & Biofeedback Lab, and the Visual Perception and Performance Lab, each of which is described at this website.

Robotics Lab (College of Integrated Science and Engineering, College of Science and Mathematics) – <u>http://www.cs.jmu.edu/features/roboticslab.html</u>

Shenandoah Valley Regional NMR Facility - <u>http://www.jmu.edu/chemistry/svrnmr/</u>

The NMR Facility is comprised of three NMR spectrometers, 300,400 and 600. Those instruments are all housed in the same lab, on the third floor of the chemistry building room 3186 and can be accessed by the participating regional colleges and universities.

Computing Labs and Technology Classrooms

Computing Labs - <u>http://www.jmu.edu/computing/labs/</u>

Technology Classrooms - http://cit.jmu.edu/classroom_technologies/

Fine Arts and Performance Facilities

Art Design and Art History Facilities - http://www.jmu.edu/artandarthistory/about/facilities.shtml

The JMU Art Design and Art History facilities include Burrus Hall, Duke Hall, the Memorial Hall Arts Complex and the Studio Center, which house the graphic design, photography and fine arts program areas as well as instructional spaces for numerous art programs. Additionally, there are various galleries throughout campus to expose and highlight existing collections.

artWorks Gallery - <u>http://www.jmu.edu/forbescenter/galleries/artWorks.shtml</u>, <u>http://sawhillartworks.tumblr.com/</u>

The artWorks gallery is JMU's student-run gallery that highlights work by undergraduate and graduate students. It changes exhibits every two weeks..

Forbes Center for the Performing Arts - <u>http://www.jmu.edu/forbescenter/index.shtml</u>

The Forbes Center for the Performing Arts houses JMU's School of Theatre and Dance. It provides performance venues and support spaces for the School of Music and showcases work from the School of Art and Art History.

Institute for Visual Studies - <u>http://www.jmu.edu/ivs/</u>

The Institute for Visual Studies (IVS) at JMU is a center for scholarly, scientific and creative inquiry into the nature and workings of images. It has developed the Madison Digital Image Database (MDID) and the Immersive Visualization System (the Video Wall).

Madison Art Collection - http://www.jmu.edu/madisonart/

Located in the Festival Conference and Student Center, the Madison Art Collection houses several collections that are displayed throughout Campus. It also provides internships to JMU students.

New Image Gallery - <u>http://www.jmu.edu/forbescenter/galleries/newImage.shtml</u>, <u>https://www.facebook.com/JMU.Photography</u>

Sponsored by the School of Art, Design and Art History, the New Image Gallery features contemporary photography by regional, national and international artists.

Prism Galleries - http://www.jmu.edu/madisonart/prism.shtml

Located in the lower level of the Festival Conference and Student Center, the Prism Gallery exhibits works focused on several aspects of diversity. The Prism International Gallery is dedicated to works that explore global culture.

Sawhill Gallery - <u>http://www.jmu.edu/forbescenter/galleries/sawhill.shtml</u>, <u>https://www.facebook.com/pages/Sawhill-Gallery/192555263971</u>

Housed on the fourth floor of Warren Hall, Sawhill gallery is a professional gallery featuring changing exhibitions of international, national and regional art.

Library Facilities

Library Web Site - <u>http://www.lib.jmu.edu/</u>

With a variety of collections and services for students, Carrier and Rose Libraries offer students resources for research and scholarship as well as technological support and consultation.

Carrier Library - http://www.lib.jmu.edu/about_us/locationsandhours.aspx

Located near the Health Center and Burruss Hall, Carrier Library carries collections in Arts, Social Sciences, Humanities, Current Periodicals and Media, Government, Microform and Special Collections.

Media Resources - http://www.lib.jmu.edu/about_us/locationsandhours.aspx

Media Resources is a central instructional resource that houses several collections of commercial media and provides assistance and support to JMU faculty and staff in the development of multimedia projects and other instructional needs.

