UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

GRANT APPLICATION STYLE GUIDELINES

Formatting & Graphics

A helpful guide for creating charts, graphs, illustrations, and text for grant applications within the UMB brand guidelines.

2025

UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

Our Visual Identity ...Applies to Grant Applications

Our visual identity is how we strategically and consistently share our stories and pride using specific words, logos, colors, and fonts in our advertising, marketing, public relations, and customer service.

Use UMB Branded Fonts Whenever Applicable in School of Medicine Funding Applications.

Our Fonts

TRAJAN PRO | Times New Roman
Gotham | Gotham Narrow | Calibri
Calisto | Franklin Gothic | Arial *

*Arial is a preferred font for NIH applications.

Use UMB Branded Primary and Secondary Color Palette to Create Charts, Graphs, and Illustrations.

Our Colors

Primary Palette

		Coated CMYK	Uncoated CMYK	RGB	Hex Code
Red	PMS 186	2 100 85 6	1 91 72 3	200 16 46	#C8102E
Yellow	PMS 116	0 14 100 0	0 19 100 0	255 205 0	#FFCD00
Black	Black	0 0 0 100	0 0 0 100	44 42 41	#2C2A29

Secondary Palette

	PMS	Coated/Uncoated CMYK	RGB	Hex Code
Blue	634 U	100 0 9 40	0 118 152	#007698
Slate	5415 U	42 8 0 40	93 135 161	#5d87a1
Gray	7544 U	10 1 0 40	149 160 169	#95a0a9
Charcoal	7540 U	0 10 0 72	105 106 109	#696a6d
Plum	7449 U	72 100 77 40	73 24 45	#49182d
Forest Green	5743 U	33 0 85 82	51 70 13	#33460d
Sea Green	577 U	24 0 46 10	180 204 149	#b4cc95
Tan	7503 U	0 12 35 25	200 177 139	#c8b18b
Purple	268 U	63 73 17 2	115 89 144	#735990

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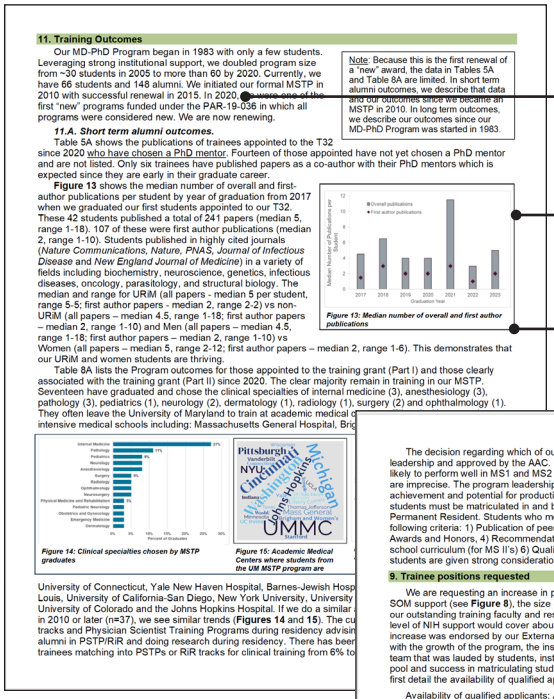
Helpful Hints for Page Formatting

Follow specific application guidelines for text size, spacing, and margins.



11. Training Outcomes

Our MD-PhD Program began in 1983 with only a few students. Leveraging strong institutional support, we doubled program size from ~30 students in 2005 to more than 60 by 2020. Currently, we have 66 students and 148 alumni. We initiated our formal MSTP in 2010 with successful renewal in 2015. In 2020, we were one of the first "new" programs funded under the PAR-19-036 in which all programs were considered new. We are now renewing.

Note: Because this is the first renewal of a "new" award, the data in Tables 5A and Table 8A are limited. In short term alumni outcomes, we describe that data and our outcomes since we became an MSTP in 2010. In long term outcomes, we describe our outcomes since our MD-PhD Program was started in 1983.

