

! "#\$%& #'\$() \* \$\$(+ \$% ) - + \$(#-' . %/01223%24%5 \$6-0-) \$%7-201\$8-#' (. %91:; :%9(2<("8%  
/'=6\$) '%>") 6?22@%

!

B1\$%91:; :%C(2<("8% 1\$3C#% #'=6\$) '#%?\$028\$%C(26=0'-+\$((\$#" (01%#0-\$)' -#'#:B1(\$\$%' . C\$#% 24%  
\$6=0'''-2)% "(\$%C(2+-6\$6D% E-(#'F%02=(#\$G2(@%" ) 6%# \$8-) "(#%C(2+-6\$% ""4("8\$G2(@% 24%0=(((\$)' %  
@) 2G3\$6<\$:%/\$02) 6F%?2'1%8\$) "'3%" ) 6%8") = "3%(\$#" (01#@-33#%" (\$%12) \$6%?. %'1\$#-#%(\$#" (01%G1\$)%  
#'=6\$) '#%C3") %C(2H\$0' #F%0" ((. %2='%I C\$(-8\$) '#%" ) 6%6-##\$8-) "' \$%'1\$%(\$#=3'##'1(2=<1%C=?3-0'''-2) #%  
") 6%C(\$#\$) '''-2) #: %E-) "33. F%0288=) -0'''-2) %#@-33#%" (\$%6\$+\$32C\$6%1(2=<1%C(\$#\$) '''-2) #%) %12=() "3%  
03=?#F%3" ?2("2(. %<(2=C%8\$ \$' -) <#F%# \$8-) "(#F% C(\$'1\$#-#%0288-' '\$%\$8\$ \$' -) <#F%" ) 6%320"3F%) "'-2) "3F%  
") 6%) '\$() '''-2) "3%8\$ \$' -) <#:%

J\$''-) <W'''('\$6%

/'=6\$) '#%\$) '\$(\$'1\$%7-201\$8-#' (. %91:; :%9(2<("8%'1(2=<1%'1\$%7-28\$6-0"3%/0-\$) 0\$#%B('')-)<%  
9(2<("8% #W#22)% '#%C2##-?3\$

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" ) 6%8\$ \$' %G-'1%1\$8%2%6-#0=##%1\$%0"6\$8-0%' ) 6%'68-) -#' ('' -+\$%6\$'''-3#%24%12-) -) <%1\$%C(2<("8:%  
B1\$%01223%24%5 \$6-0-) \$%1236#%'R & 1-'\$%S" ?%1 2'''T%0\$(\$82) . %2) %1\$%E(-6" . %2\$42(\$%1"33%03"##\$#%? \$<-) %  
42(% ) 028-) <%91:; :%#'=6\$) '#:%5/B9# #'=6\$) '#%C(''-0-C'''\$%-) %'1-#%0\$(\$82) . %-) %'1\$%. '\$' (%'1\$. %12-) %  
'1\$%7-201\$8-#' (. %9(2<("8:%

/'=6\$) '#%G12%3") %2%G2(@%) %'(\$#" (01%?"%B=#'028C3\$ '\$%?"%4\$' . % ('')-)<%244\$(\$6%2. %1 & \* , W#%  
Q) +- (2) 8\$) "'3%>"3'1%) 6%/'4\$' . %C(2<("8%2\$42(\$%1\$. %0") %2\$<-) %G2(@:%B1\$. %12=36%02) #=3' %G-'1%  
'1\$%J9; %) 6%'1\$%Q6=0'''-2) ! 22(6-) "'2(%2%6\$ '\$(8-) \$%G1'''% ('')-)<%'1\$. %) \$%6:%B1\$%' -8\$#%' ) 6%  
320'''-2) #% 24% 03"##\$#% "(\$% 3-#'\$6% 2) % '1\$% Q) +- (2) 8\$) "'3% >\$"3'1% ") 6% /'4\$' . % G\$?#-' \$%  
KGGG:0"#\$:\$6=V\$1#L:%0%