Memorial Hall – Educational Technology & Media Center (ETMC) - <u>http://www.lib.jmu.edu/about_us/locationsandhours.aspx</u>

The Educational Technology & Media Center (ETMC) serves the College of Education and Professional Education Unit by promoting the use of emerging technologies for learning and providing resources to meet this need for faculty and students.

Music Library - http://www.lib.jmu.edu/about_us/locationsandhours.aspx

The Music Library houses a special collection that includes scores and music, sound recordings, and videos. It also includes research articles and periodicals related to music.

Rose Library - http://www.lib.jmu.edu/about_us/locationsandhours.aspx

Rose Library includes a variety of collections, reference materials and media as well as a variety of computer labs and 45 group study rooms. Additionally the Center for Instructional Technology Services and the Center for Faculty Innovation are housed at Rose Library.

Special Collections - http://www.lib.jmu.edu/about_us/locationsandhours.aspx

Special Collections from the JMU libraries include the JMU historical collections, manuscript collections, photograph collections, oral histories, rare books, periodicals and music collections. This link offers the hours and locations of each.

Other Facilities

All Steinway School - http://www.steinway.com/institutions/all-steinway-schools/

All pianos owned by JMU and used in the School of Music were designed by Steinway and Sons.

Animal care facilities -https://www.jmu.edu/JMUpolicy/policies/2202.shtml

All animal care facilities must abide by the policies listed at this link.

Ice House - http://www.jmu.edu/innovation/students-and-community/ice-house.shtml

"The ICE @JMU creates an iterative learning experience through the College of Business Venture Creation class, which is open to all students across the university, and guides student teams through the process of building business plans into viable startup companies launched through James Madison Innovations (JMI)." Through this experience, students collaborate with entrepreneurs and colleagues from other schools.

School of Media Arts and Design Facilities - http://smad.jmu.edu/facilities.html

The School of Media Arts and Design or SMAD houses a digital high definition video production facility for field and studio production as well as a fully functioning Television Studio and a 16 station Post-Production Lab. Additionally, the SMAD Resource room and Interactive Media Lab provide instructional and work spaces for students and faculty.

WMRA – NPR radio station - <u>http://wmra.org/</u>

WMRA is the local Harrisonburg station with programming from NPR, PRI, BBC, CPB and American Public Media.

WXJM – Student radio station - <u>https://beinvolved.jmu.edu/organization/wxjm</u>

WXJM-FM on frequency of 88.7 FM, is JMU's own station completely staffed by student volunteers and DJs, who work together to provide quality entertainment for JMU students and the City of Harrisonburg.

Software

JMU agencies, including IT, the Center for Instructional technology and the Libraries provide central software licensing for individual applications and software platforms that support research and scholarship. Technologies are also available to support collaboration among researchers and scholars across institutions. Productivity tools from Microsoft (Word, Excel, PowerPoint etc.) are also licensed on behalf of all JMU students and faculty.

Platforms

Platforms are defined here as software that enables members of the JMU community to login and discover, share, store or analyze information in an online environment.

Assessment Progress Template (APT) http://www.jmu.edu/assessment/JMUAssess/apt.html

"The purpose of the template is to provide the most current assessment-related information for each of JMU's academic programs. A separate template is completed for each academic and certificate program offered at JMU."

Bepress and SelectedWorks (scholarly publishing platform and research announcement tool) - http://commons.lib.jmu.edu/

"Founded by professors in 1999, bepress exists to serve academia. We deliver scholarly communications and publishing services for academic institutions, empowering their communities to showcase and share their works for maximum impact. Through our services bepress seeks to link communities of scholars, listen to their needs, and provide solutions to support emerging academic missions and goals...JMU Scholarly Commons is a resource for sharing the scholarship and activities of the James Madison University community. These materials include papers, presentations, data sets, images, and multimedia items."

