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# Missouri University of Science and Technology

Vice Provost and Dean of the College  
of Engineering and Computing Search

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# About Missouri S&T

Founded in 1870, Missouri S&T is one of the nation's top technological research universities and one of the four campuses of the University of Missouri System. The university offers over 90 degree programs in engineering, science, computing and technology, business, social sciences, humanities, and liberal arts. Missouri S&T has 16 accredited undergraduate engineering programs and over 80% of the students graduate with a STEM degree. Building on the university's reputation for excellence for STEM education, the College of Engineering and Computing (CEC) has adopted a goal to return to a top 50 ranking. The university is a research intensive institution with a long history of exceptional undergraduate education. Consistently known for its return on investment, Missouri S&T was ranked second as a "value-added" public university according to Brookings Institution and fifth for "annualized return on investment" by PayScale.com in 2015.

## Research

Missouri S&T's research mission began in 1964 when the Missouri School of Mines & Metallurgy (now Missouri S&T) became one of the four campuses of the University of Missouri system and the first two state-funded research centers were established. These two centers were the precursors to today's Materials Research Center and the Rock Mechanics and Explosives Research Center. Over the past sixty years, these centers have been joined by additional state supported research centers in Intelligent Systems, Infrastructure Studies, Energy and Environment, and Biomedical Research. These centers house state of the art equipment, research specialists, technicians, and administrative support personnel to assist faculty with externally sponsored research.

In 2016, 57% of new externally sponsored research projects were from federal funding agencies. The largest agencies, by funding, were the National Science Foundation, Department of Transportation, Department of Energy, and Department of Defense. The university is home to two DOT University Transportation Centers, a DOE SunShot consortium, and an FAA Center of Excellence. With NSF, Missouri S&T has a long history of successes in the MRI program, CAREER awardees, EAGER and GOALI awards, and is home to an I-Corps site.

Industry sponsored research accounted for 33% of project funding in 2016. Missouri S&T is well known for its industry focused research programs. Currently there are six active industry consortiums, three





of which have more than a dozen industry members. The three largest consortia are: the Center for Electromagnetic Compatibility (an NSF I/UCRC), Center for Aerospace Manufacturing Technologies, and the Kent D. Peaslee Steel Manufacturing Research Center. This industry activity is supported by an active, although relatively new, Economic Development/Technology Transfer Office. Patent and licensing activity is on an upward trend with over 75 patents and disclosures filed in 2016. Royalty income in 2016 was \$500K and is expected to double by 2020 based on the current portfolio.

In 2015, Missouri S&T identified four areas of strategic growth potential. Cluster hires and seed funding have been allocated to fostering research in: 1) Advanced Manufacturing, 2) Advanced Materials for Sustainable Infrastructure, 3) Enabling Materials for Extreme Environments, and 4) Smart Living.

## Students

Missouri S&T enrolls nearly 8,900 students including over 6,900 undergraduate and over 1,900 graduate students. Undergraduate and graduate enrollments have nearly doubled since 2000. Admissions have remained selective with the average incoming freshmen ACT score of 28.1 and the average high school GPA of 3.8/4.0. The student-faculty ratio at Missouri S&T is currently 19:1. The average class size is 29 students, and 25 percent of classes have fewer than 20 students. These strong metrics have contributed to a healthy first-year retention rate of 83 percent and a six-year graduation rate of 64 percent.

Emphasis on leadership opportunities, undergraduate research projects, and practical education through co-ops, internships, and other experience-based learning results in graduates who are well prepared for the future they choose. Missouri S&T graduates enjoy a 93 percent career placement across all majors, frequently receive multiple job offers, and over 90 percent placement rate to medical, law, and other professional schools. Missouri S&T hosts two annual Career Fairs, which are the largest in the Midwest.

Required experiential learning is an essential aspect of Missouri S&T's unique education environment. Undergraduate research is a core component that provides students with out-of-classroom learning opportunities to apply knowledge to real-world problems. These opportunities include the Solar Village and EcoVillage, which together comprise six student-built and inhabited solar homes, and the Experimental Mine, which has been voted the best "Awesome College Lab" four years running by *Popular Science*. Students participate in 18 student design teams, including national champion solar car and human-powered vehicle teams. Missouri S&T maintains a very engaged *Engineers Without Borders* organization on campus, with four groups and a high percentage of women participants and leaders. This rich array of hands-on learning opportunities contributes to the development of successful students who are ready to have an immediate positive impact when entering the workforce.