11.A. Short term alumni outcomes.

Table 5A shows the publications of trainees appointed to the T32 since 2020 who have chosen a PhD mentor. Fourteen of those appointed have not yet chosen a PhD mentor and are not listed. Only six trainees have published papers as a co-author with their PhD mentors which is expected since they are early in their graduate career.

Figure 13 shows the median number of overall and first-author publications per student by year of graduation from 2017 when we graduated our first students appointed to our T32. These 42 students published a total of 241 papers (median 5, range 1-18). 107 of these were first author publications (median 2, range 1-10). Students published in highly cited journals (*Nature Communications, Nature, PNAS, Journal of Infectious Disease* and *New England Journal of Medicine*) in a variety of fields including biochemistry, neuroscience, genetics, infectious diseases, oncology, parasitology, and structural biology. The median and range for URiM (all papers - median 5 per student, range 5-5; first author papers - median 2, range 2-2) vs non-URiM (all papers – median 4.5, range 1-18; first author papers – median 2, range 1-10) and Men (all papers – median 4.5, range 1-18; first author papers – median 2, range 1-10) vs Women (all papers – median 5, range 2-12; first author papers – median 2, range 1-6). This demonstrates that our URiM and women students are thriving.

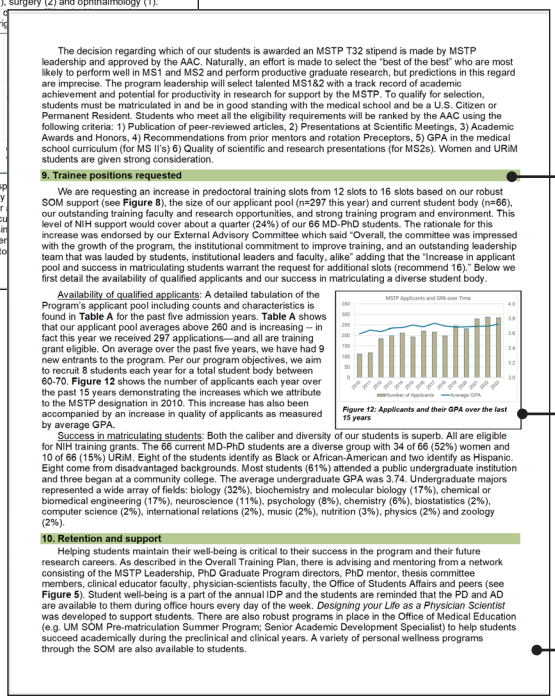
Figure 13: Median number of overall and first author publications

Table 8A lists the Program outcomes for those appointed to the training grant (Part I) and those clearly associated with the training grant (Part II) since 2020. The clear majority remain in training in our MSTP. Seventeen have graduated and chose the clinical specialties of internal medicine (3), anesthesiology (3), pathology (3), pediatrics (1), neurology (2), dermatology (1), radiology (1), surgery (2) and ophthalmology (1). They often leave the University of Maryland to train at academic medical c
intensive medical schools including: Massachusetts General Hospital, Brig

Figure 14: Clinical specialties chosen by MSTP graduates

Figure 15: Academic Medical Centers where students from the UM MSTP program are

University of Connecticut, Yale New Haven Hospital, Barnes-Jewish Hosp
Louis, University of California-San Diego, New York University, University
University of Colorado and the Johns Hopkins Hospital. If we do a similar
in 2010 or later (n=37), we see similar trends (**Figures 14** and **15**). The cu
tracks and Physician Scientist Training Programs during residency advisin
alumni in PSTP/RIR and doing research during residency. There has beer
trainees matching into PSTPs or RIR tracks for clinical training from 6% to



