THE UNIVERSITY OF UTAH

December 21, 2020

Michael L. Good
Senior Vice President for Health Sciences
5th Floor, Clinical Neuroscience Center
Campus

APPROVED:
ML Good, MD 12-22-20
Michael L. Good Date
SVP for Health Sciences

RE: Graduate Council Review
Department of Medicinal Chemistry

R Watkins 1/6/21
Ruth V. Watkins Date
President

Dear Vice President Good:

Enclosed is the Graduate Council's review of the Department of Medicinal Chemistry. Included in this review packet are the report prepared by the Graduate Council, the Department Profile, and the Memorandum of Understanding resulting from the review wrap-up meeting.

After your approval, please forward this packet to President Ruth Watkins for her review. It will then be sent to the Academic Senate to be placed on the information calendar for the next Senate meeting.

Sincerely,

David B. Kieda
Dean, The Graduate School

Encl.

XC: Darrell R. Davis, Chair, Department of Medicinal Chemistry
Randall T. Peterson, Dean, College of Pharmacy
Christopher P. Hill, Vice Dean for Research, School of Medicine

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The Graduate School - The University of Utah

GRADUATE COUNCIL REPORT TO THE SENIOR VICE PRESIDENT FOR HEALTH SCIENCES AND THE ACADEMIC SENATE

February 24, 2020

The Graduate Council has completed its review of the **Department of Medicinal Chemistry.** The External Review Committee included:

Charles S. Craik, PhD
Professor, Pharmaceutical Chemistry, Cellular and Molecular Pharmacology and Biochemistry and Biophysics
Co-Director, Chemistry and Chemical Biology Graduate Program
University of California, San Francisco

Nancy Keller, PhD
Robert L. Metzenberg and Kenneth B. Raper Professor of Mycology
Department of Medical Microbiology and Immunology
Department of Bacteriology
University of Wisconsin-Madison

The Internal Review Committee of the University of Utah included:

Janis Louie, PhD
Professor
Department of Chemistry

Matthew A. Mulvey, PhD
Professor
Department of Pathology

This report of the Graduate Council is based on the self-study submitted by the Department of Medicinal Chemistry, the reports of the external and internal review committees, and a joint response to the external and internal reports from the Chair of the Department of Medicinal Chemistry and Dean of the College of Pharmacy.

DEPARTMENT PROFILE

Program Overview

The Department of Medicinal Chemistry (MedChem) is one of four departments in the College of Pharmacy. Their goal is to create new knowledge for the discovery and development of new pharmaceutical drugs. MedChem awards PhD degrees (with an MS degree offered in certain cases as an off-ramp option) and supports postdoctoral trainees; through this program, the department seeks "to train creative and independent scientists who make significant contributions to medicinal chemistry in academic, industry, or government positions." The department also seeks to promote and expand Utah's economy by way of such pharmaceutical research.

The department as a whole has an impressively strong reputation, consistently being ranked among the very best of programs in its field. According to Academic Analytics, the department is ranked as the #4 MedChem program in the US. This is in addition to the department also being among the top 20 "Pharmaceutical Science" programs.

The biggest challenge currently facing this department seems to be the development and maintenance of a cohesive, unified faculty. Some of the faculty report a lack of morale and cohesiveness within the department. Reviewers suggest that this could be due to the lack of a unified vision and set of departmental goals.

Faculty

The department currently includes 9 tenure-line faculty (6 Professors, 1 Associate, 2 Assistant), 5 career-line faculty (4 of whom have MedChem as their primary appointment), and 3 adjunct faculty. Their tenure-line faculty members in particular are widely recognized for contributing excellent and innovative research in pharmaceutical science. With regard to adjunct faculty, external reviewers suggested having "clear guidelines about what is expected" and to keep these expectations standardized to maximize the impact of adjunct faculty and perhaps expand in this area to complement small core faculty numbers.

Professor Darrell Davis is the current Department Chair. His leadership is uniformly praised by his faculty, students, and by all reviewers. Reviewers commend his strong, strategic leadership. Internal reviewers praise Dr. Davis as "a responsive, thoughtful, and effective leader," while external reviewers emphasize that he is "an excellent chair who does more than expected and does a great deal with limited resources."

