This report highlights the accomplishments of University Information and Technology (UIT) during the 2019-20 academic year. During this time, UIT has made strides in support of Oregon State's strategic goals, building on our foundation and strengthening OSU's position to advance our university-wide mission and objectives. As our immediate response to the COVID-19 pandemic has demonstrated, UIT is ready to deliver and is primed to contribute as a close university collaborator and a leader in higher education technology and service delivery in Oregon and beyond.
In fall 2019, Andrea Ballinger began her tenure as Vice Provost and Chief Information Officer (CIO) for Oregon State University, assuming the position from Jon Dolan who served as interim CIO. During her first 100 days, Andrea conducted a listening tour across the university, meeting with over 200 OSU community members in Bend, Corvallis, Newport, Portland and two Extension offices. During this time, Andrea listened to stakeholders and partners share their desired business outcomes and expectations, key issues and important drivers, asking about their roles, their areas of influence and current projects and how they felt about IT at OSU. Andrea also solicited input from the university at large, inviting feedback via OSU Today and a dedicated webpage. This listening tour formed the basis for her 100-Day Report, finalized in January, which summarized her findings and identified 10 areas of growth, or “hot topics,” that merited in-depth investigation as potential areas of need to be addressed by OSU's next IT strategic plan.
Andrea selected IT leaders from across the university to create 10 task forces charged with providing recommendations and proposals related to each area of growth. Each task force was led by and comprised of members from UIT, college and departmental IT and other campus partners. The task forces presented their reports to Andrea and a newly established CIO Advisory Council comprised of university partners, stakeholders and clients. By June 1, the CIO Advisory Council had collectively reviewed the reports, discussed and narrowed down priorities for IT, determined which commitments to incorporate into the strategic plan and drafted a vision and mission to serve as the plan’s foundation.

Following the engagement with the CIO Advisory Council, Andrea shared a high-level summary of the draft strategic plan with business and IT partners from across the institution, asking each of them for their unfiltered feedback on our proposed direction. After a nearly yearlong process, our new strategic plan is ready to be vetted by University at large before being finalized.
OUR KEY STRATEGIES

- Protect OSU information assets and stakeholders' privacy
- Build a robust and unified information ecosystem that delivers data as a strategic working asset
- Empower faculty by providing the flexibility to teach effectively through diverse program models and student experiences
- Enhance and streamline the digital work experience
- Redesign students' encounters with the digital world at OSU to make them personalized, accessible and equitable
- Implement an architected, easier to navigate, university-scale digital research ecosystem
- Develop a structured and formal program that promotes the capabilities, diversity and health of the OSU IT community
- Engage and lead in state and national IT communities advocating for technology solutions that advance OSU's mission and strategies

Create a resilient, agile, cloud-native IT environment

Use a strong IT governance structure to align the IT enterprise with university goals and treat university communities equitably.
In order to plan for OSU's expense reduction scenarios due to COVID-19, Andrea developed an inclusive strategy for reduction models, conducting a survey across OSU IT, asking for the top 5 budget reduction areas and top 5 revenue generating opportunities. Andrea selected OSU IT leaders to lead nine teams charged with providing recommendations for immediate action. An evaluation of the results led to an approximate $1.5M savings, and Andrea met with OSU's Chief Financial Officer, Mike Green and Associate Vice President of Budget and Resource Planning, Sherman Bloomer, to address the feasibility of the recommendations.

We've also developed plans to simplify IT budget management and improve IT budget accountability to ensure that we have a comprehensive understanding of our IT investments. That work continues into AY21 as a transition year into a new budget framework for UIT.

Finally, Andrea worked with the CIO Executive Team to develop plans for organizational changes in UIT to better align our operations with best practices to be more collaborative and improve productivity. The work to communicate, facilitate and implement these changes continues into AY21.
3.0 PANDEMIC RESPONSE

The worldwide COVID-19 pandemic required an unprecedented shift to remote instruction for spring term in an extremely tight timeframe. OSU IT mobilized rapidly, demonstrating what can be accomplished when we work together under a shared vision in a coordinated, collaborative manner across college and administrative boundaries. IT played an essential role, helping move the university to remote teaching, learning and working, and establishing a digitalized infrastructure that was adopted across the entire university within a matter of days.