/'=6\$) '#%(\$<-#' \$(%42(%02=(#\$#%=#-) <%'1\$%2)3-) %/'=6\$) '%W) 42(8'''-2) %/ . #'\$8%K/W/M#-#:'0"#\$:\$6=L:%  
\*\$<-#' (''-2) %8=#%'?\$%028C3\$ '\$6%?\$42(\$%1\$%#'' ('%24%'1\$%# \$8\$# '\$(:S'''\$4\$ \$F%G1-01%" (\$%'1\$%  
(\$#C2) #-?-3-' . %24%'1\$%# '=6\$) 'F%' (\$%'###\$6%'4\$ (%03"##\$#%' "' (:B1\$%4-(#' %G2%G\$ \$@#%24%'1\$%# \$8\$# '\$(%  
"(\$%'1\$%; (2CVX66% C\$(-26:%/'=6\$) '#%0" ) %01" ) <\$%'1\$-(%(\$<-#' G2050393. 6646-126()0. 2(-)' (())0. 2(\$<-) -0(#)0.

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E 2 ( % 7 / B 9 % # ' = 6 \$ ) ' # F % 0 2 = ( # \$ % # - ) % ' 1 \$ % 4 - ( # ' % # \$ 8 \$ # ' \$ ( % ' ( \$ % " @ \$ ) % = ) 6 \$ ( % ' 1 \$ % 6 - ( \$ 0 ' - 2 ) % 2 4 % ' 1 \$ % 7 / B 9 : % X 3 3 %  
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! "\$%& \$#'\$( )%\*\$\$(\$% )-+\$(#-'./01223%24%5\$6-0-)\$%7-201\$8-#'(.%91.; :%9(2<("8%  
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/'=6\$)'%>" )6?22@%

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'1\$%G2(@%24%<('6=""\$%#'=6\$)'#%#12=36%G2(@%'2%\$)#=( '\$%1''%#'=6\$)'#%(\$0\$-+\$%C(2C\$(%0(\$6-' :%#W4%"%  
#'=6\$)'%?3-\$+\$%#1''%#%C(2C\$(%0(\$6-'%##-<) 8\$)'%1''#%) 2'%?\$\$)%8"6\$F%1\$%0233"?2(''2(#%#12=36%#-(#'%  
6-#0=##%'1\$%Y=\$#'-2)#:%B1\$%6-#C=' \$%#12=36%?%#=?8-' '\$6%2%1\$%J('6=""\$%Q6=0"'-2)%! 288-' '\$\$%4%  
")%'<(\$8\$)'%#%)2'%'(\$"01\$6:

! "#\$%& \$#'\$( ) \* \$\$(+ \$% ) - + \$(#-' . %/01223%24%5 \$6-0-) \$%7-201\$8-#'( . %91:; :%9(2<("8%  
/'=6\$)'%>")6?22@%

62%)2'1"+\$%A=( '1\$(%=#\$.%/-8-3"(3. F%"33%(\$#\$"(01%(\$02(6#%K)2'\$?22@#F%028C='\$(%A-3\$#F%\$'0:L%'(\$%1\$%  
=)--+\$(#-' . ]#%C(2C\$(' . :%B1\$. %B=#'?'\$%0""32<\$6%)6%\$4%)%1\$%'6+-#2(]#%?"2("2(. :%W/'=6\$)'#%8" . %  
8"@%\$02C-\$#%24'1\$-((\$#\$"(01%(\$02(6#:%X33%=-)--+\$(#-' . %B""\$(-'3#%KW; %0"(6#F%@\$ . #F%\$'0:L%#12=36%?\$\$  
(\$'=())\$6%2332G-)<% & \* , %C(20\$6=( \$#:%

