

**Dennis Irwin, Ph.D., P.E.**  
**Dean and Moss Professor of Engineering Education**  
**Fritz J. and Dolores H. Russ College of Engineering and Technology**

**Summary of Accomplishments**  
**For The Review Period of**  
**February 2008 to February 2009**

**To the Faculty and Staff of the Russ College,**

Most of the significant indicators of the health and reputation of our College show improvement. The demand for our undergraduate programs is increasing, as indicated by a 7% increase in applications for Fall 2008 compared to Fall 2007 (and this after an astounding increase of 23% from 2006 to 2007 at the same time). Research activity is healthy, considering the decline of federal funding, with \$12.1M in awards for FY 2008. Our faculty are more active than ever in professional activities, such as leadership in state and national professional organizations, and continue to hold positions of leadership and influence at Ohio University. Also, fundraising for this year is on a record pace, with about \$3.6M already received, thus surpassing our yearly goal of \$2.5M with six months still left in the fiscal year. Except for funds going toward the new Academic and Research Center, most of these funds' investment proceeds are restricted only for the Russ College; i.e., their use is very flexible. Of course, the generous gift of \$95M by our beloved friends the Russes was realized in 2008. It is most unfortunate that the performance of the university's investments (along with those of virtually all other institutions of higher learning) are such that, under current Ohio University Foundation spending policies, the proceeds from the gift will not likely have an effect for several years.

New activities are also very exciting. We continue to pursue the approval of a new Master of Science in Engineering Management. In March of 2008, the Ohio Board of Regents approved a new Ph.D. degree in Civil Engineering, and in April of 2008, the Ohio University Board of Trustees approved a Certificate in Construction Management. In addition, the new Academic and Research Center is slated for occupation in Winter Quarter 2010. Not only will the building feature some of the most innovative instructional spaces in the nation, but it will free space in Stocker Center that can then be dedicated to urgent instructional and research needs. Raising funds to renovate these spaces will be a high priority in my fundraising activities next year.

In the following pages, I have attempted to include information that will serve the dual purposes of evaluating 1) the appropriateness of my vision and goals for the Russ College and 2) my effectiveness as an academic dean as measured by the standard questionnaire. The summary of my accomplishments is organized as follows:

**Vision and Goals:** My view of where the Russ College should be over the long term, including our student environment, curricula and accreditation, attractiveness as an employer, and prominence on the national and international scenes.

**Planning and Management:** Questionnaire Section

**Personnel Matters:** Questionnaire Section

**External Relations:** Questionnaire Section

**Unit Goals:** Questionnaire Section

**Overall Performance:** Questionnaire Section

I understand each of you plays a role in the success and progress of the Russ College. None of the accomplishments I cite are entirely my own, and none could have been accomplished without your participation. I thank you sincerely for the opportunity to serve as your dean for the past five and a half years, and I look forward to the opportunity to continue to improve as a leader and an administrator.

The following summarizes my current view of where the college should be heading in the long term. I have attempted to use this “Dean’s Vision” as a guide in choosing areas on which to focus, both personally and as a college. “Vision” is defined as “How things will look when we get where we want to be, ten or more years in the future.” Many of these items have been articulated in past evaluation inputs but they have, in most cases, been modified to reflect my current views and the current realities of our internal and external environments.

1. Our undergraduate programs will be the programs of choice for prospective students in Ohio and will be recognized as high quality choices by prospective students nationwide.
2. The Russ College will be recognized as one of the most collegial units at Ohio University.
3. The Russ College will be a top choice of first academic employment for graduating Ph.D.s.
4. Russ College faculty will be responsible for external research awards at a level consistent with the top 30 engineering colleges in the United States (e.g., \$200,000 per faculty member, per year).
5. A new Ph.D. program in Civil Engineering will be approved by the Board of Regents and two Ph.D. programs will be renamed (Electrical Engineering to Electrical Engineering and Computer Science and Integrated Engineering to Mechanical and Systems Engineering) in order to provide graduates with a widely-recognized degree and to provide faculty in mechanical engineering, industrial and systems engineering, and computer science with access to students pursuing such degrees.
6. Four or five areas of research or scholarly activity will be recognized as world-class or having the potential for world-class ranking.