The capabilities of UIT and our IT partners made OSU operationally resilient in the face of the pandemic, including the integrity of our data network, the flexibility of pedagogical tools in our Learn@OregonState learning management platform and our adoption and integration of Zoom, allowing the university to quickly transition to a fully online mode of teaching, learning and working.
UIT was a critical partner in the coordination, development and creation of several vital technologies and services that allowed for business continuity, including:

- **Keep Learning / Keep Teaching / Keep Working** support websites to communicate and enable the details of remote operations
- **Keep Teaching Technology Assistants (Tech KTAs)**, to support our faculty
- **Proctorio and live proctoring via Zoom**, addressing the need for an online proctoring strategy
- **Training videos** to assist students and employees
- **COVID-19 mobile app assessment and development**
- **Virtual Private Network (VPN), Virtual Desktop Infrastructure (VDI) and Remote Desktop Protocol (RDP)** scaling, upgrades and improvements
OSU benefitted from our cloud strategy during the move to fully remote instruction, with the doubling of Kaltura media management usage, Zoom activity increasing by 3,500% and increases in electronic signature usage through DocuSign. We renegotiated several of our vendor contracts in light of budget reduction forecasts and usage changes. Our Service Desk fielded an approximately 200% increase in support calls at the beginning of spring term, with sustained call volumes higher than usual throughout the end of the academic year. Finally, at the close of AY20, we began preparations to retrofit more than 300 classrooms with Zoom capabilities in preparation for blended Fall 2020 instruction. The work to prepare our classrooms began in earnest in early summer 2020 and will continue into the late summer. As we continue to grapple with the Coronavirus crisis, UIT stands ready to adapt and respond in whatever manner needed to support the university’s learning, research and outreach objectives.

Key numbers at a glance:

- **2x** the use of Kaltura media management
- **3,500%** increase in Zoom usage
- **200%** increase in Service Desk support calls at the beginning of spring term
- **300+** classrooms with Zoom capabilities
Within UIT, we are passionate about the potential for technology to impact and transform the educational experience in support of student success. Much of the work that we do is guided by this passion; in February we were excited to present and participate in multiple sessions at the University Student Success Initiative Summit, sharing our ideas about how technology can bolster student success. UIT employees presented on a wide variety of topics including experiential learning, student journey mapping, digital transformation, data science instruction, equity and inclusion and innovative teaching spaces.

UIT provided financial support for multiple initiatives that use technology to bolster our mission as a learning institution. This past year, UIT awarded 13 Learning Innovation Grants, committing more than $100k for faculty innovation in teaching. These grants provide teaching faculty the ability to experiment with and deploy technology in a nimble, flexible way, responding to rapid shifts in technology and learning modalities. The work that these grants support also provides a vital pathway for incubation and vetting of new approaches to teaching and learning that can be scaled to broader university use.
In our ongoing work to maintain the Learn@OregonState learning management platform, we worked to centralize funding for Gradescope, a web-based grading system that "reads" assignments or quizzes containing hand-written calculations, formulas, multiple choice responses and computer code, making grading more consistent, fair and efficient.

This spring we made a major update to the OSU Mobile application. The new app features improvements to navigation, usability and branding with tailored experiences for Corvallis, OSU-Cascades, Ecampus and international students. OSU Mobile presents the tools and information that students and employees need in the format that they demand. Oregon State’s mobile application is the highest-rated mobile app in the PAC-12 with more than 50,000 unique users in the past 3 years. In the past year, the app has been used over a million times by members of our university community.
In November, we soft-launched MyOregonState, a new dashboard for students and employees that will replace the aging MyOSU portal. MyOregonState is the foundational offering of the Digital Experience (DX) Initiative, a multi-year, multi-project initiative to transform online interactions with Oregon State, providing personalized information and helpful guidance navigating the university experience. The MyOregonState dashboard provides us a flexible, modern framework with which we can create assistive, modern experiences in support of our university mission. Our vision for MyOregonState is a continually evolving, expanding experience providing ever-increasing levels of contextualization and assistance for those we serve. In June, incoming (new) students began using the new dashboard. In July, employees were officially transitioned to MyOregonState; returning students were upgraded in mid-August. As of this report, more than 21,450 members of the OSU community have used the new MyOregonState.