The decision regarding which of our students is awarded an MSTP T32 stipend is made by MSTP leadership and approved by the AAC. Naturally, an effort is made to select the "best of the best" who are most likely to perform well in MS1 and MS2 and perform productive graduate research, but predictions in this regard are imprecise. The program leadership will select talented MS1&2 with a track record of academic achievement and potential for productivity in research for support by the MSTP. To qualify for selection, students must be matriculated in and be in good standing with the medical school and be a U.S. Citizen or Permanent Resident. Students who meet all the eligibility requirements will be ranked by the AAC using the following criteria: 1) Publication of peer-reviewed articles, 2) Presentations at Scientific Meetings, 3) Academic Awards and Honors, 4) Recommendations from prior mentors and rotation Preceptors, 5) GPA in the medical school curriculum (for MS II's) 6) Quality of scientific and research presentations (for MS2s). Women and URiM students are given strong consideration.

9. Trainee positions requested

We are requesting an increase in predoctoral training slots from 12 slots to 16 slots based on our robust SOM support (see **Figure 8**), the size of our applicant pool (n=297 this year) and current student body (n=66), our outstanding training faculty and research opportunities, and strong training program and environment. This level of NIH support would cover about a quarter (24%) of our 66 MD-PhD students. The rationale for this increase was endorsed by our External Advisory Committee which said "Overall, the committee was impressed with the growth of the program, the institutional commitment to improve training, and an outstanding leadership team that was lauded by students, institutional leaders and faculty, alike" adding that the "Increase in applicant pool and success in matriculating students warrant the request for additional slots (recommend 16)." Below we first detail the availability of qualified applicants and our success in matriculating a diverse student body.

Availability of qualified applicants: A detailed tabulation of the Program's applicant pool including counts and characteristics is found in **Table A** for the past five admission years. **Table A** shows that our applicant pool averages above 260 and is increasing -- in fact this year we received 297 applications—and all are training grant eligible. On average over the past five years, we have had 9 new entrants to the program. Per our program objectives, we aim to recruit 8 students each year for a total student body between 60-70. **Figure 12** shows the number of applicants each year over the past 15 years demonstrating the increases which we attribute to the MSTP designation in 2010. This increase has also been accompanied by an increase in quality of applicants as measured by average GPA.

Figure 12: Applicants and their GPA over the last 15 years

Success in matriculating students: Both the caliber and diversity of our students is superb. All are eligible for NIH training grants. The 66 current MD-PhD students are a diverse group with 34 of 66 (52%) women and 10 of 66 (15%) URiM. Eight of the students identify as Black or African-American and two identify as Hispanic. Eight come from disadvantaged backgrounds. Most students (61%) attended a public undergraduate institution and three began at a community college. The average undergraduate GPA was 3.74. Undergraduate majors represented a wide array of fields: biology (32%), biochemistry and molecular biology (17%), chemical or biomedical engineering (17%), neuroscience (11%), psychology (8%), chemistry (6%), biostatistics (2%), computer science (2%), international relations (2%), music (2%), nutrition (3%), physics (2%) and zoology (2%).

10. Retention and support

Helping students maintain their well-being is critical to their success in the program and their future research careers. As described in the Overall Training Plan, there is advising and mentoring from a network consisting of the MSTP Leadership, PhD Graduate Program directors, PhD mentor, thesis committee members, clinical educator faculty, physician-scientists faculty, the Office of Students Affairs and peers (see **Figure 5**). Student well-being is a part of the annual IDP and the students are reminded that the PD and AD are available to them during office hours every day of the week. *Designing your Life as a Physician Scientist* was developed to support students. There are also robust programs in place in the Office of Medical Education (e.g. UM SOM Pre-matriculation Summer Program; Senior Academic Development Specialist) to help students succeed academically during the preclinical and clinical years. A variety of personal wellness programs through the SOM are also available to students.

1. Flush left all text. *This avoids spacing gaps that happen when type is justified.*

2. Import graphics and set with a 1 point black surrounding rule. *The box visually divides the graphic from the text.*

3. Align graphic boxes to the right or left margin.

4. Use color to give the reader a visual break. *This improves readability when there are a lot of pages.*

5. Make all figure captions consistent. *10 point Bold Italic is suggested.*

6. Adhere to page margins specified in the application instructions.

NIH Applications

NIH has very specific formatting requirements for attachments. Failure to follow these requirements may lead to application errors upon submission or withdrawal of your application by NIH.