**9\*X! BW! XS%5XBBQ\*/%**

92('2)#%24%1-#%\$0'-2)'%(\$?'#%6%2)%1\$#'=6\$)'%1")6?22@%24%1\$%91. #-232<. %)6%  
7-2C1. #-0#%C(2<("8:%

**W)'\$( ) ""-2)"3#/'=6\$)'#%**

W)'\$( ) ""-2)"3#/'=6\$)'#%24'\$)%A"0\$%'66-'-2)"3%01"33\$<#F%\$#C\$0-"33. %4%1\$. %'(\$%A-(#N'-8\$%+-#-'2(#%  
'2%1\$% /:W)'\$( ) ""-2)"3#/'=6\$)'%/\$(+0\$#%KW//M%283-)#2)%>"33%Ab`M%  
#'=6\$)""44"-(:0"#%\$6=V-)'\$( ) ""-2)"3M%)'\$( ) ""-2)"3r 0"#%:\$6=L%C(2+-6\$#%)42(8""-2)'%)6#%=CC2('%  
42(% )028-)<%)6%0=((')%)'\$( ) ""-2)"3#/'=6\$)'#%W//%'##-#'%%C2C=3""-2)%24%82(\$%1")%AF[[[%  
-)'\$( ) ""-2)"3#/'=6\$)'#%(28%2+\$(%C[%02=)'(-\$#%W//%1\$3C#%#'=6\$)'#%2?'-)%+-#'"#%)6%C(2+-6\$#%1\$3C%  
G-'1%33%88-<("2)'%)6%+-#'"#%#=#%B1\$. %0)"%'3#2%1\$3C%G-'1%+-(-2=#%)2)N"0"6\$8-0%#=#%#  
K12=#-)<%C\$ (#2)"3F%A-)"0-"3F%\$<"3L%1""%)'\$( ) ""-2)"3#/'=6\$)'#%8" . %\$)02=)'\$ (%=-)<%1\$-%  
#'=6-\$#%"" & \* , :%B1\$%244-0\$%1"#%G"3@N-%)12=(#%)6%"3#2%(\$#C2)6#%C(28C'3. %2%\$8"-3%(\$Y=\$#'#%W%'  
-#%\$#C\$0-"33. %8C2(")'%A2(#'=6\$)'#%2%=#%\$1\$-(%\$IC\$('-#%\$)'%33%88-<("2)N%)6%+-#'"N(\$3""6%  
8""\$(:%#%  
%

**>\$"3'1%W)#=(")0\$%**

B1\$% )-+\$(#-' . %>\$"3'1%/\$(+0\$#%K, >/F%^AbZ%X6\$3?\$( '%\*2"6L%C(2+-6\$#%1\$"3'1%02+\$(" <\$%2%2=(%  
#'=6\$)'#% & \* , %'3#2%1"#%")%2=#-6\$%)#=((\$%A2(%1\$%/'=6\$)'V; \$C\$)6\$)'%5\$6-0"3%93")%  
K#'=6\$)'#0"#%:\$6=V8\$6-0"3C3")VLM6\$'"3#%24%C3")%02+\$("<\$%0")%?%A2=)6%2)3-)\$%>\$"3'1%  
C(24\$##-2)"3#%#"44% >/%G-'1%)'\$( ) (\$#%#)'#'=6\$)'%1\$"3'1:%B1\$#%\$%)03=6\$%C1. #-0-)"#F%)=(#\$%  
C("0'-'2)(\$#F%# . 01232<-#F%# . 01-'"(-#F%#20-"3%G2(@\$(#F%)6%(\$<-#'\$(\$6%)=(#\$#%52(\$%  
-)42(8""-2)%8" . %?%2?'-)"\$6%?. %+-#-'-)<%1\$% >/%G\$?#-'\$%K1"CDV#'=6\$)""44"-(:0"#%:\$6=V1\$"3'1%  
L%2(%?. %0"33-)<%2)\$%24%1\$#%\$)=8?\$(#0%#

J\$)'("3W)42(8""-2)0% `acN^bZ[%

1X#4)0(N<2)=(#%05-6%0)Q(\$)T)CE31(')-0! Q/. 24000. 24

! "#\$%& #'(\$)\*\$#\$(+\$% )-+\$(#-' .%/01223%24%5\$6-0-\$%7-201\$8-#'( .%91:; :%9(2<("8%  
/'=6\$)'>")6?22@%