“I love the new MyOregonState platform! It’s so easy to navigate compared to MyOSU and streamlined for the things we actually need to access.”
In AY20, UIT worked in partnership with the Hatfield Marine Science Center (HMSC) to conduct a listening tour with over 40 OSU community members and federal agency workers based in Newport and Corvallis. The outcome of the tour resulted in a half-day leadership summit in summer 2019 between UIT and HMSC to develop a shared understanding of the current and future vision of the HMSC, as well as the evolving IT services of UIT. These discussions led to a change in IT leadership and management for the HMSC in fall 2019, with UIT stepping in to lead HMSC IT and work as a close partner and member of HMSC’s leadership team.
UIT is an active participant in the TRACE-COVID-19 project, working with OSU leaders and researchers to provide the necessary technology infrastructure and capabilities, ensuring we're meeting the goals of this critical effort while simultaneously ensuring that our institutional data is protected.

In order to expand research opportunities for OSU, UIT partnered with the Center for Genome Research and Biocomputing (CGRB) and the College of Public Health and Human Sciences (CPHHS) to develop data security approaches for meeting the regulatory requirements for personal health information (PHI) protection. Additionally, we’re assisting the College of Engineering to develop controlled unclassified information (CUI) protections in support of a University of Washington Applied Physics Library contract with the U.S. Navy. The purpose of our work is to provide secure research services to grow research opportunities in national defense, public health and public service areas.
In collaboration with our partners at the University of Oregon, Portland State University and Oregon Health Sciences University, UIT submitted a proposal for a planning grant to the National Science Foundation (NSF) Campus Infrastructure Program. The proposal requested funds to support our institutions’ development of a plan for a shared cloud-hybrid research data center, reflecting our common needs and aspirations, including:

- **Data center space that is new or additional to what we collectively have today.**

- **Our belief in working regionally to created shared computing resources of a scale greater than individual institutions can provide.** With the success of the Link Oregon project, we’re now able to contemplate the use of a shared state-wide network to also share IT resources.

- **The potential to place this data center in close proximity to the cloud data centers of Amazon Web Services (AWS), Microsoft Azure and other cloud services,** taking advantage of our physical location relative to these entities, making it possible to move data and computing workloads between our computers to the cloud in ways that work to our mutual advantage.

We collaborated with the Office of Research and the CGRB to review the CGRB and develop a strategic plan for the center. We also collaborated with CGRB Director Brett Tyler to submit an NSF grant for research computing facilitators that was awarded.
The UIT team continued our collaboration with statewide partners including the State of Oregon, University of Oregon, Portland State University and Oregon Health Sciences University in support of Link Oregon, a nonprofit consortium, to manage and operate a new statewide network. In AY20 we completed the procurement and engineering process to select and order equipment for the network, developed and staffed the new organization and transferred contracts to the new non-profit. The network currently connects locations in the Willamette Valley with Bend and Newport; our fiber routes will allow us to expand over time, bringing southern and eastern Oregon into the network as well. The development of this network will bring significant benefits to our Extension and outreach mission. As a result of this engagement, OSU has earned a prominent voice in statewide broadband policy discussions, amplifying our ability to serve our statewide constituents.
In our intentional and continuing effort to support diversity, equity and inclusiveness in our workforce, UIT collaborated with the College of Engineering to convene a discussion on gender equity in technology, working to determine ways to advance gender equity in IT and on the campus at large. We've also started discussions leading to a shift in the use of racially insensitive terms that have become embedded in the IT industry. This work continues as we move into AY21.

In partnership with computer science professor Margaret Burnett, UIT has funded a graduate student researcher to support and deploy the GenderMag toolkit. Developed by Dr. Burnett, the tool is designed to uncover bias in software interfaces. UIT has now been a GenderMag partner for nearly three years; our engagement and financial support will continue in AY21.
This past year, UIT hired 11 people into our organization, six of whom, including our CIO, are women. These hires help to elevate gender equity in our organization and reap institutional benefits in terms of breadth of organizational perspective and expertise.

As part of our strategic planning process Andrea and her team proposed a set of seven commitments that represent our shared values as an IT community. These seven commitments address many important aspects of our workplace culture, but one in particular specifically addresses our commitment to building diversity in the IT culture and community. As part of the planning process, Andrea asked all IT directors at OSU to pledge to honor these commitments; every single one of them has done so.

