This document contains the draft recommendations (in relatively high-level form) from the six subcommittees of the research strategic planning committee. In all cases, we provide a recommendation along with the specific objective being achieved via that recommendation, the campus context for that recommendation, and specific actions associated with the recommendation.

This document was prepared during the Spring of 2013 by the Research Strategic Planning Subcommittee of the Joint Task Force on Strategic Oversight as part of the Phase I strategic planning process.

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1. Excellence in Research in and Scholarly Activity
   • Co-Chair: Bob Hallock and John McCarthy
   • Annette Wysocki
   • Mike Henson
   • Anesia Burns
   • Lynnette Leidy Sievert
   • Jim Kurose

Recommendation R1.1: Graduate Education and Research - Doctoral Program Review
   • Specific objective: Implement the recommendations in the Doctoral Program Review (DPR).
   • Campus context: The DPR is a comprehensive, data-driven study of our research doctoral programs — the first review in over 40 years. In addition to the objective evidence, it incorporates input from the doctoral programs, the Deans, and a committee of distinguished faculty.
   • Tangible actions: Implement the Next Steps identified in the DPR, including:
     • Determine promptly whether programs in the DPR’s Further Examination category are viable, and if they are not begin reallocation of resources to programs in the DPR’s Aspirant and Emerging Top Tier categories. Prioritize these programs for investment of new funds as well.
     • Require programs to take specific measures to address areas of underperformance, such as awards or grants.
     • Improve doctoral student support, to ensure that our offers are competitive.
     • Identify and broadly apply proven strategies to improve recruitment, retention, and completion of students from underrepresented minority groups.
     • Take the actions prescribed in the DPR to improve time to degree and retention.
     • Mandate a campus-wide right-sizing exercise, decoupling doctoral enrollment from undergraduate demand, and matching it to the number of high-quality applicants that can be recruited, the number of assistantships available to fund them, the capacity of the faculty to advise them, laboratories and other facilities to house and support their work, and their prospects for appropriate employment after graduation.

Recommendation R1.2: Faculty Hiring and Retention - Explore new hiring strategies
   • Specific objective: Establish new research programs, particularly interdisciplinary ones, by adopting new hiring strategies.
   • Campus context: The campus’s principal interdisciplinary hiring strategy to date has been the cluster hire concept: faculty, mostly junior, with similar interests are hired simultaneously in several departments, with the expectation that they will collaborate to establish new interdisciplinary programs. This strategy does not always yield a coherent interdisciplinary group.
Tangible actions: Establish guidelines and explore options for other interdisciplinary hiring strategies, such as:

- Encourage high-ranking departments to collaborate on a new round of cluster hire proposals.
- Hire a single post-tenure faculty member with interdisciplinary interests via a true split appointment: each department has > 0% of the line.
- Hire a single senior faculty member, who then has say in hiring a couple of junior faculty in subsequent years.
- Hire an entire functioning research group from another institution, e.g., one senior faculty member and two junior faculty.

Recommendation R1.3: Succession Planning

- Specific objective: Hire replacements in advance of expected vacancies in areas that are critical for research excellence.
- Campus context: Transitions will be more orderly, on-going research programs and departmental reputation will suffer less, and the continued presence of the respected senior scholar or scientist will attract the best candidates for his/her replacement.
- Tangible actions: Develop a policy for such “actuarial” hiring and identify sources of bridging funds.

Recommendation R1.4: Faculty Retention

- Specific objective: Establish a policy of earlier, proactive responses to situations where valued faculty members are receiving overtures from other institutions.
- Campus context: Earlier responses are usually cheaper and more effective than waiting.
- Tangible actions: Develop this policy.

Recommendation R1.5: Spousal Hiring

- Specific objective: Develop a comprehensive spousal hiring policy with sufficient resources to address both initial appointment and retention.
- Campus context: Spousal hiring is often critical to recruiting and retaining excellent faculty.
- Tangible actions: Develop this policy and identify financial resources to implement it. It should include partnering with nearby institutions (including UConn and UMass Medical School), perhaps with the help of a firm specializing in such placements.