(https://grants.nih.gov/grants-process/write-application/how-to-apply-application-guide/format-attachments)

Below are some important formatting requirements for NIH applications, excerpted from the NIH application guidelines:

Page Size and Margins

Page size should be no larger than standard letter paper size (8 ½" x 11"). Margins should be at least one-half inch (½") on all sides — top, bottom, left, and right — for all pages. No applicant-supplied information can appear in the margins.

Orientation

Both portrait and landscape orientation for attachment pages are accepted. However, keep in mind that landscape can be difficult to read online and may require reviewers and staff to scroll to see all available text.

Single vs. Multi-column Page Format

A single-column page format easily adapts to various screen sizes and is highly encouraged. Multi-column formats, especially for information spanning multiple pages, can be problematic for online review.

Font and Line Spacing

Adherence to font size, type density, and line spacing requirements is necessary to ensure readability and fairness. Legibility is of paramount importance. Although these requirements apply to all attachments, they are most important and most heavily scrutinized in attachments with page limits.

Font size must be 11 points or larger. Smaller text in figures, graphs, diagrams and charts is acceptable, as long as it is legible when the page is viewed at 100%. Some PDF conversion software reduces font size, so it is important to confirm that the final PDF document complies with the font requirements.

Type density must be no more than 15 characters per linear inch (including characters and spaces).

Line spacing must be no more than six lines per vertical inch. There is no restriction on text color, although black or other high-contrast text colors are recommended since they print well and are legible to the largest audience.

NIH recommends the following fonts, although other fonts (both serif and non-serif) are acceptable if they meet the above requirements.

- Arial ***(This is a UMB Font)***
- Georgia
- Helvetica
- Palatino Linotype

Page Limits & Lines of Text Limits

Adhere to the page limits defined in the Table of Page Limits of the Application Guide (**https://grants.nih.gov/grants-process/write-application/how-to-apply-application-guide**), or within the text of the funding opportunity or NIH Guide notice (including Notices of Special Interest). Page limits defined in a funding opportunity should be followed when different than those found in the Table of Page Limits. Page limits defined in a related NIH Guide notice should be followed if different than either the Table of Page Limits or the funding opportunity.

If no page limit for an attachment is listed in either the Table of Page Limits, Section IV of the funding opportunity under Page Limitations, or in a related NIH Guide notice, you can assume the attachment does not have a limit. When preparing an administrative supplement application, follow the Table of Page Limits using the activity code of the parent award and any additional limits specified in the funding opportunity or a related notice.

Some page limits apply to multiple attachments that when combined must stay within a designated limit. You may want to prepare your information in a single document to ensure you are within the page limit and later break up the information into the separate attachments.

Page limits are strictly enforced to include all text included on the page. Do not use the appendix or other sections of your application to circumvent page limits

Headers and Footers

Do not include headers or footers in your attachments. NIH will add headers, footers, page numbers, bookmarks, and a table of contents when your application is assembled upon submission. However, headings (e.g., Significance, Innovation) within the text of your attachments improve readability and are highly encouraged. Some funding opportunities and form instructions provide guidance on organizing the content of attachments including specific headings that must be included.

Images

Digital images of material such as electron micrographs or gels must only be included within the page limits of the Research Strategy. The maximum size of images to be included should be approximately 1200 x 1500 pixels using 256 colors. Figures must be readable as printed on an 8.5” x 11” page at (100%) scale. Use image compression such as JPEG or PNG.

Video

Videos cannot be imbedded in an application, but are accepted under limited circumstances as post-submission material. See NOT-OD-12-141 and NOT-OD-20-061. When allowed, the application must be structured at the time of submission to indicate that a video will be submitted post-submission.