Since Fall semester 2007, doctoral enrollments have grown by 60 percent, with a Fall 2016 total graduate enrollment of 1929, including 624 doctoral students. The 2020 strategic plan for Missouri S&T includes implementation of transformative doctoral student recruiting, retention and placement strategies to increase doctoral enrollment, including a recently implemented tuition remission program for doctoral students.

Many graduate students are enrolled through Missouri S&T's extensive on-line and distance offerings; 761 of the 1929 graduate students participate in distance education. The Global Learning division provides a variety of credit and non-credit courses, seminars, conferences, and summer programs. In 2016, Missouri S&T was ranked in the top 10 nationally for "Best Online Graduate Engineering Programs" by US News & World Report.

Missouri S&T's rich history in Mining and Metallurgy is reflected by numerous distinctive doctoral degree programs including Explosives Engineering, Mining Engineering, Ceramic Engineering, Metallurgical Engineering, Nuclear Engineering, Petroleum Engineering, and Geological Engineering. This work is supported by unique world class infrastructure including the Experimental Mine, a research reactor, a research foundry, glass shop, and the Advanced Materials Characterization Laboratory.

## Corporate Partnerships

Numerous corporate partners worldwide support Missouri S&T's academic programs. The university has relationships with nearly 3,000 companies and government agencies that hire our students, provide internship and cooperative opportunities, sponsor research, and collaborate in degree and non-degree education. Companies such as Boeing, Honeywell, Nucor, ArcelorMittal, Caterpillar, Black & Veatch, Burns & McDonnell, Chevron, Conoco Phillips, Garmin, Anheuser-Busch, Cisco Systems, and General Motors are some of the more engaged corporate partners. The Hypoint Industrial Park in Rolla is home to several high-tech small businesses who also work closely with the university. Our Corporate Relations office was established in 2015 to manage and grow corporate partnerships across the university in collaboration with appropriate faculty and staff and serve as a "one stop shop" to assist companies in finding the right connections on campus. The Corporate Relations office also fosters partnerships with numerous federal agencies including Fort Leonard Wood (30 miles southwest of Rolla), Sandia National Laboratories, Oak Ridge National Laboratory, and others.

## Alumni

Missouri S&T is proud of its 60,000 living alumni, many of whom are leaders and innovators in industry, government, and academia, and are actively engaged in, and supportive of, the institution and its mission. Today our alumni span a full spectrum of expertise, while our new graduates command some of the highest starting salaries in the nation.

The university has a number of programs to engage and recognize successful alumni, including alumni academies, which honor alumni for their professional achievements as well as their leadership and involvement with Missouri S&T. Members of these academies, which are connected to 10 academic departments as well as the athletic department, are actively engaged as advisors, advocates, and fundraisers, bringing both advisory and financial support to the university. Read more about our Alumni of Influence at [influence.mst.edu](https://influence.mst.edu).

Missouri S&T's endowment totals \$176 million, which represents a 14% increase since 2013. Total fundraising has averaged \$12.75 million over the last three years with one-third designated to CEC programs. The university's alumni giving rate is an impressive 15%, and 88% of donors indicate they are satisfied or highly satisfied with the giving experience at S&T. The university is currently in the silent phase of a comprehensive campaign. Two previous campaigns raised \$74 million (1994-2000) and \$128 million (2004-2010) respectively. Recently, Missouri S&T received a national award from the Council for the Advancement and Support of Education (CASE) for sustained fundraising excellence.

# Strategic Plan

In 2013, Missouri S&T developed *Rising to the Challenge*, a campus-wide strategic plan that defines four focus areas for achievement by 2020: develop and inspire creative thinkers and leaders for life-long success; enhance reputation and raise visibility nationally and internationally; achieve sustainable growth to ensure best return on investment;

and increase and facilitate meaningful access to and interaction with renowned faculty, staff, and services. The plan is comprehensive and operational, laying out specific tactical activities, performance metrics, achievement levers, and responsible parties. A couple notable items of the strategic plan include hiring 100 new faculty, identifying four signature research areas, and increasing the Ph.D. student population. For more detailed information, please visit: [strategicplan.mst.edu](http://strategicplan.mst.edu).

## Finances

Missouri S&T has a total operating budget of \$206 million for FY 2017, including compensation (65%) and other expenditures. For the same period, the revenue budget totals \$215 million, comprised of net student fees (38%), grants and contracts (17%), state appropriations (26%), endowment income (4%), non-endowed gifts (2%), and auxiliary and other revenues (13%). Nineteen percent of operating revenue is restricted.