Recommendation R1.6: Size - Areas of Faculty Growth

- Specific objective: Invest in new faculty positions where the potential for research growth is greatest.
- Campus context: The Doctoral Program Review has identified certain high-performing programs that are in fields where the increase in research productivity as a function of faculty size is superlinear.
- Tangible actions: Prioritize these programs for allocation of new faculty positions.
Recommendation R1.7: Size - Small Programs

- **Specific objective:** Develop an intelligent, intentional strategy for dealing with programs that are far below their peers in faculty size.
- **Campus context:** Some of our programs have very few faculty. It is quite difficult to achieve excellence from such a small base.
- **Tangible actions:** Don’t grow merely to grow. Rather, increase the size of the faculty selectively, in response to external needs and to exploit opportunities. (Programs that must remain small need to find a suitable niche instead of trying to do a little bit of everything.)

Recommendation R1.8: TA/TO Allocations

- **Specific objective:** Reallocate TA/TO positions in a way that is sensitive to the demand for graduate student support as well as the needs of undergraduate instruction.
- **Campus context:** The current allocation of TA/TO positions is determined almost entirely by past practice.
- **Tangible actions:** Link the examination of TA/TO allocations with the exercise of right-sizing doctoral enrollments recommended in the Doctoral Program Review. This will ensure intentionality in both TA/TO allocation and right-sizing, and it will allow departments to plan rationally for changes in their TA/TO allocations.

Recommendation R1.9: Curriculum Fee Charge

- **Specific objective:** Reduce the rate of growth of the curriculum fee charge to a more sustainable level.
- **Campus context:** The current 5% annual rate of growth in the curriculum fee charge is not sustainable in an era of declining federal support.
- **Tangible actions:** As new revenue becomes available, set aside some to keep the rate of growth of the curriculum fee charge at the same level as the rate of growth of NIH and NSF budgets.

Recommendation R1.10: Undergraduate Research

- **Specific objective:** Give every undergraduate who wants it an opportunity to take part in research.
- **Campus context:** The opportunity to participate in faculty research projects is an important attraction for undergraduates on this campus. Faculty are already overextended, however, and simply lack the capacity to provide individual attention to large numbers of additional students. Undergraduate research needs to be calibrated with faculty workload to ensure research productivity.
- **Tangible actions:** Make supervision of undergraduate research into a TA/TO role. The experience is excellent for both graduate students and undergraduates.

2. Strategies for Building Bridges

- Co-Chairs: Sonia Alvarez and Betsy Dumont
Recommendation R2.1: Assure and Assess the Quality of Centers and Institutes

**Specific objective:** Improve the quality of interdisciplinary collaborations within and across centers and institutes.

**Campus context:** Many centers and institutes are clearly successful in supporting cross-disciplinary collaboration and outreach, especially to local communities, schools, NGOs, industry, other research networks, and institutions throughout the United States and abroad. However, centers and institutes proliferate unnecessarily when they are seen as the only way that faculty from different departments/colleges can share GOF accounts and obtain administrative support. In addition, centers and institutes occasionally are created to provide evidence of institutional support to potential funding agencies. This results in organizations that have very short shelf lives. The actions below outline ways in which centers and institutes can become long-lived, robust sources of interdisciplinary collaboration, and short-term collaborations can receive the support they need to explore exciting new ideas.