The cover letter submitted with the application must include information about the intent to submit a video; if this is not done, a video will not be accepted.

Key images, "stills" and a brief description of each video must be included within the page limits of the Research Strategy. Sufficient descriptive information must be provided within the research strategy to understand the information presented in the video, as not all reviewers may be able to access the video, depending on technological constraints.

Hypertext, Hyperlinks, and URLs

Hyperlinks and URLs are only allowed when specifically noted in funding opportunities or form field instructions. It is highly unusual for a funding opportunity to allow links in page-limited attachments. When allowed, you must hyperlink the actual URL text so it appears on the page rather than hiding the URL behind a specific word or phrase (hypertext).

PDF Conversion

It is best to produce documents using word-processing software and then convert the document to PDF. Although sometimes necessary, avoid scanning text documents to produce the required PDFs.

Do not markup your PDF documents with comments, sticky notes, or other features that are added on top of your document content. Do not use bracketing, indenting, highlighting, bolding, italicizing, underlining, margin lines, change in typography, font, or font color, or any other type of markup to identify changes in Resubmission applications.

A PDF that has fillable fields, electronic signatures, text boxes or images becomes layered with each of these elements. The existence of these layers interferes with the handling of the documents in NIH systems. PDF documents included in applications, progress reports, and other information collected in NIH systems must be flattened, and all layers merged into a single layer. There are a number of methods to flatten a PDF, the easiest of which is to print it as a PDF.

Some PDF conversion software reduces font size, so make sure your final PDF document adheres to all font and line spacing requirments.

Do not encrypt or password protect your PDF documents, and disable all security features.

Electronic Signatures

NIH does not allow electronic signatures on PDF attachments within your application. To adhere to policies that require signatures on certain format pages (e.g., Other Support documents), you can electronically sign the document and then flatten the PDF. Documents with wet signatures (e.g., letters of support) can be printed, signed, scanned and attached in PDF format.

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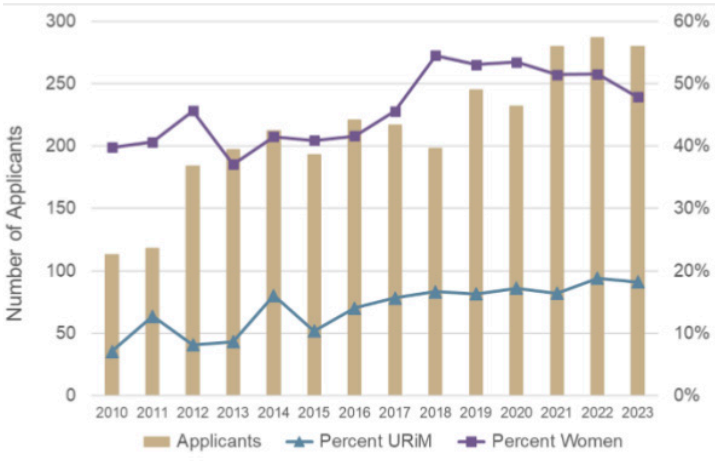
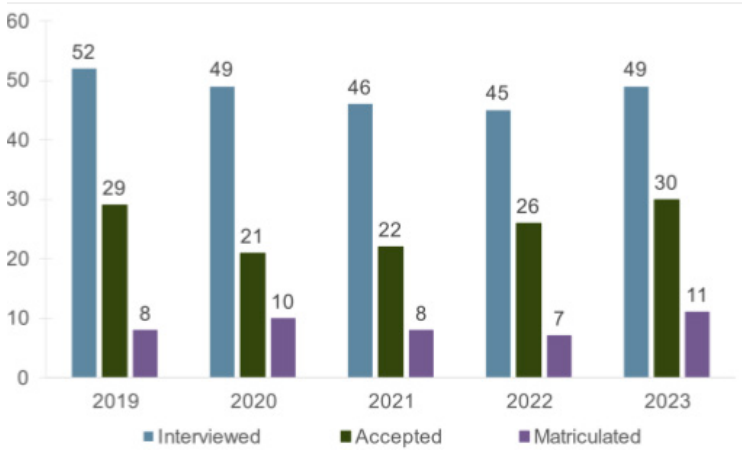
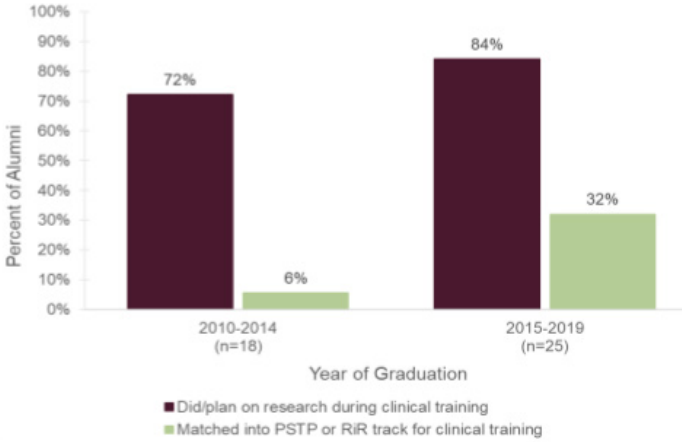
Example Graphs Designed Applying the UMB Color Palette