The department still has challenges to tackle with respect to the diversity of its faculty, although it is clear that the department is taking steps toward this end. Between the time of this review period (2018-2019), and their last review (2011), the department has made some progress in increasing its gender diversity. One

of the two junior hires they have made during this time added a female tenure-line faculty member. In addition, the department was successful in hiring another female, tenure-line faculty member who joined the department this 2019-2020 academic year. Thus, the department now has 3 female tenure-line faculty members, a great improvement and sign of their continuing efforts to increase the gender diversity of their faculty. The faculty, however, still has no members from US underrepresented minorities. The Department Chair clarifies in his response letter that the department fully plans to continue active efforts to increase their diversity.

Both sets of reviewers expressed concerns about the share of work across faculty in the department; this work includes substantial teaching responsibilities in the PharmD program. One concern is that, far from protecting their junior faculty and giving them space to develop their research programs and output effectively, junior faculty are placed on too many committees and overburdened with teaching and service activities. Moreover, both sets of reviewers pointed to potential gender bias at work: the external reviewers suggest that female faculty are on "too many committees," while the internal reviewers worry that female faculty are "bearing most of the burden" in the "allocation of service responsibilities." Concerns were also expressed by the external reviewers that internal resources (grants, student fellowships, etc.) were effectively closed to junior faculty by being awarded based on established connections. Junior faculty also expressed a lack of guidance and feedback regarding progress toward tenure, a need for more active mentoring and training, and a lack of integration into any unified departmental vision.

It should be noted that the above concerns were expressed by only some of the faculty. Importantly, in the Chair's response letter, he responds to several of these concerns as follows: "Teaching responsibilities in the Department are transparent and discussed at least twice a year at faculty meetings. The teaching load for the tenure-track faculty within the Department is relatively even, with the exception that several faculty have formal administrative appointments and commensurately lower teaching loads […] Committee service within the Department is minimal and the tenure-track faculty largely dictate their own service activities." Regarding potential worries about the awarding of internal grants and resources, the Chair clarifies in his response that students training with two junior faculty were recently awarded substantial internal financial awards. Given these clarifications from the Chair, the concerns expressed by some faculty might be more indicative of a lurking lack of communication and cohesion in the department (see the next paragraph).

Reviewers report a growing lack of morale and cohesiveness within the faculty. This worrying trend was reported by faculty themselves, but also observed by students and staff. The internal reviewers report that the department staff "see tension between junior and senior faculty. In addition, the staff note that as a whole, the Department is made up of 'individuals' rather than team players." In part, this is attributed to the perceived and purported imbalances in allocation of service and teaching responsibilities amongst some of the faculty (as described directly above). But reviewers mention other potential reasons for this as well, including: 1) a lack of mentoring, communication, and general guidance across the ranks of the faculty, and 2) the need for a more clearly articulated mission that would build on departmental strengths and provide a more unified vision for the faculty.

Students

All graduate students accepted into the Department of MedChem's program are PhD seeking. The majority of these students are recruited through interdepartmental combined programs in Biological Chemistry or Molecular Biology—with a lesser number of students recruited through the Neuroscience,

Biology, and Bioengineering programs. Since their last review (2011), MedChem has awarded 17 PhDs and 3 MS degrees (for students who change their mind and decide not to pursue the PhD). The reviewers report that graduate students in the program are eager and excited to do well. MedChem students have been impressively successful in recent years at obtaining substantial external funding from resources such as the NIH and NSF. Access to a T32 in Interdisciplinary Training in Chemical Biology was also noted as a positive point by external reviewers, with the advice to create additional NIH training proposals that similarly leverage strengths in both the department and larger college community.

While MedChem students (and postdocs) overall are very positive and enthusiastic with regard to their general experience in the Department and the College of Pharmacy as a whole, they expressed a desire for improved communication and mentoring from their faculty (as reported in the internal review). Students specifically requested a stricter enforcement of annual thesis committee meetings. Moreover, they commented that it would be helpful if these meetings included the opportunity for students to address their committee confidentially without their PI in the room.