**Tangible actions:**
- Review and revise the criteria for creating Centers and Institutes to focus on five goals: 1. fostering collaborations across departments or programs on topics that cannot fit individual departments, 2. attracting sustained external funding, 3. creating an intellectual pipeline that trains students and moves them into employment, 4. ensuring longevity by involving three or more faculty, and 5. engaging in outreach that benefits the Commonwealth via public and private sector channels. The review and revision of criteria should be done by a standing Committee on Centers and Institutes in conjunction with the Faculty Senate. The committee should be composed of faculty from each college and representative(s) from the office of the VCRE. Membership should rotate on a staggered 2-3 year cycle. Other duties of the committee are outlined below.
- Establish a system for annual electronic reporting that requires information about the goals stated above as well as information that can be databased for internal and external information sharing. Completed reports should be reviewed and assessed by the Committee on Centers and Institutes every 2-3 years. The committee’s first task should be developing appropriate assessment guidelines. Completed assessments should be accompanied by specific recommendations for improving or changing center/institute missions to align with UMass center/institute guidelines. Assessments should be channeled through the respective Deans, to the Faculty Senate and then to the VCRE for action.
- Ensure the efficacy of Centers and Institutes in achieving the goals stated above by closely tracking their progress. This should be done by the office of the VCRE using data gleaned from the center’s or institute’s annual reports.
- Develop a means of assuring university support for grant proposals that is independent of centers and institutes. This can be in the form of a letter of support
from the office of the VCRE. The availability of such a letter would reduce the number of centers/institutes that are established solely for the purpose of demonstrating institutional support to an external funding agency.

**Recommendation R2.2: Nurture interdisciplinary research**

- **Specific objective:** Nurture and support new ideas for interdisciplinary research and development.
- **Campus context:** Numerous federal agencies recognize the importance of interdisciplinary research and are actively investing in an array of interdisciplinary programs. Centers and institutes can harness this and other fund opportunities to support long-term interdisciplinary collaborations (see Recommendation R3.3), but smaller exploratory collaborations are often where the most cutting-edge ideas are born. It would be to our advantage to support short-term research interest groups who seek to develop nascent ideas - especially ‘high-risk/high-reward’ concepts that are critical to the changing research landscape.
- **Tangible actions:**
  - Develop flexible and nimble mechanism to support nascent interdisciplinary research groups with specific short-term goals such as developing external proposals or research networks, writing publications, or hosting conferences/workshops. Access to funding and administrative support for these short-term (<3 year) interdisciplinary research initiatives should be competitive and supported financially and administratively by the office of the VCRE. Applications for support should be reviewed by a standing committee of active interdisciplinary researchers drawn from across colleges. The committee should be convened by the Office of Research and Engagement; members should serve 2-3 year terms.
  - Provide financial and administrative support through the Office of Research and Engagement for an annual competition to support 2-3 self-initiated, 1-year problem-centered seminar series that stimulate interdisciplinary problem solving. The seminar series leaders should report to the office of Research and Engagement at the end of the year. The office should track the success of the series as measured by subsequent productivity of the groups (e.g., co-authored papers/works, workshops, collaborative grant proposals, interdisciplinary courses).

**Recommendation R2.3: Facilitate interdisciplinary relationships**

- **Specific objective:** Improve on- and off campus access to information about the leading-edge interdisciplinary research that exists on campus.
- **Campus context:** We have many databases that can be queried for specific information about the university (e.g., the JOL database of funding and the UMass Amherst Community Connections). What we don’t have is a system of matching researchers to one another, industry and the community that spans disciplines. Such a system could serve to spark relationships that lead to innovative and potentially lucrative interdisciplinary relationships among groups who would not ordinarily interact.
• **Tangible actions:** Develop a publicly available, searchable, and centralized database of centers, institutes, interdisciplinary research groups, and researchers with existing collaborative funding and their activities. This would serve as a tool for matching researchers to one another, foundations and industrial partners. The database would be developed and maintained by the Office of Research and Engagement, and populated with data gleaned from annual reports of centers and institutes, interdisciplinary research groups, seminar series leaders, and from surveys of interdisciplinary collaborations that exist outside of these venues.