**1. Our undergraduate programs will be the programs of choice for prospective students in Ohio and will be recognized as high quality choices by prospective students nationwide.**

While our retention of first year students dropped two percentage points this past year, demand itself has increased, as has our “market share” among engineering students in Ohio. As of February 9, our applications are up 7% after an increase of 23% last year. As the impact of our enhanced recruiting efforts at the university level (EVPP Krendl has designated Russ College recruiting as the highest priority for the Office of Admissions) and the college level begin to take effect, I am confident we will reach our goal of 1,450 undergraduates by 2012 as long as we pay close attention to the needs of our first- and second-year students. To that end, I urge you all to identify students at risk and to intervene, even if that intervention is only to refer them to your Assistant Chair or to the Associate Dean for Academics. All of our admitted students have the talent to succeed in our programs, and we should give them every opportunity available.

**2. The Russ College will be recognized as one of the most collegial units at Ohio University.**

The best evidence, I think, of the collegiality of our faculty and leadership is the number and strength of our collaborations with other colleges. Examples (by no means exhaustive!) of collaborations include Drs. Kaya and Wojciechowski’s involvement with faculty in the College of Arts and Sciences in nanotechnology; Drs. Goetz and Burdick’s drug development work with the College of Osteopathic Medicine and the College of Arts and Sciences; Dr. Chang Liu’s work on virtual environments with the Colleges of Fine Arts, Education, and Communication; the technical sales certificate in collaboration with the Sales Centre in the College of Business; and Drs. Bayless, Stuart, Crist, and Botte’s highly collaborative work with faculty in the College of Arts and Sciences and the Voinovich School. Personally, I maintain good working relationships with faculty and staff in all academic colleges and academic support units such as Finance and Administration, University Advancement, and Student Affairs.

**3. The Russ College will be a top choice of first academic employment for graduating Ph.D.s.**

This year we hired faculty from Virginia Tech, Louisiana State, Delft University (the Netherlands), Seoul National, Tennessee, and Texas A&M. Our chairs and the members of the search committees that recommended these new faculty should be commended. Certainly, we are competing for faculty with the best schools in the nation.

- 4. Russ College faculty will be responsible for external awards at a level consistent with the top 30 engineering colleges in the United States (e.g., \$200,000 per faculty member, per year).**

The per capita, per-year funding figure can be calculated in any number of ways; all Group I faculty can be counted, all Group I in research-oriented programs can be counted, or we can use the method of the U.S. News and World Report rankings of Graduate Schools (all research-active faculty can be counted). Using the latter method, the Russ College figure is about \$296,000 per year, clearly meeting the goal. Our faculty should be highly commended for this figure; however, more of our faculty need to be engaged in funded research so that our funding is not dependent on relatively few extremely well-funded individuals.

- 5. A new Ph.D. program in Civil Engineering will be approved by the Board of Regents and two Ph.D. programs will be renamed (Electrical Engineering to Electrical Engineering and Computer Science and Integrated Engineering to Mechanical and Systems Engineering) in order to provide graduates with a widely-recognized degree and to provide faculty in mechanical engineering, industrial and systems engineering, and computer science with access to students pursuing such degrees.**

The new Ph.D. program in Civil Engineering was approved by the Ohio Board of Regents in March 2008. Faculty in the departments of mechanical engineering, industrial and systems engineering, and electrical engineering and computer science are currently preparing letters to the Board of Regents requesting the indicated name changes and including the rationale for such changes. My conversations with the Vice Chancellor and the Ohio Engineering Deans lead me to expect a fairly smooth approval process once institutional approval (Graduate Council, UCC, and the Board of Trustees) is granted.

- 6. Four or five areas of research or scholarly activity will be recognized as world-class or having the potential for world-class ranking.**

Arguably, the Avionics Engineering Center and the Institute for Corrosion and Multiphase Systems have world-class ranking. On January 29, I presented a proposal to the Ohio University deans arguing for the Avionics Engineering Center to be designated a Center of Excellence in response to the Chancellor's request for such designations.

Other areas with clear potential include energy and the environment -- mainly in the Institute for Sustainable Energy and the Environment -- and the transportation infrastructure work of the Ohio Research Institute for Transportation and the Environment. Biomedical engineering, as a strategic area for the College, will also be nurtured toward prominence. Bioinformatics, interactive virtual environments, and nanotechnology are all possible candidates for world class standing.