The department has approximately equal numbers of male and female students currently; however, they have few to no students from US underrepresented minority groups. In their self-study, the department emphasizes that they are "committed to the recruitment of minority students and are honing strategies to enhance [their] effectiveness" in this regard. The department reports having made significant efforts recently to increase the diversity of their student population. Efforts include 1) inviting "minority student advisors" to their annual Bioscience Symposium, 2) active, targeted recruitment of minority applicants, 3) maintaining a strategic collaboration with the local chapter of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science, as well as a general presence at national diversity conferences, and 4) alma mater visits by minority students for the promotion of Utah's MedChem Department as a welcoming and exciting place to study for minorities. The internal reviewers remark that these recent efforts "appear to be working." The external reviewers point out that the department's student "ethnic diversity was largely represented by non-USA citizens."

The department trains a cohort of postdoctoral fellows as well, and they were reported to be "largely satisfied with their program," but expressed an interest in getting access to teaching opportunities.

Curriculum

To attain the PhD or MS (off-ramp) degree, students must complete 45 credit hours of graduate-level coursework (including the mandatory MBIOL 7570, "Case Studies and Research Ethics"). MedChem's PhD program begins with a preliminary qualifying exam which takes the form of a full "NIH F32 style postdoctoral research application" followed by an oral examination. Passing this exam is required for formal admittance to the program. According to internal reviewers, MedChem's curriculum is fully "in line with most medicinal chemistry programs." External reviewers commend the curriculum for promoting student community and support while also being tied to other departments. They stress the opportunity, however, to create a signature course that helps "define the program and provide identity to the student cohort." Themes suggested were bioinformatics, computational chemistry, and biologics development.

More generally, as the internal review notes, some of the MedChem faculty have requested that the curriculum be updated so that it might continue to serve their students well. Professor Eric Schmidt was, at the time of the reviews, already in the process of revising the Biological Chemistry Core Curriculum to better

serve the students. The plan is for this revision to incorporate a student task force that will make recommendations to the committee and a faculty task force to develop a list of guiding principles and strategic goals.

Program Effectiveness and Outcomes Assessment

Program effectiveness and outcomes are assessed largely in accordance with school-level policies and standards, as noted in the department's self-study, as well as by the internal reviewers. However, the Graduate Council notes that University requirements for 7-year Learning Outcomes Assessment reports, and interim reports at 3 and 5 years, need to be implemented. All courses have a set of "terminal behavioral objectives" (TBOs), the accomplishment of which is monitored through student surveys at the end of each semester. Any potential deficiencies observed through these surveys are immediately addressed through meetings between the Chair and the relevant instructor(s).

Students are formally admitted to the PhD program only after passing a preliminary qualifying examination. After that point, at the end of each semester faculty review each student's standing and progress in the program. Any concerns are addressed with the students directly.

The general effectiveness of the graduate program is primarily assessed via tracking the hiring and later careers of graduates. This data includes information on past PhD students as well as past postdoctoral associates, and it is collected by the department. As internal reviewers emphasize regarding this data: "Overall, the Department has done an excellent job in creating a graduate training program that ensures success."

Facilities and Resources

The department has its home in the L.S. Skaggs Research Pharmacy Building (SRB), which opened in 2013. The department's move to this facility effectively centralized the department—which had previously operated research laboratories in four separate buildings. The nearby HSEB building provides the department with excellent classrooms. The department was also noted to have excellent instrumentation and access to strong University shared resources.

Currently, the department is understaffed, only having enough funds available to support two full-time administrative salaries. Work-study students are hired by the department to try to address this shortcoming, but turnover in these positions is great. This has consistently, historically been a problem for the department, having been observed in 1995, 2006, and 2012 departmental reviews.

There seem to be several opportunities to achieve efficiency through centralizing some services at the college level: supply ordering (to enhance cost sharing, price negotiations, and tracking), a college-level seminar series and research in progress series (to get more critical mass and create community), and perhaps further financial consolidation. The websites for the department and for faculty were also mentioned as in need of updating, whether this be handled locally (with more support) or centrally.

COMMENDATIONS

1. The Department of Medicinal Chemistry has a strong reputation as a leading program in its field. Faculty members are highly regarded for their research and are successful in attaining substantial funding. The department has been successful recently in hiring and retaining strong faculty members.

2. The department's curriculum is currently in line with other MedChem programs, and faculty are conscientiously also in the process of improving it further to meet student needs and improve outcomes.

3. Students are very satisfied with their experience in the program, which has a strong track record of placing graduates in desirable professional and research careers.

4. Department members put forth consistent, strong efforts to increase their faculty and student diversity, and this emphasis should be continued.