# The Greater Rolla Area

Missouri S&T is located in Rolla, which with its surrounding areas has a population of over 40,000 and is nestled in the beautiful Ozark Highlands region of Missouri. Rolla is recognized as one of the “best small towns in America” and was ranked No. 19 on Lumosity’s 2013 list of “America’s Smartest Cities,” as one in seven adult residents has a graduate degree. Rolla offers an exceptional quality of life, a strong and reasonably priced real estate market, and is located less than 100 miles from St. Louis and Springfield.

The quality of life in the community is enriched by an unusual array of economic, intellectual and cultural assets. These include Phelps County Regional Medical Center, the area’s largest employer, with its new \$43 million Delbert Day Cancer Institute named for a biomedical research pioneer and S&T Curators’ Professor Emeritus; and the U.S. Geological Survey, which established an office on our campus nearly 100 years ago, and today continues to provide geospatial data, mapping and other services to our nation through the Rolla USGS Center.

Among the many cultural traditions that flourish in the community are the annual Celebration of Nations, one of the largest global festivals in Missouri; the Ozark Actors Theatre, a professional summer stock company based at the Cedar Street Playhouse; and the Remmers Special Artist/Lecture Series, which has spotlighted a world-renowned roster of guest performers and speakers over the past 40 years, including our 2017 guest artist, cellist Yo-Yo Ma.

Rolla and the Ozark Highlands region are best-known for an abundance of outdoor recreational opportunities. This includes more than 300 acres of parks within our city limits and an extensive trail system. Surrounding Rolla are more than 100,000 acres of state and national parks and wildlife refuges, the Ozarks National Scenic Riverways and trout streams, and the Lake of the Ozarks, offering a wide variety of year-round outdoor recreational activities. Located near the center of the state, Rolla is a welcoming community with topnotch public schools, its own public radio station, and a civic-minded population committed to openness, understanding and valuing all people and perspectives. [www.rollacity.org](http://www.rollacity.org)

# About the College of Engineering and Computing



The College of Engineering and Computing (CEC) houses nine departments that include:

1. Chemical and Biochemical Engineering [chemeng.mst.edu](http://chemeng.mst.edu)
2. Civil, Architectural, and Environmental Engineering [care.mst.edu](http://care.mst.edu)
3. Computer Science [cs.mst.edu](http://cs.mst.edu)
4. Electrical and Computer Engineering [ece.mst.edu](http://ece.mst.edu)
5. Engineering Management and Systems Engineering [emse.mst.edu](http://emse.mst.edu)
6. Geosciences and Geological and Petroleum Engineering [ggpe.mst.edu](http://ggpe.mst.edu)
7. Materials Science and Engineering [mse.mst.edu](http://mse.mst.edu)
8. Mechanical and Aerospace Engineering [mae.mst.edu](http://mae.mst.edu)
9. Mining and Nuclear Engineering [mne.mst.edu](http://mne.mst.edu)

CEC offers 17 undergraduate degree programs and 14 minors. This is one of the widest array of engineering programs offered in the U.S. Bachelor of Science degrees are offered in aerospace engineering, architectural engineering, ceramic engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, engineering management, environmental engineering, geological engineering, geology and geophysics, mechanical engineering, metallurgical engineering, mining engineering, nuclear engineering, and petroleum engineering. All of the Engineering programs and Computer Science are ABET accredited. In addition, students may specialize in one of more than 60 emphasis areas within these degree programs.

At the graduate level, CEC offers a broad array of master's degree and PhD programs. PhDs are offered in all departments, while some departments offer multiple specialties. An important goal in the university's strategic plan is to increase doctoral enrollments.

CEC departments boast excellent faculty who are leading scholars, dedicated teachers, and recognized innovators in their fields. The college is home to 217 tenure and tenure-track faculty. The university's externally sponsored funding for FY 2016 exceeded \$30M of which 80% was from the CEC.

Thirty-six percent of tenured CEC faculty hold the status of Fellow in a technical society, and 16 percent of the tenured faculty have Fellow status in more than one society. Fourteen percent of the faculty are current or former NSF CAREER Award or YIP Award recipients, and 25 percent have at least one patent to their credit.

CEC departments have enjoyed strong enrollment growth in the last few years and this positive trend is expected to continue. Total CEC student enrollment for the Fall 2016 academic year was 7,702. Undergraduates represent 5,980 of this total, with 1,122 master's students and 600 doctoral students.

# About the Vice Provost and Dean Position

The University seeks a dynamic and visionary leader as its next Vice Provost and Dean of the College of Engineering and Computing (CEC). This is an exceptional opportunity to strengthen and shape the future of engineering excellence at one of the top technological research universities. The University has experienced rapid enrollment growth in recent years, and the next Vice Provost and Dean will provide leadership and strategic direction for the future of the College and ensure the highest standards of quality in engineering research and education.