## Planning and Management

### Goal Achievement (is effective in planning and implementing unit goals)

In late 2002, the dean's office initiated a strategic planning process, beginning with the identification of a limited number of areas in which the Russ College would concentrate its research efforts over the next five to ten years. Each area met three criteria:

- 1) A critical mass of faculty existed in the College or within Ohio University
- 2) The area was expected to be significant to the public interest over the time period
- 3) Faculty and staff working in the area were to have a significant scholarly and sponsored research track record.

These strategic research areas have been used to rank proposals for internal funding initiatives and to guide staffing decisions for the College. In addition, new graduate program initiatives were identified in civil, mechanical, and biomedical engineering. In 2003, the planning process was extended to undergraduate programs, where public policy awareness and leadership skills were identified as central to the distinctiveness of the Russ College undergraduate experience, a distinctiveness that we hope will position our programs to be extremely competitive in the state and the nation. It should be noted that action has been taken on all of these fronts. Given the limitations on investment that have been imposed by almost a decade of budget cuts, all of these areas have been enhanced or at least protected from cuts. We have new programs, faculty, and research in biomedical engineering; we have greatly expanded our involvement in energy and environmental areas; and we have maintained or increased our leadership role in civil infrastructure, avionics, and corrosion engineering; and we continue to pursue new programs and program re-tasking to support these areas.

In response to Vision Ohio, the Russ College has expanded its "skeleton" strategic plan to include more specific and shorter-term goals and their corresponding action plans. In my opinion, the document is still short enough to provide planning guidance without being too long or overly prescriptive to be usable. However, it is clear that more detailed "action plans" are needed in order to transform the strategic plan from a statement of philosophy, however focused, to a true and actionable plan. Moreover, our College metrics must connect these action plans to the strategic plan elements.

The process of developing these action plans began in December 2008 during a working session of the Russ College Board of Visitors. At that meeting, it was recognized that the metrics need to be categorized hierarchically, from most important to least important to the objectives of the strategic plan, and according to the main drivers, which are much smaller in number than the metrics themselves. Two of our Board of Visitors members, both with significant experience in strategic planning, have volunteered to assist in the efforts to

streamline the metrics to better integrate them into the strategic plan. Dr. Rankin, Dr. Sampson, and I will meet with them in early March to begin work. Dr. Rankin and his staff already have begun data entry of historical faculty activity information into Digital Measures, a system for tracking faculty activity and generating reports based on that activity.

Ultimately, the condensed and re-organized metrics will be informed by the strategic plan to produce action plans which will be taken to the chairs and the faculty for discussion and approval. This process should be complete by the end of the academic year.

### **Academic Programming (demonstrates leadership in improving the academic reputation of the program)**

The dean's office continues to support the development of new graduate programs, the student learning communities, service learning initiatives (e.g., Engineers Without Borders), the Engineering Ambassadors, the Stocker Scholars, and professional and honorary student organizations in every department and college-wide. The new student activity endowment (goal: \$1.5M, current funding: ~\$1M) has also been identified as one of the major fundraising initiatives for the College. The dean's office has also continued its support of the Engineering Management graduate track that is delivered to the regional campuses and other locales in the state; the formalization of this track is expected via a new Master of Science degree in Engineering Management to be offered online.

In recent years, our new M.S. in Biomedical Engineering was initiated, as were the Technical Sales Certificate, the Certificate in Construction Management, and the new Ph.D. in Civil Engineering. We also have pending name changes in the Integrated Ph.D. program and Electrical Engineering Ph.D. program. The graduate programs, in particular, were supported by my intensive lobbying efforts with the Ohio Engineering Deans Council and the Board of Regents staff.

Of course, the academic reputation of our school is directly affected by the integrity of our students' and faculty work. In Spring Quarter 2008, the Russ College implemented its own honor code, a short but strong statement that exists in conjunction with statements of faculty responsibility and student responsibility. I am extremely proud of the College's response to the academic honesty challenges of the past several years. We have been tested, and we have emerged as a stronger College.

### **Fiscal Management (allocates resources and manages fiscal operations efficiently)**

The College has been managed to a break-even or surplus situation all six fiscal years of my tenure as dean, and I expect to continue the "tradition" this year. This

achievement was challenging, because in all those years, we experienced budget cuts or flat funding. In addition, endowment income is at a very low level due to changes in endowment payout (4% versus 6% five years ago) and endowment losses in 2000 and 2008. These losses in resources have significantly, and negatively, affected the College's ability to assist in providing matching funds; fund new initiatives; provide for faculty development; and support faculty, staff, and student activities. However, the compact with the governor is, at least for this year, intact – and I expect further reductions in support can be met while maintain quality in our core functions. We are in acceptable, if not good, shape financially. I appreciate the forbearance of the faculty during these difficult financial times.