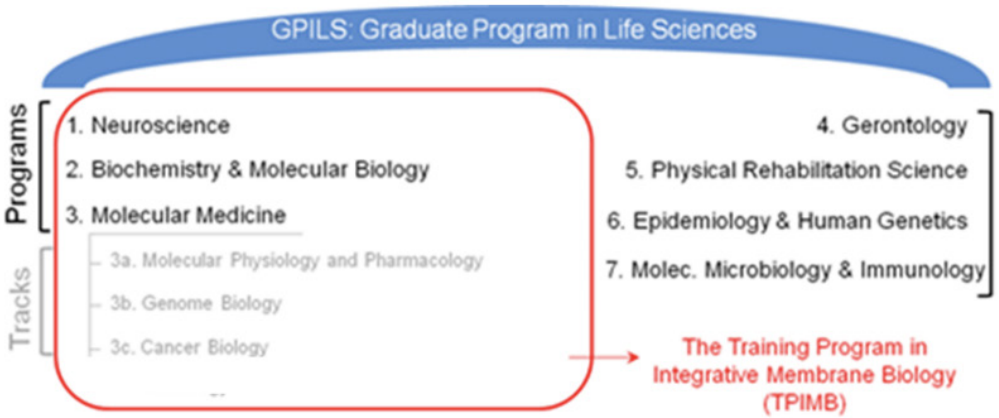






Examples of a Redesigned Curriculum Figure/Illustration

(BEFORE)