RECOMMENDATIONS

1. The Department Chair should take increased steps to improve and increase clear communications with and between faculty, particularly pertaining to allocating internal resources, setting departmental goals, and participating in college-level initiatives. Developing a departmental vision and related goals is an important priority to work on with broad input.

2. Enforce annual student committee meetings and provide increased opportunities for students to speak confidentially with their committee members without their PI present. Provide more opportunity for professional development and added attention to program-level learning outcomes assessment.

3. Reevaluate the equity of the teaching and service load distribution across faculty and consider making the distribution process more transparent and deliberate. The department and college should strive to protect junior faculty resources in an equitable way, allowing them to develop their budding research programs.

4. The department should consider ways to improve and foster mentoring relations across the senior/junior faculty ranks.

5. The department should work with university and college administration to develop a better plan for increasing their administrative staff support. This might involve hiring more staff members and/or raising the pay for staff support to reduce turnover.

Submitted by the Ad Hoc Committee of the Graduate Council:

Jonah N. Schupbach (Chair)
Associate Professor, Department of Philosophy

Katharine S. Ullman
Associate Dean, The Graduate School

College Name
College of Pharmacy

Department Name
Medicinal Chemistry

Program
All

Faculty Headcount

		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
With Doctoral Degrees and Other Terminal Degrees	Full-Time Tenured Faculty	7	7	7	7	8	8	6	5
	Full-Time Tenure Track	2	2	1	0	2	2	2	2
	Full-Time Career Line/Adjunct Faculty	3	3	3	3	4	4	5	5
	Part-Time Tenure/Tenure Track	0	0	1	1	0	0	2	0
	Part-Time Career Line/Adjunct Faculty	0	1	0	0	0	0	1	0
	Total	12	13	12	11	14	14	16	12
With Masters Degrees	Full-Time Tenured Faculty								
	Full-Time Tenure Track								
	Full-Time Career Line/Adjunct Faculty								
	Part-Time Tenure/Tenure Track								
	Part-Time Career Line/Adjunct Faculty								
	Total								
With Bachelor Degrees	Full-Time Tenured Faculty								
	Full-Time Tenure Track								
	Full-Time Career Line/Adjunct Faculty								
	Part-Time Tenure/Tenure Track								
	Part-Time Career Line/Adjunct Faculty								
	Total								
Total Headcount Faculty	Full-Time Tenured Faculty	7	7	7	7	8	8	6	5
	Full-Time Tenure Track	2	2	1	0	2	2	2	2
	Full-Time Career Line/Adjunct Faculty	3	3	3	3	4	4	5	5
	Part-Time Tenure/Tenure Track	0	0	1	1	0	0	2	0
	Part-Time Career Line/Adjunct Faculty	0	1	0	0	0	0	1	0
	Total	12	13	12	11	14	14	16	12

Cost Study

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Direct Instructional Expenditures	1,213,727	1,201,443	1,103,009	1,102,129	1,099,584	1,171,547	1,196,689	1,228,880
Cost Per Student FTE	36,059	30,732	27,576	30,484	51,573	94,770*	80,555*	99,496*

*The calculated Cost Per Student FTE is artificially high because the OBIA tabulation does not account for department faculty teaching efforts toward the College's professional PharmD program (~225 students). When this is accounted for on the college level, the Cost Per Student FTE is substantially reduced and is within the range of other professional programs on campus

Student FTE from Cost Study by Instructor's Status with the University

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Full-Time	5	7	4	4	4	3	4	3
Part-Time	0	0	1	1	0	0	0	0
Teaching Assistants								

Funding

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Total Grants	3,341,210	3,554,078	2,336,859	2,361,949	2,984,257	2,822,162	2,866,800	2,951,936
State Appropriated Funds	932,014	920,849	918,664	928,139	951,432	1,079,556	1,026,662	1,040,012
Teaching Grants	0	0	6,933	1,091	0	0	0	0
Special Legislative Appropriation								
Differential Tuition								