**Affirmative Action (demonstrates commitment to women and minority faculty and students)**

I continue to support aggressive recruiting of faculty from under-represented groups (in engineering and technology, this certainly includes women). The College has made several recent hires, in several cases using incentive funds from the Provost, that address diversity issues. Student recruiting of under-represented groups continues to be a university-wide concern. I am hopeful that new scholarship funds from private sources will help alleviate some difficulty in recruiting women and other under-represented groups, and I assure you that I am open to suggestions for improvement. This is a very difficult problem that many institutions are experiencing.

**Personnel Matters**

**Communication (provides opportunities for faculty and staff to be informed about and give input on unit objectives)**

I continue to maintain an open-door policy and other activities, such as “Catching up with Colleagues” get togethers, regular meetings with chairs and Dean's office staff, regular attendance at department/school faculty meetings, and open forums for students. However, the attendance at these events has been disappointing this past year. As many of you have heard me say, I cannot fix problems that I do not know exist. I urge you to attend these events and to encourage student participation in events directed to them, or find other ways to communicate. I am certainly willing to listen. While I may simultaneously give you my own views, I always note your concerns and almost always take direct action. I also respect the chain of authority, which I feel exists to facilitate orderly dissent and problem-solving.

**Interpersonal Relationships (uses human relations skills to solve problems)**

Most of you know that I tend to resist pressure to solve problems by implementing new policies. Some of the most abhorrent policies I know of have

been implemented because of unwillingness to address specific, rather than systemic, problems. That is not my approach. I prefer to work with those who either have issues or who bring complaints. This sometimes leads to a large amount of time spent on individual problems, but I think the time is worth it. Our faculty and staff are highly professional and deserve personal attention.

**Faculty and Staff Development (encourages and enhances faculty and staff professional growth and development)**

My philosophy is that almost any type of continuing education (whether or not it appears on the surface to be directly and immediately applicable to one's job) reaps benefits for the Russ College. Staff are encouraged to pursue educational opportunities, and faculty are encouraged to engage in development as well. Many of the funds for faculty and staff development have eroded over the past years because of poor performance of the university's endowments and spending policy changes by the Foundation.

**Student Orientation (promotes outstanding teaching, advising, and student advocacy)**

I strongly believe that students are the reason we're employed at Ohio University. I meet with student organizations whenever asked. Student town halls and my quarterly meetings with Student Council have been very useful in building trust between the College staff and the students and in making progress on minor and major concerns; in fact, there have been very few frivolous suggestions, and I am proud to say that most of the problems raised at these meetings have been effectively addressed. As just one example, students have raised the issue of consistency of instruction in mathematics courses. As a response, Dr. Sampson and I are working with the Department of Mathematics to define the role and responsibilities of a mathematics instructor whom the Russ College will hire to teach targeted mathematics courses and serve as a help-session coordinator. We are fortunate to have a very mature and thoughtful group of students. Please encourage your students to take advantage of opportunities to meet with my staff and me. We can often help effectively and swiftly.

**External Relations**

**University Relations (effectively represents the unit within the university community)**

As part of the office of the dean's governance function, I serve on numerous committees and working groups, including the Academic Leadership group (deans and Associate Provosts), the Vice Presidents and Deans group, and the Budget Planning Council. I attend most meetings of the Board of Trustees, the

Foundation Board of Trustees, and occasionally attend meetings of the Alumni Association Board of Trustees. I interact on a weekly basis with the Provost and my fellow deans, and I believe I've developed good working relationships with all concerned. I also meet privately with the Provost every month to brief her on recent developments, to discuss issues of concern in the College and the university, and to discuss the performance of the College. It is safe to say that any action taken or policy developed is effected after taking the health of the Russ College into account.

**External Relations (represents the unit in a positive manner with external constituents)**

**Professional Activities**

My main professional activities this past year have been to participate in meetings of the Ohio Engineering Deans Council, to participate in the ASEE Engineering Deans group, to participate in the International Space University, and to serve on the Russ Prize Selection Committee. The Ohio Engineering Deans group meets three times a year -- once at the ASEE Public Policy Colloquium in Washington, D.C.; once at Ohio State as a central location; and once at another campus on a rotating basis; and the most recent meeting was held here at Ohio University. I served as a faculty member in the Space Engineering department of the International Space University in Barcelona, Spain, in July and August 2008 and held four workshops on space mission design and space vehicle design. In addition, I led the rocket design competition and served as launch officer. (No one was injured and no property was damaged.) In 2009, I will serve as chair of the Space Systems Engineering Department at NASA Ames Research Center.