The Vice Provost and Dean is the chief academic administrative officer of the College, reporting to the Provost. [provost.mst.edu](http://provost.mst.edu)

As a member of the senior leadership team, he/she will work collaboratively with the University administration to promote high quality research and educational standards within the College. The Vice Provost and Dean will provide leadership in the development of the CEC vision, strategic planning, assessment of programs, and implementation of policies and procedures while also directing the College development efforts.

Missouri S&T seeks a Vice Provost and Dean possessing the highest ethical and professional standards, exceptional academic credentials, a proven teaching and sustained research funding record, a demonstrated commitment to the inclusion of diverse and traditionally underrepresented groups, and commitment to transparent leadership and collegial faculty relations.

The new Vice Provost and Dean will have an entrepreneurial, creative energy and superior communication skills to effectively engage with internal and external (local, national, and international) constituencies. He/She must be a strategic thinker, adept at building partnerships within a diverse community, knowledgeable in higher education issues, collaborative in developing team-focused, data-driven approaches to problem solving, and possess strong people-skills.

## Responsibilities

- Articulate and execute a vision for scholarship to lead the College to a top 50 position;
- Foster research collaboration between faculty, industry, and Federal agencies;
- Promote research mentorship to the faculty of the College;
- Support a learning environment that helps students achieve success and become career professionals, responsible citizens, and life-long learners;
- Guide the development and assessment of outcomes for academic programs;



- Provide leadership in the design and implementation of new academic programs and policies;
- Represent all programs and offices in the College to alumni, other academic institutions, accrediting bodies, and the community at large;
- Assume a leadership role in the College's development priorities and activities; and leading toward increasing support for the College through philanthropic gifts;
- Commit to inclusive practices that advance the excellence of the College;
- Consult with and advocate on behalf of the College with the Provost and senior leadership on budget, enrollment, faculty, and administrative issues;
- Provide academic leadership to and for the Chairs and faculty;
- Oversee the administration of faculty development, retention, promotion, and tenure process for faculty;
- Provide leadership in the ongoing strategic planning process for the College including establishing base budgets for operations, capital budgets for current and future years; and, anticipating budget requirements, including human resource needs;
- Facilitate partnerships among academic programs, other divisions of the university, faculty, students, community, alumni, and corporate partners.

## Challenges and Opportunities

The Vice Provost and Dean will have an exceptional opportunity to build and shape an academic unit central to Missouri S&T's mission and critical to its ongoing development as a top technological research university. The new college structure is the key to the university's strategic plan. The CEC, and its centrality to the mission and success of the university require a dean who embraces a collaborative approach, a commitment to the university's goals, and an appreciation of the value and critical importance of the arts, sciences and business in a technological research university.

A core challenge is to build out the new support structure of the College of Engineering and Computing while advancing its ambitious academic goals to be recognized as a top 50 engineering program while supporting the overall success of the university. She/he must lead by example in a strategic, thoughtful, and collegial way that embraces innovation and excellence university-wide. As an integral member of the Provost's and Chancellor's team, the Vice Provost and Dean will address the following challenges and strive to use them as opportunities to consistently improve the academic stature of the institution:

### **1. Lead, develop, and recruit excellent faculty**

Missouri S&T expects to hire 100 new faculty members by 2020 with the first phase of strategic and cluster hires well underway. The second phase recruitments will include attracting NAE-level scholars. The new Vice Provost and Dean will be a crucial leader in this effort and will work to recruit and retain outstanding faculty members to CEC. A central charge of the new Vice Provost and Dean is to provide leadership to CEC faculty and to support them in their development as accomplished educators and top-flight scholars. This is an exceptional opportunity to recruit faculty members who will elevate the academic profile of the University and raise its national and international visibility.

## **2. Manage and secure resources to advance the College and University**

The Vice Provost and Dean provides leadership in the development of the CEC vision, strategic planning, assessment of programs, and implementation of policies and procedures while partnering closely with University Advancement to ensure philanthropic efforts. There is tremendous opportunity to enhance resources to the College from private and foundation gifting

## **3. Enhance relationships with industry, alumni, and research partners**

The Vice Provost and Dean will join a college with a strong track record of building and stewarding industry relations. She/He will have an opportunity to build upon this solid foundation and extend the college's external partnerships. Industry consortia currently support translational and applied research in CEC disciplines. Eighty-eight percent of alumni are graduates of disciplines that comprise the College of Engineering and Computing, and they are deeply loyal to their departments. Faculty have a strong track record of securing industry, state, and federal funding. The Vice Provost and Dean will extend existing industry relationships and catalyze the formation of new ones, foster a collective community for alumni beyond department ties, and find new opportunities to expand the external reach and reputation of CEC.