Canvas – <u>http://canvas.jmu.edu</u>

Canvas is JMU's campus Learning Management System.

Collaborate - http://sites.jmu.edu/citsupport/blackboard-collaborate-in-canvas/

Collaborate is JMU's synchronous academic conferencing and communication platform. It is integrated with Canvas.

Community of Science (researcher profiles, collaboration & funding opportunities) - <u>http://pivot.cos.com/</u>

"Pivot focuses on what matters most to Research Administrators, Research Development Professionals, and their institutions: the ability to identify and connect funding opportunities to researchers at their institution. Pivot combines the most comprehensive, editorially maintained database of funding opportunities worth an estimated \$33 billion with our unique database of 3 million pre-populated scholar profiles, drawing from Community of Scholars and Community of Science profiles."

Data Management Planning Tool - https://dmptool.org/

"To aid researchers in creating effective data management plans (DMPs), a group of organizations collaborated on the development of the DMPTool, an online application that helps researchers create data management plans."

JMUtube (streaming video platform) - http://jmutube.cit.jmu.edu/

JMUtube is for the faculty and staff of JMU to store and deliver video and presentations.

LibGuides (platform for navigation assistance and user support for academic information resources) - <u>http://guides.lib.jmu.edu/subjectguides</u>

This link offers subject specific library guides to aid students and faculty in the research process.

Lynda.com (online video tutorials and learning assessment) - http://sites.jmu.edu/lynda/

JMU users have access to Lynda.com, with "Free video tutorials on software, design, and business skills." Through Lynda.com, one can find tutorials on topics such as Canvas, SharePoint, WordPress, Illustrator, Photoshop, Access, Excel, PowerPoint, and more.

MDID (Madison Digital Image Database, image management tool) - <u>https://mdid.cit.jmu.edu/</u>

"The Madison Digital Image Database is a freely distributed, open source web application developed at James Madison University. MDID is a digital media management system with sophisticated tools for discovering, aggregating, and presenting digital media in a wide variety of learning spaces."

Omeka (online exhibit curation; contact CIT for information) - http://omeka.org/

Qualtrics (survey tools) - <u>http://www.jmu.edu/instresrch/qualtrics.shtml</u>, <u>http://www.qualtrics.com/</u>

RefWorks - citation, reference and research management platform -<u>https://www.refworks.com/refworks2/default.aspx?r=authentication::init&groupcode=RWJamMa</u> <u>dU</u>

This link connects to access and instructions for setting up a RefWorks account through JMU. RefWorks is a citation manager based on-line.

SharePoint (collaboration and file management) - <u>https://sps.jmu.edu/Pages/home.aspx</u>

JMU faculty can use this link to access their personal SharePoint space for virtual collaboration on documents.

Sierra & Ebsco Discovery Service (search and discovery library systems) -<u>http://catalog.lib.jmu.edu/search/X</u>, <u>http://eds.a.ebscohost.com/eds/search/advanced?sid=40e0e0b6-b987-4ffe-a2dd-1ad471525f51%40sessionmgr4002&vid=3&hid=4105</u>

These links connect users to database search engines housed by JMU libraries.

Turnitin (plagiarism detection software) - <u>http://turnitin.com/</u>, <u>http://sites.jmu.edu/citsupport/category/turn-it-in/</u>, <u>https://shibboleth2.jmu.edu/idp/Authn/UserPassword</u> "TurnItIn is the plagiarism detector JMU is using with Canvas. To start using TurnItIn create a new assignment and click the more options button." More details can be found using the links above.

WordPress (blogging and web publishing platform) - <u>http://wordpress.org/</u>, <u>http://sites.jmu.edu/</u>

JMU has limited access and resources for creating and hosting Wordpress blogs. This link explains the process.