Student Credit Hours and FTE

		2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SCH	Lower Division								
	Upper Division	649.0	651.0	689.0	648.0	237.0	0.0	0.0	0.0
	Basic Graduate	18.7	25.4	18.5	0.7	0.4	0.7	1.1	0.6
	Advanced Graduate	221.8	322.5	322.2	290.4	268.0	246.6	296.0	246.4
FTE	Lower Division								
	Upper Division	21.6	21.7	23.0	21.6	7.9	0.0	0.0	0.0
	Basic Graduate	0.9	1.3	0.9	0.0	0.0	0.0	0.1	0.0
	Advanced Graduate	11.1	16.1	16.1	14.5	13.4	12.3	14.8	12.3
FTE/FTE	LD FTE per Total Faculty FTE								
	UD FTE per Total Faculty FTE	4	3	5	5	2	0	0	0
	BG FTE per Total Faculty FTE	0	0	0	0	0	0	0	0
	AG FTE per Total Faculty FTE	2	2	3	3	3	4	4	4

Enrolled Majors

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Undergraduate Pre-Majors								
Undergraduate Majors								
Enrolled in Masters Program								
Enrolled in Doctoral Program	9	12	11	13	12	9	12	12
Enrolled in First-Professional Program								

Degrees Awarded

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Undergraduate Certificate								
Graduate Certificate								
Bachelors								
Masters	0	0	0	0	2	0		0
Doctorate	2	1	2	2	2	3		3
First-Professional								

Memorandum of Understanding
Department of Medicinal Chemistry
Graduate Council Review 2018-19

This memorandum of understanding is a summary of decisions reached at a wrap-up meeting on June 2, 2020, and concludes the Graduate Council Review of the Department of Medicinal Chemistry. Michael L. Good, Senior Vice President for Health Sciences; Christopher P. Hill, Vice Dean of Research for the School of Medicine; Randall T. Peterson, Dean of the College of Pharmacy; Darrell R. Davis, Chair of the Department of Medicinal Chemistry; David B. Kieda, Dean of the Graduate School; and Katharine S. Ullman, Associate Dean of the Graduate School, were present.

The discussion centered on but was not limited to the recommendations contained in the review summary report presented to the Graduate Council on February 24, 2020. The working group agreed to endorse the following actions:

Recommendation 1: The Department Chair should take increased steps to improve and increase clear communications with and between faculty, particularly pertaining to allocating internal resources, setting departmental goals, and participating in College-level initiatives. Developing a departmental vision and related goals is an important priority to work on with broad input.

With the success of the College in fundraising, there are now more opportunities for individual fellowship awards. These are awarded based on the qualifications of the student, but Chair Davis agreed that disclosing full information on the process would dispel any misperceptions. He expressed commitment to communication and transparency at all levels, and there have been new initiatives in the Department that support these goals. One in particular is a faculty lunch meeting devoted to research discussion, which is well-received and fosters a collegial spirit that underpins communication among faculty. With the increase in faculty cohesion that has developed, Chair Davis felt it was a good time to build consensus for a departmental vision and related goals. Such a vision is meant to articulate shared priorities that guide how the Department invests time and money. For instance, a vision to be an exceptional training environment leads to investment of time in creating consistent, structured policies around mentorship and investing resources in student and postdoc support. While a departmental vision is not intended to constrain research directions, it could encompass related elements such as innovation, collaboration, etc. Dean Kieda suggested that a format such as a half-day retreat might provide a good opportunity to coalesce around a departmental vision.

Recommendation 2: Enforce annual student committee meetings and provide increased opportunities for students to speak confidentially with their committee members without their PI present. Provide more opportunity for professional development and added attention to program-level learning outcomes assessment.

Annual student committee meetings are required and a system is now in place to track these centrally by a College-wide administrator. The Chair is notified if a student/advisor is out of compliance so that he can follow up personally. Dean Kieda mentioned that some departments discuss students' status at a faculty meeting, which can help set common expectations for progress and heighten awareness of potential problems/patterns. The Department has now formalized the routine of excusing the PI at the end of the committee meeting so that students know they have this opportunity to bring any issues forward confidentially. SVP Good emphasized that it is important to normalize this practice, as it is also important in professional settings (e.g., board meetings that often, or should often, end with an executive session where management is excused). With regard to professional development, the increased use of Individualized Development Plans provides an opportunity to identify needs in the area of professional development and design ways to meet these needs, while at the same time emphasizing the central importance of training in research, achieving disciplinary expertise, and becoming a critical thinker – all of which lead to transferable skills important to many career trajectories. The Department of Medicinal Chemistry doctoral program has nine learning outcomes, and program level learning outcomes assessment needs to be addressed in compliance with University policy. A description of outcomes assessment will likely encapsulate many ongoing methods of assessment and could potentially incorporate new strategies as well. Please see this site: https://ugs.utah.edu/learning-outcomes-assessment/index.php. AVP Ann Darling and Associate Dean Mark St. Andre are experts on campus who spearhead this area and are very willing to work with individual departments. A formal 7-year report should be completed prior to the first update on this MOU to the Graduate School in 2 years.