**Recommendation R2.4: Encourage and Facilitate Interdisciplinary teaching**

• *Specific objective:* to encourage and facilitate interdisciplinary teaching
• *Campus context:* Faculty are often isolated in their departments, rarely interacting with faculty from other disciplines. Interdisciplinary teaching can break that pattern by giving faculty the opportunity to bridge disciplines in creative, collaborative ways. Interdisciplinary teaching brings students into faculty labs, stimulates faculty research programs, gives undergraduates the skills to be better future employees, and produces PhD students who are well-poised for success in academia and industry.
• *Tangible actions:*
  • Ensure that faculty members receive credit for interdisciplinary teaching outside of their departments
  • Provide funding to departments to cover essential courses taught by faculty who teach inter-departmental courses.
  • Ensure that all departments involved in interdisciplinary courses receive credit for teaching the students enrolled in those courses.
  • Host an annual competition for the development of 2-3 interdisciplinary courses that is vetted by a panel of faculty drawn from across the university. The competition should be funded through the Provost’s office and administered through the Center for Teaching.

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3. **Public Priorities**

- **Co-Chairs:** Jonathan Rothstein, Jim Kurose
- Jane Kent-Braun
- Loren Walker
- Joel Martin
- Richard Freyman

**Recommendation R3.1: Develop and disseminate a better understanding of federal agency (and state) goals and programs.**

• *Specific objective:* Improve campus understanding of federal agency goals and both current and future programs.
Campus Context: Given highly competitive nature of grant process, we need to share information better among ourselves on campus. This should include (i) better leveraging faculty who have been program managers, who serve on agency advisory committees, or may otherwise have valuable insights; (ii) more effectively disseminating information from our Boston and Washington consultants, (iii) continuing and expanding our process of connecting junior faculty with faculty who have previously received NSF or DOE Early Career awards, Guggenheim Fellowships, etc.

Tangible actions: The VCRE collect and communicate information from faculty with direct knowledge of federal programs as well as create a library or equivalent of recent successful proposals for new faculty. The VCRE can organize the collection of this information, but faculty participation is crucial to success. The Provost’s office should automate the extraction and indexing of faculty information from AFRs. Success metrics include the number of times a faculty member submitting a grant uses such information, the number of faculty connections made, or number of times such pieces of information are disseminated.

Recommendation R3.2: Seeding center-scale proposals

Specific objective: to increase number, and competitiveness, of federal center-scale proposals

Campus context: Federal funding of center-scale proposals is increasing. These centers tend to be interdisciplinary, enable research opportunities not achievable by individual or small groups of faculty, enhance institutional research reputation, have significant educational components, last for an extended period of time and are at high funding levels. Center-scale proposal preparation requires significant time, effort and funding; relying on faculty “goodwill” to put in the time, effort and money is not an effective strategy for creating center scale proposals and synergy.

Tangible actions: The VCRE, working with the Provost and Deans should create a fund to provide resources for developing center scale proposals, possibly including release time, administrative assistance, summer support and travel funds. Access to fund will be competitive; ROI in such campus investments cannot be measured in strictly monetary terms, particularly for centers and interdisciplinary initiatives in the creative economy, but their impact in terms of number of participants reached can be measured.

Recommendation R3.3: maximally exploit opportunities to fund, and apply, campus research expertise in Commonwealth activities.

Specific objective: maximize extra-mural funding for campus research initiatives from the state, and to apply our research expertise within state activities.

Campus context: While the Commonwealth does not itself broadly fund research activities, it does make investments in key areas (typically science and technology) that positively impact our research enterprise. Examples include the MLSC, the MGHPCCC and several energy-related initiatives. Research-related campus activities have been effectively coordinated through the UMass system office of the Vice President for Economic Development, and our campus’ VCRE office. There is an opportunity to more
broadly disseminate this information. Within the UMass system, the medical school is an obvious partner for federal research grants, yet there are relatively few such grants, particularly based primarily on this campus, and a sense among some that while the large Worcester-led CTSA grants does results in some effective research collaboration, real large scale collaboration has yet to happen.