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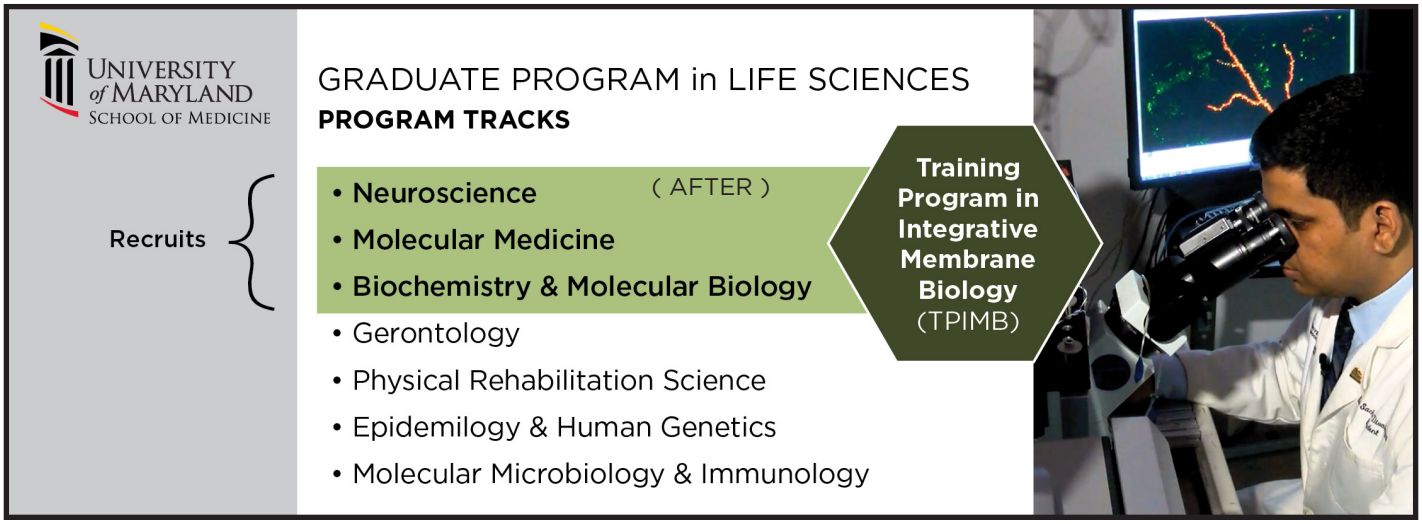

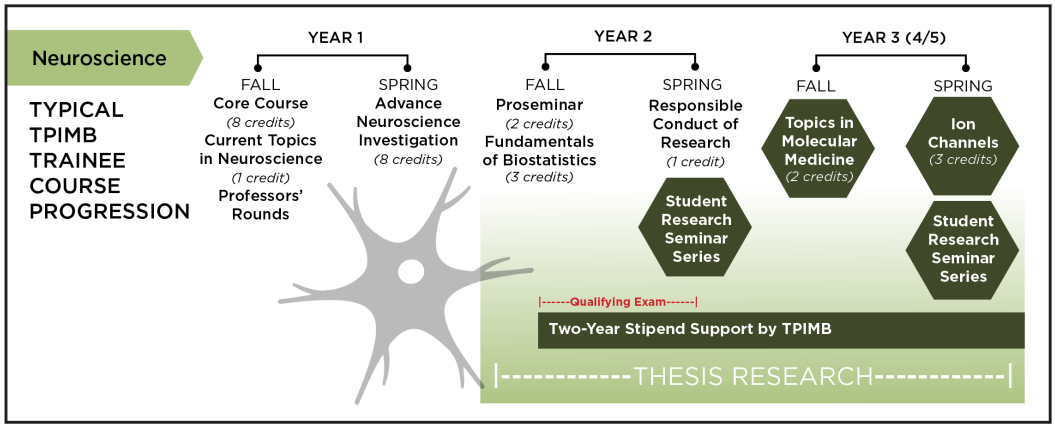

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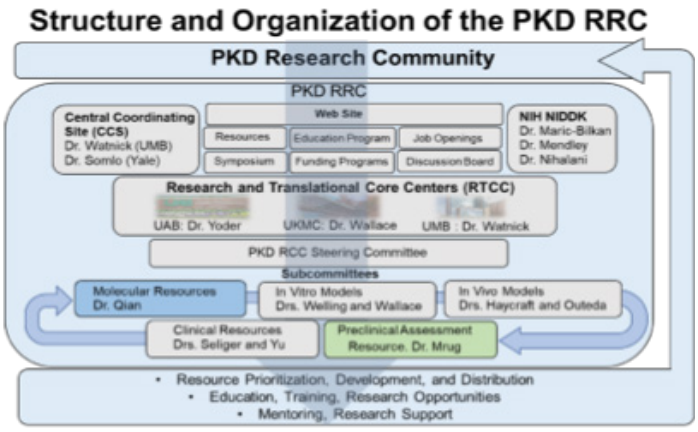
Example of a Redesigned Organizational Chart

(BEFORE)