**What is GenderMag?**

The individual differences in how people use software is often clustered by gender, especially when problem-solving. However, many software features are usually designed primarily around men’s problem-solving styles, leaving a gender gap.

GenderMag is a method that helps software developers as well as user experience and user interface professionals identify and fix software features with gender-inclusivity “bugs,” and build software that adequately meets the five problem-solving facets for all genders through a series of personas and cognitive walkthroughs.

For more information, visit [gendermag.org](http://gendermag.org).
To help advance the work of the university-wide Talent Management Initiative sponsored and led by University Human Resources (UHR), UIT submitted a proposal to pilot this initiative across OSU IT in AY21. The goal of the initiative, to build a systematic approach to talent management for OSU that addresses the full employment life cycle, tightly intersects with the needs of OSU's IT community. As noted by Andrea in her 100-Day Report, IT professional development was one of 10 “hot topics” in need of attention. A systematic approach is essential for OSU IT to fulfill its strategies and objectives. This includes attracting, selecting and hiring the best and most diverse talent, as well as growing and developing an IT workforce through a comprehensive talent management practice. Our collaborative work with UHR on this pilot begins in AY21.

UIT is also supporting the Talent Management Initiative and our priorities around employee development and support by building a catalog of professional development opportunities to be presented in the MyOregonState dashboard. The catalog features content from Human Resources, the Office of Equity and Inclusion and Faculty Affairs and serves as a one-stop shop to aggregate and display opportunities for employee growth in a highly-used location where employees will be sure to see it. Begun late in AY20, the new feature was built as an early win for the Talent Management Initiative and is now complete and ready to launch.
The past year, our Office of Information Security established the OSU Cybersecurity Framework (CSF), structured to reduce our risk profile for cybersecurity threats and buttress the university's public reputation in the face of a potential security breach. The creation of the CSF came from a comprehensive review of OSU's security practice, including outreach to university stakeholders and a formal assessment.

Additionally, we began work on a 5-year cybersecurity plan for OSU to develop information security policy, process, procedures and standards for OSU, setting a strategic timeline for the planning and execution of our security initiatives, including:

- Vulnerability Management Program
- Email Security Task Force
- NIST Control Base for Controlled Unclassified Information (CUI)/ Personal Identifiable Information (PII)
- Security Operations Center (SOC)
To improve the reliability, availability and accessibility of our OSU's email services, UIT completed a university-wide migration from our on-premise Exchange email service to Microsoft's Office 365 cloud-based solution, Exchange Online. This change brings increased reliability, reduced cost, improved and expanded mailbox storage and an upgraded Outlook web experience for every OSU employee.

To enhance remote accessibility to OSU online resources, UIT upgraded our virtual private network (VPN) services. This upgrade, particularly given the university's shift to remote instruction and work, provides our OSU employees with an updated, modern platform that is robust and secure, requiring use of our Duo two-factor authentication service.

UIT worked with several OSU offices to help redesign business processes, create customer journey maps and identify areas of process improvement. These efforts have led to a deeper understanding of our business processes and where we're inefficient, as well as the perspectives of our OSU community members and external partners who use and/or interact with these services. During these engagements, UIT worked directly with OSU offices to develop a shared understanding of the current state and future needs. Through visual models, we presented diagrams that described current processes and helped design more productive and efficient solutions. This past year, UIT facilitated business process redesign engagements with the Hatfield Marine Science Center, Ecampus, Finance and Administration, Public Safety and Academic Advising, among others.
In AY20, significant work was completed to improve support, further connect systems and enhance the efficiency of our business systems. To improve the reliability and stability of all data that propagates to and from our Banner ERP system, UIT has been in the process of migrating from Appworx to Automic Workload, with the migration due for completion in AY21. The university’s usage of Docusign increased significantly this past year, with notable increases in the number of users both sending and signing documents. We also integrated Docusign into Banner Self Service, simplifying our services to students and saving time for the Registrar’s Office by eliminating manual data entry. Docusign is an excellent example of the potential of digital transformation, saving time, streamlining processes and reducing negative environmental impacts. In our continued shift in document management services from Nolij to Hyland OnBase, we migrated several departments last year, including Student Finance, Payroll, the ID Center, Admissions and Financial Aid.
Last year, UIT collaborated with the Carlson College of Veterinary Medicine, stepping in to provide the necessary IT leadership for the college with the retirement of the college's IT manager. We also worked with Dean Tornquist and her leadership team to rethink the college's IT organization to better meet their expanding IT needs, creating the college's first IT director position. Our impact in the College of Veterinary Medicine, as well as similar engagements with Athletics, the Graduate School and the Honors College, have all helped advance the missions of each of these organizations, ensuring that UIT stays connected with our colleagues and provides the university with the ability to select, design and manage their own digital paths to success.
Our participation in the UNIZIN consortium provides opportunities to think through teaching and learning issues related to our enterprise learning management systems as well as broader topics including accessibility, proctoring, learning analytics, data privacy, affordable content and faculty development. UIT staff have also participated in specific UNIZIN events, including a two-day Hackathon for developers and a multi-week Learning Analytics workshop. Planning is underway to evaluate the UNIZIN Data Platform, which, if adopted, could provide a versatile mechanism to support student success through predictive analytics and next-generation applications for students and instructors.