Recommendation 3: Reevaluate the equity of the teaching and service load distribution across faculty and consider making the distribution process more transparent and deliberate. The Department and College should strive to protect junior faculty resources in an equitable way, allowing them to develop their budding research programs.

Faculty have access to a compilation of teaching contributions and Chair Davis plans to add service obligations to this spreadsheet, in hopes of making the distribution process less opaque. Research success of junior faculty is a high priority, and the group discussed the need to help junior faculty choose their service roles strategically. This is particularly important because, as an institution, we want their voices to help shape our current and future directions, yet we know that taking on too many committee assignments is counter-productive. SVP Good noted the difficulty of balancing the eagerness to participate with the importance of being selective about commitments, and Chair Davis emphasized that he has expressed willingness to say 'no' on behalf of a junior faculty member if this is an issue. Overall, strengthening mentorship (see Recommendation 4) will also help in guiding junior faculty in achieving the best balance. The group also

discussed the potential for career-line faculty to contribute in specific ways to teaching and service, even when their appointment is primarily a research-oriented one. This may depend on departmental culture and resources, but is a point to keep in mind.

Recommendation 4: The Department should consider ways to improve and foster mentoring relations across the senior/junior faculty ranks.

The Department is developing a new faculty mentoring plan based on broad input, and this will be brought forward for a full faculty vote. In addition to a formal checklist of expectations and responsibilities for mentoring, some structural changes to the process are proposed. This includes assigning a chair to the three-person committees, who will have additional separate meetings with the mentee. This structure keeps the benefits of group input while preventing diffusion of responsibility. The group discussed the challenges of being a small department, in terms of providing the breadth and diversity needed. Chair Davis said that they have been able to tap the College of Pharmacy more broadly for mentors, which has worked well. The use of mentors across the College can facilitate mentorship for special cases (e.g., diversity, gender match) where an effective mentor match may not be available within the Department. We also talked about group mentoring, where peer discussions and topical advising from experts within and outside of the College may be an efficient way to provide complementary mentorship -- and can also provide a forum that benefits more senior faculty members. Given the central importance of this topic, as well as its intrinsic challenges, the Graduate School is particularly interested in learning about how the plan for faculty mentoring is working out in the next MOU progress report.

Recommendation 5: The Department should work with University and College administration to develop a better plan for increasing their administrative staff support. This might involve hiring more staff members and/or raising the pay for staff support to reduce turnover.

There is now an administrator who tracks graduate student progress College-wide, which has proven to be an efficient and effective tactic, and the Department also hired a financial administrator, who is universally praised by faculty. In the latter case, optimizing the structure further to fully leverage the talents of this staff member and to retain him in the long-term is a current focus. While there are new hurdles brought on by COVID-19, Chair Davis felt that they had a path mapped out to work this out. The Dean's office is also working on plans that will maximize resources and bring additional support to departments in an efficient manner, and certainly administrative support is an area that must evolve over the years ahead to meet changing needs.

SVP Good noted that, consistent with the intention of the review process to spawn continuous improvement, it is evident that much progress has taken place and acknowledged the important role played by departmental leadership. Recent challenges of COVID-19 have been layered on, but the Department is adapting well. We look forward to learning how the Department builds further on what was described in the report as an "impressively strong reputation."

This memorandum of understanding is to be followed by regular letters of progress, upon request of the Graduate School, from the Chair of the Department of Medicinal Chemistry. Letters will be submitted until all of the actions described in the preceding paragraphs have been completed. In addition, a three-year follow-up meeting may be scheduled during AY 2022-23 to discuss progress made in addressing the review recommendations.

Michael L. Good
Christopher P. Hill
Randall T. Peterson
Darrell R. Davis
David B. Kieda
Katharine S. Ullman

David B. Kieda
Dean, The Graduate School
December 17, 2020