## **4. Expand research and graduate programs and elevate CEC national rankings**

The Vice Provost and Dean will seek out creative opportunities to cultivate and enhance the research mission and stimulate discovery. Improved and expanded graduate programs are essential to increased research activity and funding. Multiple years without a college structure and the corresponding leadership to focus on research and graduate program expansion in engineering and computing have impacted rankings, and, as a result, current graduate engineering rankings do not accurately reflect the true level of research excellence at Missouri S&T. The Vice Provost and Dean will draw upon strengths in graduate education and build resources to strategically add new programs and incentivize and foster research enterprise growth.

## **5. Promote Missouri S&T nationally and internationally**

The Vice Provost and Dean will enhance Missouri S&T's reputation and raise its visibility nationally and internationally. He/She will serve as an ambassador for the CEC and promote it to outside constituents. Central to the Vice Provost and Dean's role will be communicating to the research community at-large, promoting the accomplishments of the CEC faculty, and students supporting participation in leading symposia and conferences, and creating excitement about CEC and its vision.

## **6. Champion the effort to grow diversity at all levels**

The Vice Provost and Dean will foster a culture of diversity and inclusion within the College and across the University. Missouri S&T has increased recruitment of undergraduate and graduate students from diverse gender, ethnic, racial, and socio-economic communities. The Vice Provost and Dean will continue this effort, with additional focus on recruiting and retaining diverse faculty, administrators, and staff to support this commitment. The Vice Provost and Dean will be a compelling and passionate advocate for inclusion.



# Required Qualifications

- An earned doctorate in engineering, computer science, or closely related field and a record consistent with an appointment to the level of full professor in a CEC department;
- Demonstrated experience with the Promotion and Tenure process.

# Preferred Qualifications

- Evidence of continual advancement through the academic ranks;
- Strong and sustained record of research excellence including major Federal grants;
- Strong and sustained record of teaching excellence and interdisciplinary initiatives;
- A demonstrated record of building and managing successful philanthropic relationships that lead towards major gifts in support of academic programs;
- Experience in a tenured position at a top 50 engineering college;
- Demonstrated administrative experience;
- Evidence of leading a research organization to substantially increase research and scholarly activity;
- Evidence of recruitment and retention of a diverse faculty and staff, as well as team building, supervision, and staff support for professional development;
- Evidence of visionary leadership to energize, inspire, and encourage innovation and collaboration;
- Experience with community involvement, outreach, leadership, and partnerships with various constituencies;
- Demonstrated ability to successfully identify and build relationships with industrial partners;
- Substantial administrative personnel and budgetary experience;
- Evidence of curriculum development including a commitment to collaboration and innovative pedagogies;
- Evidence of strong interpersonal and communications skills with faculty, staff, students, alumni, and community;
- Demonstrated ability to manage a complex academic organization and work effectively with colleagues across various units.

*Missouri S&T is an AA/EEO employer and does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age, disability or status as a protected veteran. Females, minorities, and persons with disabilities are encouraged to apply. The University participates in E-Verify. For more information on E-Verify, please contact DHS at: 1-888-464-4218.*



# Procedure for Candidacy

Review of applications will begin immediately and continue until the position is filled. Desired start date is Fall 2017. Applications should include a current curriculum vita and letter explaining interest and relevant experience. For additional information concerning Missouri S&T, visit [www.mst.edu](http://www.mst.edu).

Nominations and applications should be submitted electronically in confidence to Jeffrey Harris.

## Contact Information:

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Email: [jeff@harrisandassociates.com](mailto:jeff@harrisandassociates.com)

[www.iicpartners.com](http://www.iicpartners.com)

[www.harrisandassociates.com](http://www.harrisandassociates.com)

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Harris Search Associates, an IIC Partners member firm, is a leading global executive search and board advisory consulting firm. Our practice is focused on identifying and attracting leaders to support the growth of clients in the areas of research, science, engineering, academic medicine and commercial enterprises. Clients include the foremost universities, research parks, institutes, academic medical centers and commercial organizations driving global innovation and discovery.

Argentina	Denmark	Luxembourg	Sweden
Australia	Finland	Mexico	Switzerland
Austria	France	Norway	Taiwan
Belguim	Germany	Poland	Thailand
Brazil	India	Romania	The Netherlands
Canada	Ireland	Russia	United Arab
Chile	Italy	South Africa	Emirates
China		Spain	United Kingdom
Colombia			United States
Czech Republic			Venezuela

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