UIT is a member of the Northwest Academic Computing Consortium (NWACC), a coalition of universities centered in the western United States. Our membership in this organization gives us a chance to share and hear about resources, strategies, technology and tools being considered or used at OSU and elsewhere.

UIT also represents Oregon State as a leader in the Internet2 community. Internet2 is an advanced technology community founded by the nation’s leading higher education institutions in 1996. The organization provides a collaborative environment where US research and education organizations can solve common technology challenges and develop innovative solutions in support of their educational, research and community service missions. In AY20 we chaired the national conference for the Trust and Identity track of the Internet2 Technology Exchange and have presented on identity and access management. As a result of our Internet2 engagements, OSU reaps benefits through the adoption of standards and practices for which we are also contributors.

UIT invests in relationships both on and off campus as a way to share ideas, inform decision making and participate in the national conversation that surrounds our work.
### Internal to OSU

- Accelerator Advisory Committee
- Continuity Management Team (CMT)
- University Resumption Planning Committees
- Learn@OregonState Advisory Committee
- Data Governance Council
- Information Security Advisory Council
- Information Technology Coordination Committee
- Infrastructure Working Group
- Web Customer Advisory Committee
- Web Student Advisory Committee
- Digital Experience/Mobile Customer Advisory Committee
- OSU Security Club
- Faculty Senate
- DataScience@OregonState
- Institutional Review Board
- Leadership Collaborative Mentor community
- Talent Management Steering Committee
- Training Days
- University Student Success Initiative

### Edu Partnerships

- Northwest Academic Computing Consortium (NWACC)
- EDUCAUSE
- Internet2
- InCommon
- UNIZIN
- Canvas R1 Peers
- Help Desk Institute (HDI)
- Pacific Northwest Gigapop
- Link Oregon
- Northwest Managers of Educational Technology (NWMET)
- Special Interest Group for University and College Computing Services (SIGUCCS)
- IMS Global
- Research and Education Network Information Sharing and Analysis Center (REN-ISAC)
- Multi-State Information Sharing and Analysis Center (MS-ISAC)
- Higher Education Information Security Council
- Higher Education Data Warehousing Group
- Oregon Women in Higher Education
- Kantara Initiative

### Advisory + Governance

- Instructure/Canvas
- Gartner
- Unizin
- Ellucian
- Salesforce
- Acquia
- TeamDynamix
- IMS Global Learning Consortium
- Kaltura
- TopHat
- Info-Tech
- FBI InfraGard
By any measure, it has been a remarkable, challenging year for IT at OSU. With new leadership, a new, emerging IT strategy and the unprecedented, unforeseen impacts of the Coronavirus pandemic, it has been anything but “business as usual” for UIT. In AY21, our new strategic plan will bring many exciting initiatives and changes in the way that we collectively organize and execute on our work, and one impact of these changes will be a new format for our annual report.

We are proud of what we have accomplished and have a clear vision for the path ahead. Regardless of what may come next, Oregon State IT is energized, aligned and well-positioned to engage and contribute to the university’s collective efforts to serve the citizens of Oregon, the United States and the world.