- **Specific actions:** (i) the VCRE office should host (e.g., bi-annually) the system VP for Economic Development to talk with campus faculty about current and planned state research and economic initiatives. (ii) the VCRE together with counterparts at Worcester should develop events and opportunities (e.g., an annual research review, joint seminars series, and funded joint graduate students) that promote information sharing and collaborative research.

**Recommendation R3.4: looking strategically and intentionally at the funding landscape**

- **Specific objective:** Map out research funding trends and strategy for the next 5-10 years. Strategy should focus on identifying research areas where UMass is most likely to be competitive, and can intentionally and pre-emptively invest resources.
- **Campus context.** The campus should institute a deeper and sustained mechanism for surveying the trends in funding sources for research and for systematically identifying areas where UMass will have a competitive future advantage.
- **Specific actions:** (i) VCRE constitute a future funding survey committee to review trends in funding from both current major sources (e.g., NHI and NSF) and other emerging sources. This committee should be small but have representation from key players including UMII, Science and Engineering, professional schools, etc. (ii) This committee be charged with producing an annual report on funding trends and future projections as well as identifying new sources of research support. (iii) The committee be charged to work with appropriate parts of the university to develop strategies for research investment that are based on careful assessment of our most competitive areas. (iv) The committee also recommend at lower cost, the investments that have potential for both financial payoff and high impact on the Commonwealth and the nation.

4. **Infrastructure Support, and effectiveness and efficiency**

- Co-chairs: Steve Burns, Jen Lundquist
- Maxine Schmidt
- David Evans
- Chris Agoglia
- Mike Malone

**Recommendation R4.1: Better coordinate hiring with facilities planning**
• **Specific objective:** Better integrate faculty hiring/research priorities (presumes such priorities are to be established by a separate subcommittee) with near-term funding of facilities and long-range facilities planning.

• **Campus context:** Current hiring priorities are established primarily at the departmental level with relatively little input from the central administration and in the absence of campus-established mid- or long-term priorities. This precludes timely renovation of office or laboratory space for new hires, and does not allow F&CP to group individual faculty renovation projects together, which might realize considerable cost savings.

• **Specific actions:** (i) make an appraisal of the infrastructure cost of various research areas as a part of the process of establishing research priorities. (ii) increase academic representation on the Capital Assets Board with the specific goal of greater academic input into establishing short-term facility funding priorities.

**Recommendation R4.2: establish procedure for space planning well in advance of hiring**

• **Specific Objective:** Ensure that laboratory and office space for new hires is fully renovated before their arrival on campus.

• **Campus context:** For new faculty needing laboratory facilities it is common that appropriate laboratory space is available only several years after the faculty are on campus, impacting productivity in the most crucial years of a faculty member’s career.

• **Specific Actions:** (i) incorporate realistic annual expenditures for renovation of existing space for new hires into the Capital Plan (ii) to better determine annual costs, establish a fixed protocol for faculty hiring that increases the hiring timeline to approximately 30 months. The protocol should require identification of office and laboratory space, involving F&CP personnel to assess cost in all cases where more than a 'change of occupancy' for an office is required, and require full cost estimate to be made by 24 months ahead of hire. The campus should also allow F&CP to fund a cost estimate for facilities renovations before funding of renovations projects themselves.

**Recommendation R4.3: develop holistic plan treating IT support as an essential component of the research enterprise.**

• **Specific objective:** Develop a comprehensive campus IT plan and services that treat IT support as an essential component of the research enterprise.

• **Campus context:** Computing hardware, software and technical support has become a basic building block for research, but services for academic research computing support are piecemeal and departmental-based at best. In addition to basic IT support, there is a growing need for additional computational capabilities for research, including requiring large amounts of processing power, storage and backup. It is not clear whether a central campus facility, e.g., the MGHPC in Holyoke, or individual computational clusters housed by departments would be best-suited to this task. Adequate staff is as important, if not more so, as hardware and software. Needs of faculty in 'non-departmental' buildings must also be met.