**Fund-raising Activities**

As you know, fundraising is a major expectation of any dean. The Russ College currently leads the University in fundraising with \$3.6M for fiscal year 2008 as of the end of December. I spent about 10 days on travel for fundraising purposes alone to San Diego, CA, Fort Myers, FL, St. Petersburg, FL, Cleveland, OH, Columbus, OH, and Heath, OH.

I also attended or participated in the following events or meetings as the representative of the College:

- Conference calls with Board of Visitors members (monthly)
- Russ College Board of Visitors meetings (biannually)
- Russ College Spring Faculty and Staff Awards Celebration
- Commencement activities
- Homecoming activities

- Ohio University Foundation Board Meetings (three)
- Ohio University Board of Trustees meetings (three)
- Ohio University football games
- Russ Research Center Annual Reunion and Picnic

The four top fundraising priorities for the current fiscal year are:

- 1) Academic and Research Facility
- 2) Student Activity Endowment Fund
- 3) Robe Leadership Institute Directorship
- 4) National Asphalt Laboratory

### **Other External Activities and Initiatives**

Other events I have attended or presided over in entirety or in part:

- Russ Prize Selection Committee meetings (Washington, DC, twice)
- Numerous student functions, including the Tau Beta Pi Awards Banquet and the late-night breakfast event before finals in Fall 2008; this year (Fall 2008) we also reinstated the entering class orientation as a dinner with an opportunity to sign the Honor Code
- Russ College departmental advisory board meetings/presentations (several, upon request)
- University of Tennessee Space Institute National Advisory Board meeting
- Regents Advisory Committee on Graduate Studies meeting (Ph.D. in Civil Engineering)
- Announcement ceremony for the Woodrow Wilson Teaching Fellows program
- Meeting with Chaminade-Julienne High School (Dayton) officials to discuss recruiting
- AIAA Guidance, Navigation, and Control Conference
- Miami-Dade Airport Authority community meeting to answer citizen concerns about flight testing coordinated by the Avionics Engineering Center
- Russ College Scholarship Luncheon recognizing scholarship recipients, their parents, and private scholarship donors.

### **Unit Goals**

**Provides effective oversight and leadership in the accreditation process**

The ABET visit of 2004, and the 2007 visit by the Computing Accreditation Commission of ABET, were both successful. However, as you are aware, accreditation under outcomes assessment is an ongoing process. In order to provide a “reality check” on our engineering and computer science programs’ accreditation status, I hosted an all-day retreat among department chairs and program accreditation leaders in February 2008.

**Supports expanded research focus areas and graduate programs**

Although most monetary resources for supporting research have been allowed to remain at the department level, the dean’s office does provide small amounts of startup funding, matching funding, and travel support.

I have supported the expansion of each of the focus areas, although the particular focus areas that are targeted for special investment are decided in large part by the faculty via the strategic plan.

**Supports infrastructure development (expansion of building facilities, etc.)**

The next major expansion will, of course, be the Academic and Research Center, about which I have already written. It is, however, important to understand that since most of the classroom space in Stocker will be “moved” to the new facility, a very large amount of space will be available for reassignment after the new facility opens. Thus, the new facility will provide *both* teaching and research space.

I am also cognizant of the large amount of space (as much as 7,000 square feet) that is dedicated to general-use desktop computer laboratories. I have asked Dr. Sampson and Dr. Rankin to investigate the cost and operational issues involved in changing to a laptop checkout system, thereby greatly reducing, or eliminating, the need for much of the space currently dedicated to desktop computers.

**Is accessible to the faculty (provides opportunities for discussion, advice, and consultation)**

In addition to maintaining an open door policy and holding numerous meetings with faculty, staff, and students, I believe I am accessible to faculty in the sense they feel I will listen to their concerns, even if I don’t necessarily agree. Although my travel schedule is a seemingly unending challenge to my interaction with College personnel, when I’m not traveling, I make myself available, in many cases with very little or no notice. Although you will not always be successful due to circumstances beyond my control, please try to drop in and see me often. You are why this job is rewarding.