WRDS (Wharton Research Data Service) - <u>http://www.lib.jmu.edu/databases/WRDS/default.aspx</u>

"WRDS is the de facto standard for business data, providing researchers worldwide with instant access to financial, economic, and marketing data through a uniform, web-based interface. This hosted data service has become the locus for quantitative data research and is recognized by the academic and financial research community around the world as the leading business intelligence tool."

Research and Scholarship Desktop Software under Campus Site License (Jenn)

The software programs listed here are site licensed to JMU. Other software, for example Adobe Creative Suite, Camtasia, Finale and NVivo are available under licenses procured by a colleges, schools or departments, or for specific classrooms, labs or workgroups.

General Information about software - <u>http://www.jmu.edu/computing/software/</u>

ESRI - http://www.esri.com/

ESRI is a data analysis platform designed specifically to analyze geospatial data.

Maple - <u>http://www.maplesoft.com/</u>

Maple software offers platforms for mathematical analysis as well as educational platforms.

Mathematica - <u>http://www.jmu.edu/computing/software/</u>, <u>http://www.wolfram.com/mathematica/</u>

A highly integrated online technical computational environment.

MATLAB - http://www.mathworks.com/products/matlab/

"MATLAB® is the high-level language and interactive environment used by millions of engineers and scientists worldwide. It lets you explore and visualize ideas and collaborate across disciplines including signal and image processing, communications, control systems, and computational finance."

SAS - http://www.jmu.edu/computing/software/, http://www.sas.com/

SAS offers data analytics and management platform.

SPSS - <u>http://www.jmu.edu/computing/software/</u>, <u>http://www-01.ibm.com/software/analytics/spss/</u>

SPSS is a predictive analytics software and solution company.

Research and Scholarship Centers & Institutes

JMU follows an established process, informed by <u>policy</u> for chartering, interdisciplinary research centers and institutes. The directory below lists official JMU research centers and institutes with links to their web sites.

JMU Research Centers and Institutes Directory - <u>http://www.jmu.edu/academics/centers-and-institutes.shtml</u>

Research and Scholarship Collections

Data sets - <u>http://www.lib.jmu.edu/resources/statistics_datasets.aspx</u>

Herbarium - http://csmbio.csm.jmu.edu/biology/mcmullck/Herbarium.htm

JMU Meteorite Collection - http://csma31.csm.jmu.edu/physics/outreach.html#meteorites

JMU Scholarly Commons (JMU Publishing Repository) - http://commons.lib.jmu.edu/

Library books, videos, music and other circulating collections - <u>http://www.lib.jmu.edu/resources/findbooks.aspx</u>

Library Journal Collections - <u>http://www.lib.jmu.edu/journals/default.aspx</u>

Library Research databases - http://www.lib.jmu.edu/resources/

Library Special Collections - http://www.lib.jmu.edu/special/

Madison Art Collection - http://www.jmu.edu/madisonart/

Mineral Museum - http://csm.jmu.edu/minerals/

Visual Resources Center - http://www.jmu.edu/artandarthistory/resources/visual-resources.shtml

Research and Scholarship Programming, Organizations & Awards

Programming & Outreach

Biology Department - Biosymposium - <u>http://www.jmu.edu/biology/research/biosymposium-</u>2014.shtml

Center for Faculty Innovation Scholarship Programs – <u>http://www.jmu.edu/cfi/scholarship/index.shtml</u>

Center for Instructional Technology Workshops - http://cit.jmu.edu/workshops/by_title/

College of Arts and Letters Visiting Scholars - http://www.jmu.edu/cal/visitingscholars.shtml

College of Science and Mathematics Seminar Series http://www.jmu.edu/events/csm/2014/02/03-seminarschedule.shtml

Dominion Lecture Series - http://www.jmu.edu/caucusgenderequality/dominion-lectures.shtml

Dorothy Liskey Wampler Distinguished Professor of Art Lecture Series

Economics Speaker Series - <u>http://www.jmu.edu/cob/economics/economics-speaker-series/index.shtml</u>