• **Specific Actions:** The CIO should convene a faculty-led committee to (i) map out the level of current IT support and the IT needs within the various colleges and departments and generate a centralized policy for IT support growth that includes computation, storage and networking, (ii) identify current best practice is for funding IT support at peer institutions, including networking support and charging as the current monthly 'per jack'
charges is outmoded and inefficient, (iii) develop a centralized and efficient system for group software license purchases

**Recommendation R4.4: Promote research and training partnerships with the library and increase funding for the libraries to meet the needs of emerging areas of new research**

- **Specific objective:** Better integrate library services into the research enterprise.
- **Campus Context:** New directions in library research resources are increasingly tied to faculty and graduate student needs for data and citation management. Since 2011, the National Science Foundation requires that all proposals submitted to NSF include a data management plan. Other funding agencies are also moving in this direction. The Libraries’ acquisition funds have not been adequate to meet faculty demand for journals, monographs and other information resources and the interlibrary loan system is an unsustainably expensive remedy.
- **Specific actions:** (i) promote partnerships between library and campus research entities, e.g. by having the Library Data Working Group provide training, consultation and support services in data management; (ii) increase library resources to meet the needs of emerging research areas

**Recommendation R4.5: Assess adoption of recent recommendations to improve pre-/post-award support, and evaluate recommendations enacted (e.g., RBM).**

- **Specific objective:** To as great an extent possible transfer the administrative tasks associated with grant submission and post-award duties from faculty to well-trained staff.
- **Campus context:** The 2010 Huron Study recommended improvement in UMass’ research support services, including 21 improvements to OGCA. Some changes have been implemented, others are planned and some may not be feasible. The Strategic Planning process is an opportunity to preliminarily evaluate those reforms that have been put into place.
- **Specific actions:** (i) The VCRE should form a joint staff-faculty committee to (i) prioritize the timing and sequence with which Huron recommendations should be implemented in the future; (ii) evaluate level of pre- and post-award support available to faculty in different units and determine whether it is more effective to centralize grants support (increase the RBM staff) or whether training of departmental staff is a better approach to relieve faculty of purely administrative tasks (iii) solicit regular college, departmental, and OGCA evaluation reviews of RBM performance, and review faculty responses to OCGA post-submission surveys; (iv) establish and publicly report metrics for pre- and post-grant support improvement that can be used in monitoring system the award phase

**Recommendation R4.6: Develop campus-wide plan for coordinating a IRB work with local activities and support**

- **Specific objective:** Ensure that the IRB performs their role in the most efficient and effective manner, consistent with the goal of protecting the rights and welfare of human subjects and applicable regulations and policies.
• **Campus context:** UMass has seen a large growth in research involving human subjects and has moved away from local boards for approvals.

• **Specific actions:** (i) Maintain local staff expertise and add central staff if needed to support IRB approvals; (ii) Invite an IRB member or central staff to work with department or college staff and faculty to assess process quality and implement improvements as needed, including information technology and training (iii) Require annual or biannual IRB training for local staff; (iv) Hold one all-hands meeting per year with IRB members, central staff and department/college stakeholders.

5. **Business and Industry**

• Co-Chairs: Jim Capistran, Bob Jackson
• Rajesh Bhatt
• Tom Moliterno
• Elizabeth Chilton

**Recommendation R5.1 Increase our visibility to prospective business and industry partners**

• **Specific Objective:** Increase awareness by prospective partners of UMass Amherst’s research enterprise. Getting them to know about us is a necessary first step.

• **Campus Context:** Without a clear plan for increasing our visibility in the multiple ways that industry interacts with academia, we run the risk of becoming “Massachusetts’ best-kept secret.” Interested companies should easily be able to discover what UMass Amherst has to offer, how specific research and innovation activities and experts can impact them, and how they can engage with us in projects and partnerships.