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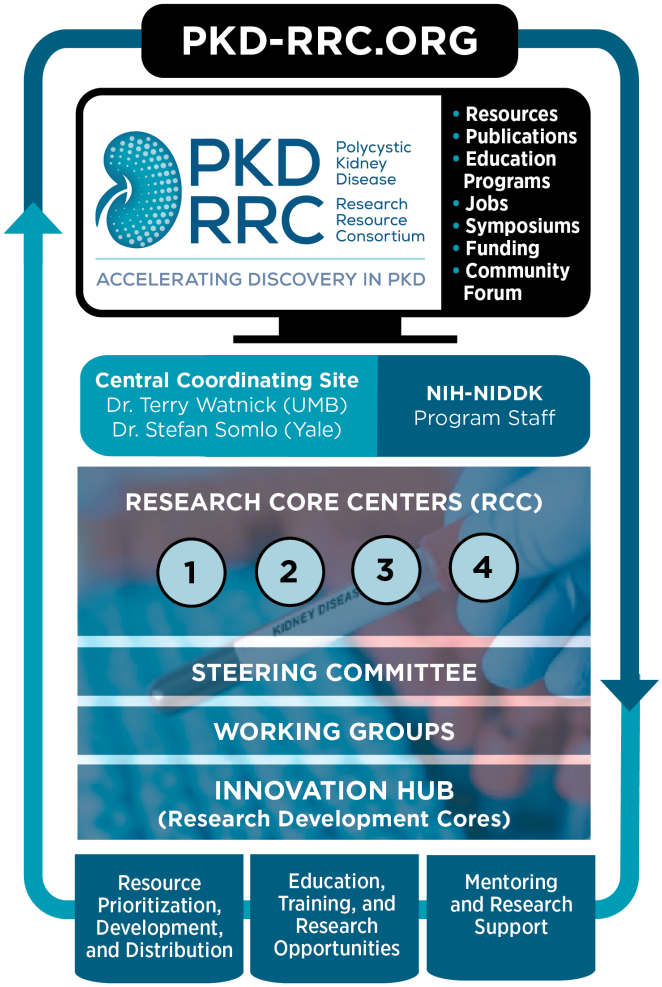
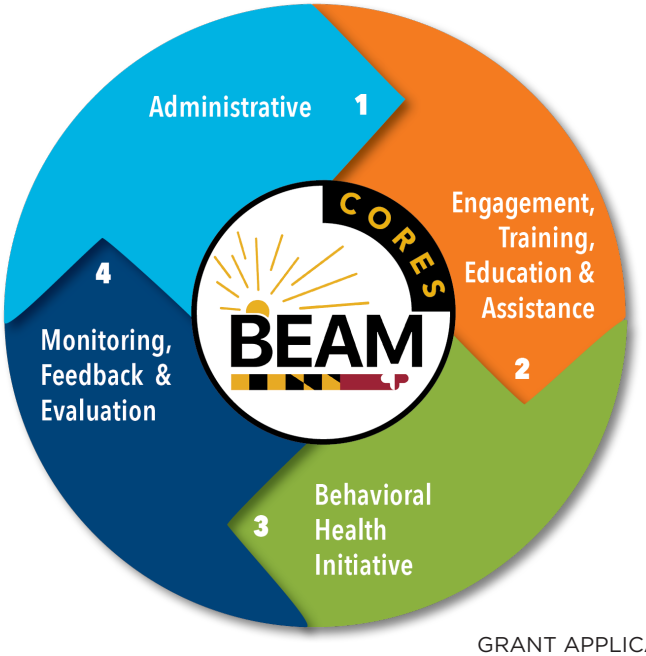


Examples of Overall Core Conceptual Designs



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Formatting & Graphics

Contact:

Joni M. Prasad, PhD
Assistant Dean for Research Affairs
Assistant Professor, Department of Microbiology & Immunology
Conflict of Interest Officer
University of Maryland School of Medicine
655 West Baltimore St., Room 14-019B
Baltimore, MD 21201

Phone: (410) 706-6353