European Union Policy Studies Lecture Series - <u>http://www.jmu.edu/eupolicystudies/academic-program/lecture-series.shtml</u>

Friendly City Readings - http://www.jmu.edu/wrtc/friendlycity.html

Furious Flower Poetry Center reading Series - http://www.jmu.edu/furiousflower/readings.shtml

Gilliam Center for Free Enterprise and Ethical Leadership Speaker Serieshttp://www.jmu.edu/cob/centers/gilliam-center/speakers.shtml

Hardaway Lecture Series

Huber memorial Speaker Series

January Symposium - http://www.jmu.edu/cfi/academic-culture/january-symposium.shtml

Jean Cash lecture Series

JMuse Café - <u>http://sites.jmu.edu/jmuse/</u>

Madison Scholar [news and marketing] - http://www.jmu.edu/madisonscholar/

Madison Vision Speaker Series - http://www.jmu.edu/president/mvs/index.shtml#link

May Symposium - <u>http://www.jmu.edu/cfi/academic-culture/may-symposium.shtml</u>

Scholarly News Database - http://www.jmu.edu/madisonscholar/scholarly-news/index.shtml

Tolstoy Lecture Series - http://www.jmu.edu/gandhicenter/programs/lectureseries.shtml

Undergraduate Research at JMU - <u>http://www.jmu.edu/sponsprog/undergradresearch.html</u>

Visiting Writer Series

Voices of Scholarship - http://www.jmu.edu/research/voicesofscholarship.shtml

Organizations

Academic Student Organizations -

https://beinvolved.jmu.edu/organizations?SearchValue=Academic&SearchType=Category&Curren tPage=1&SelectedCategoryId=2552

Honor Societies at JMU - <u>http://www.jmu.edu/academic-affairs/academic-affairs/honor-societies.shtml</u>

Residential Learning Communities at JMU - http://www.jmu.edu/orl/housing/rlc.shtml

Research & Scholarship Awards

JMU Awards - http://www.jmu.edu/academic-affairs/awards/index.shtml

Research & Scholarship Consulting and Support Services

Services and Training at JMU

Academic Technology Coordinators - http://www.jmu.edu/computing/org/ccorg.shtml

Technology Coordinators serve as a contact between your college/department and the department of Information Technology. Coordinators and IT staff meet on a monthly basis to share information, ensure an open line of communication, and exchange timely computing updates.

Center for Instructional Technology support - http://cit.jmu.edu/support/

CIT works with JMU faculty to help integrate technology into their teaching. They provide resources, house calls and custom instruction to enhance knowledge and skills with instructional technologies.

Copyright & Intellectual property consulting - <u>http://www.jmu.edu/copyright/</u>

Consulting is available to faculty and students on the basics of copyright laws, how to protect your work, how to incorporate material into courses, and how to properly use protected works.

Data management & data curation consulting - <u>http://guides.lib.jmu.edu/data?hs=a</u>

This site offers a variety of resources for Faculty, Researchers, and Students on how to properly manage, organize, format, share and store data.

Grant writing & administration training & consulting - <u>http://www.jmu.edu/sponsoredprograms/</u>

Housed within the Office of Research and Scholarship, the Office of Sponsored Programs (OSP) is the central pre-award administration office for all externally sponsored projects for JMU. This office is responsible for reviewing, negotiating and executing all contracts and agreements for JMU with sponsored projects.

Grant writing training & consulting (annual workshop during May Symposium)

"A yearly three day grant proposal institute over the summer geared for: 1) those who wish to strengthen their grant writing skills and 2) beginners who wish to acquire and master the techniques of preparing, writing and winning proposals from various funding agencies."

IT Consulting - Project Initiation Questionnaire (PIQ) - https://remedy.jmu.edu/PIQ.asp

Resource through which IT consulting and project development is processed at JMU. "University departments are required to contact Information Technology (IT) and complete this questionnaire prior to soliciting acquisition or development of technology not considered end-user computing."