• **Tangible Action Items:**
  • Design and implement a marketing and outreach program with the goal of attracting new partners [coordinated through the Office of VCRE]
  • Develop a faculty expertise/research area search engine to give exposure to our faculty [ORD and UMII]
  • Establish a UMII presence in Boston to increase face time with Massachusetts firms [UMII]
  • Target industry partnerships with Western Massachusetts companies with an emphasis on the Springfield and Holyoke areas [UMII]

**Recommendation R5.2: Improve and develop industry-related processes, operations and assets**

• **Specific Objective:** Improve and develop our processes, operations and assets to allow us to operate more effectively and efficiently.

• **Campus Context:** A commitment to provide high value to our partners and stakeholders in business and industry requires that we continuously improve our methods and capabilities. While University services (UMII, CVIP, OGCA, etc.) constantly strive to reduce obstacles to successful research and commercialization projects with industry,
there is more that can be done in terms of processes and capabilities that augment our value to partners and assure that the campus reaps the full fruits of its engagement efforts with industry.

- **Tangible Action Items:**
  - Leverage the flexibility accorded to the UMass Innovation Institute in order to facilitate and grow industry partnerships [UMII]
  - Continue the improvement of research administration procedures to make award administration less painful for faculty and industry partners [VCRE]
  - Adapt business processes for core facilities to facilitate more industry participation [VCRE]
  - Advocate the establishment of a research park in the vicinity of the campus [VCRE]
  - Establish awareness program to communicate to companies and faculty the cost of doing business, including overhead cost recovery [UMII]
  - Ensure that our IP/technology transfer processes keep us competitive with other universities [CVIP]
    - Measure and increase our effectiveness through national benchmarking of tech transfer practices
    - Create processes to enable more startups and spinouts
    - Improve processes for invention disclosure and patent prosecution

**Recommendation R5.3: Adjust and supplement our curricular programs in response to changing industrial needs**

- **Specific Objective:** Prepare our students for careers in industry by adjusting and supplementing our curricular programs in response to changing industrial needs.
- **Campus Context:** Many of our research partners in business and industry value access to our graduates as a key benefit of engaging with us, and similarly our students and their families want to know that a UMass education gives graduates an advantage in landing jobs. Academic programs are set up primarily to develop the long term capabilities of students, but by adjusting and supplementing programs in response to industry requirements, the university can provide great value to both students and industry partners. Doing this in coordination with research engagement efforts enhances the likelihood that companies view UMass as a place for both students and research.
- **Tangible Action Items:**
  - Identify and communicate regional, state and national employment trends as a context for preparing students for the workforce
  - Promote educational efforts that meet industry needs
  - Develop professional Masters degree programs (e.g., biomedical engineering), with relevant programs and streamlined approval processes for interdisciplinary degrees
  - Encourage industry support of graduate students (e.g., student fellowships)
  - Expand the number of business-related courses offered to non-SOM students
  - Encourage short courses, seminars, etc. that engage industry
  - Make it easier for employers to hire UMass Amherst grads
  - Expand opportunities for companies to hire UMass intern
Augment the effectiveness of Career Services by utilizing specialists embedded in academic units to foster business-industry recruiting connections

**Recommendation R5.4: Enhance campus climate to pave the way for more partnerships with industry**

- **Specific Objective:** Foster a campus climate that embraces connections to industry
- **Campus Context:** In order to achieve a campus goal of increasing partnerships with industry, the entire campus must come to recognize the value and accept the opportunity. Some UMA departments may be interested in making connections with industry, but may not know how to make the connection, or how to extract some benefit from it. Other departments may not realize their value to industry. Our strategy should include fostering a campus climate that embraces connections to industry and that promotes research and scholarship that closely follows emerging developments in the non-academic world.
- **Tangible Action Items:**
  - Create and reinforce a “new normal” campus-wide understanding that research funding from industry partnerships will be significantly expanded beyond previous patterns
  - Expand industry links with departments that have not had a history of business engagement, as appropriate
  - Identify and communicate global/national emerging technology opportunities