Library consulting - <u>http://www.lib.jmu.edu/instruction/liaison.aspx</u>

"Each academic department has a liaison librarian to ensure JMU Libraries meets the needs of academic programs."

Research design consulting - <u>Office of Research and Scholarship</u>, faculty colleagues, <u>Center for</u> <u>Faculty Innovation</u>

Software consulting - contact <u>IT</u>, <u>Center for Instructional Technology</u> or <u>Academic Technology</u> <u>Coordinator</u> in college or department

Statistical Consulting Center - http://www.jmu.edu/mathstat/stat/consulting.shtml

"The statistical consulting center is staffed by faculty in the Mathematics & Statistics department who assist with general or specific statistical questions and have expertise in a variety of statistical software including SPSS, SAS, R, Splus and Minitab."

Compliance

Animal Care (IACUC) - <u>http://www.jmu.edu/sponsprog/iacucmembers.html</u>

Biosafety (IBC) - <u>http://www.jmu.edu/sponsprog/biosafetymembers.htm</u>

Export Control - http://www.jmu.edu/researchintegrity/exportcontrol/index.shtml

Health information (HIPAA) - http://www.jmu.edu/sponsprog/HIPAA.htm

Human Subjects (IRB) - http://www.jmu.edu/sponsprog/irb/irbmembers.html

Intellectual Property - <u>http://www.jmu.edu/commisscommitt/Intellectual.shtml</u>

Research grant administration- <u>http://www.jmu.edu/sponsoredprograms/</u>

Safety - <u>http://www.jmu.edu/commisscommitt/JMUSafety.shtml</u>

Relevant Policies for Research and Scholarship

Appropriate Use of Information Technology Resources http://www.jmu.edu/IMUpolicy/1207.shtml Care and Use of Laboratory Animals - http://www.jmu.edu/JMUpolicy/2202.shtml

Conflict of Interests Disclosure for Sponsored Programs http://www.jmu.edu/JMUpolicy/2203.shtml

Health and Safety - http://www.jmu.edu/JMUpolicy/3108.shtml

Information Security - http://www.jmu.edu/IMUpolicy/1204.shtml

Information Systems Implementation and Project Management - <u>http://www.jmu.edu/JMUpolicy/1202.shtml</u>

Information Technology Resource Management - http://www.jmu.edu/JMUpolicy/1201.shtml

Institutional Review Board on the Use of Human Subjects in Research (IRB) - <u>http://www.jmu.edu/JMUpolicy/1104.shtml</u>

Intellectual Property - http://www.jmu.edu/JMUpolicy/1107.shtml

JMU Faculty Handbook Research and Scholarship - <u>http://www.jmu.edu/facultysenate/facultyhandbook/policies/research.html</u>

Policy for Institutional Biosafety - http://www.jmu.edu/JMUpolicy/2204.shtml

Policy for Misconduct in Research and Other Scholarly Work http://www.jmu.edu/JMUpolicy/2205.shtml

Sponsored Programs Proposals: Pre-award/Post-award Procedures http://www.jmu.edu/JMUpolicy/2201.shtml

Terms and Conditions of Employment for Administrative & Professional Faculty – <u>http://www.jmu.edu/JMUpolicy/policies/1335.shtml</u>

University Data Stewardship - http://www.jmu.edu/JMUpolicy/1205.shtml

Selected JMU Peers Research and Scholarship Web Sites

Appalachian State - <u>http://www.appstate.edu/research/</u>

College of Charleston - http://www.orga.cofc.edu/pub/

Illinois State University - http://rsp.illinoisstate.edu/

University of Northern Iowa - <u>http://www.uni.edu/rsp/</u>

University of Wisconsin Eau Claire - https://www.uwec.edu/ORSP/index.htm

Western Washington University - <u>http://www.wwu.edu/rsp/</u>