**Recommendation R5.5: Develop new funding channels involving business and industry**

- **Specific Objective:** Increase the number, type and quality of industry interactions through creative collaborations that go beyond current mechanisms.
- **Campus Context:** An agile and resourceful research university seeks opportunities in an ever-changing funding landscape. By collaborating with industry on long-term projects, we can enhance our basic research mission, foster innovation and impact economic development in the region. By partnering with industry we can often become more competitive in responding to large federal initiatives.
- **Tangible Action Items:**
  - Expand industry collaborations and partnerships involving applied research and technology development, leveraging broader funding opportunities
  - Develop effective ways to engage small firms in federal SBIR and STTR projects
  - Value foundation grants for their impact/future opportunity rather than monetary value
  - Establish a fund to support Creative Economy initiatives with regional impact
  - Promote strategic alliances with companies as an effective approach to partnership
  - Actively pursue industry collaborators as a component of large-scale federal proposals
6. Enhancing awareness of campus research and scholarly activities

- Co-chairs: Jack Ahern, Manisha Sinha
- John Charest
- Hilary Kornblith
- Peter Stern

**Recommendation R6.1: Improve publicity of faculty research news, achievements and impact via faculty-oriented outreach activities by UMass Relations.**

- **Objective:** To improve the publicity of faculty research news and achievements to citizens of the Commonwealth, legislators, potential funders
- **Campus Context:** The campus has a number of offices and activities to promote research results and achievements including: the News Office, the Research Next website, and the Donahue Institute. Each of these offices has particular audiences for their news and publications and use varied media to get the news out. Faculty are often unaware of the process/protocol for submitting a news article, what types of news is appropriate for each outlet, or they may be reticent to promote their work. There is more newsworthy research activity occurring on campus and getting this news published will provide important benefits to the university.
- **Specific Action(s):** Provide additional, proactive support to faculty to assist them to publicize their research success stories. This could take the form of workshops for Colleges/Departments, and the assignment of writers to assist faculty.

**Recommendation R6.2: Proactively increase the number of external professional and disciplinary awards/fellowships received by faculty.**

- **Objective:** Increase the visibility of UMA research by increasing the number of external professional and disciplinary awards/fellowships received by faculty to increase the visibility of UMA research.
- **Campus Context:** UMA Faculty receive numerous awards each year. These awards are one important indicator of the quality of the research that is achieved here. There are likely more awards to be earned by UMA faculty who may be reticent to apply, who have not prioritized award submissions, or who do not understand the benefits that awards provide to the recipient, the department, college and University.
- **Specific action(s):** To publicize the “best practices” of departments and colleges that successfully encourage and support nominations for prestigious awards and fellowships. This could take the form of campus workshops, departmental awards committees, peer-mentoring groups or other.

**Recommendation R6.3: Proactively increase the number of named professorships.**

- **Objective:** Strengthen research capacity and visibility
  To increase the number of endowed professorships on campus to strengthen research capacity and visibility
- **Campus Context:** The University has some endowed professorships, but these tend to be
situated in the STEM fields. By increasing the number of endowed professorships, the University may make substantial and strategic achievements in the home departments and programs.

- **Specific action(s)**: To prioritize fund raising in the Capital Campaign for additional endowed professorships, with a plan to distribute them in areas of emerging excellence.

**Recommendation R6.4: Make UMass research expertise the “go to” source for news organizations.**

- **Objective**: To make it more efficient for external news organizations to identify and contact UMA faculty in particular areas of expertise, and to promote UMass expertise as a “go to” source for information.
- **Campus Context**: Currently the University does not have an effective means, or single point-of-contact for external media to direct questions or news-related inquiries. The news office provides referrals and links, however the system is not fully integrated or inclusive of faculty.
- **Specific action(s)**: Develop a speaker’s bureau of faculty who are willing to respond to requests from news outlets by providing their particular expertise. The speaker’s bureau could provide guidelines and training to faculty to assist them in providing newsworthy responses to inquiries/requests from the media.