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"68-) -#\$( \$6%?. %C(\$N620'2("3%6\$)'''3%#'=6\$)'#%#)6\$(%1\$%032#\$\$#=C\$(+##-2)%24%\$IC\$(-\$)0\$6%6\$)'''3%  
1\$"3'1%C(24\$##-2)"3#:%/\$(+0\$#%1(2=<1%1\$%/01223%24% \$)'''3%5\$6-0-\$%(\$%24'\$)#-<)-4-0)"'3. %8\$##%  
\$IC\$)#-+\$%1")%<2-) <%2%'C(-+' '\$%C("0'-0\$%6\$)'-#':%52(\$%)42(8'''-2)%##'+"-3"?3\$%'D%  
#'=6\$)'#:'0"#:\$6=V8\$6-0"3C3")V:%

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, )-+\$(#-' .% 2=)#\$3-)<%/\$(+0\$#%K, ! /L%

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-)'\$)'-2)"3%)6%#)6\$(#'")6"?3\$M%'2'1\$(%-8\$#F%1\$. %'(\$#%)C(\$6-0"'?3\$F%01'2'-0F%)6%=C#\$'')<:%  
Q"01% \$"(%2+\$(%AA[ [%#'=6\$) '#%#\$%2='##''44%24%1\$% )-+\$(#-' .% 2=)#\$3-)<%/\$(+0\$#%2%1\$3C%1\$8%  
<"-)%C\$(#C\$0'-+\$%)6%". %1\$%<(2=)6G2(@%2(%C\$(#2)"3%01")<\$:%E2(%8"). F%1\$%01")<\$%0")%  
?\$028\$%#B=( )-<%92-)' ]%)%1\$-(%8-+\$#:% ! /%0"#:\$6=V#'=6\$)'3-4\$V1\$'3'102=)#\$3-)<L%244\$ (#%  
#'=6\$)'#%1\$3C%G-'1%1\$-(%02=)#\$3-)<%')6%?\$1"+-2("3%1\$'3'1%)\$6#F%)03=6-)<%')6-+-6="3F%02=C3\$#F%  
")6%<(2=C%02=)#\$3-)<F%# . 01-"'(-0%8\$6-0"'-2)%8")"<\$8\$)'F#('##%8")"<\$8\$)'F')6%(\$02+\$(. %  
#=CC2(':%N' #%244-0\$#%('(\$%#''44\$6%G-'1%# . 01232<-' #F%#20-'3%G2(@\$(#F%)6%02)#=3'-)<%# . 01-"'(-#':%#

! "\$%& \$#'\$( )%\*\$\$(\$% )-+\$(#-'./01223%24%5\$6-0-)\$%7-201\$8-#'(.%91.; :%9(2<("8%  
/'=6\$)'%>")6?22@%  
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/'=6\$)'%>" )6?22@%

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- 7\$%'G''(\$%24% 2=(%#=((2=)6-)<#%
- , #\$\$/'"4\$%\*-6\$%''\$%'')-<1'%
- W)#''33%1\$%\*"+\$%J="(6-)"%'CC%2)% 2=(%82?-3\$%6\$+-0\$F%G1-01%\$'##% 2=%0288=)-0''\$%

! "\$%& #'-19. 9(#'-20. 21\$\$)-20(%-19. 98()-19. 9(\$%-19. 9(#)-20(%#-19. 9(#)-20(%(-19. 98(+)-19. 98()

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**XCC\$)6-0\$#%**

XCC\$)6-1%A% 9(\$'1\$#-#% 288-'\$\$%5\$\$'-)<\*\$C2('E2(8%

XCC\$)6-1%^% i ="3-4. -)<%QI "8-)"'-2)%W)42(8"'-2)%

XCC\$)6-1% % i ="3-4. -)<%QI "8-)"'-2)%Q+"3="'-2)%E2(8%

XCC\$)6-1% % B-C#% 2(%<+-)<?%'\$(%#8-)"(#%

XCC\$)6-1%Z% /d5% 7\$#'% 9("0'-0\$#:% 52)-'2(-)<% /'=6\$)'% 9(2<(\$##% ")6% Q)#=(-)<% B-8\$3.%  
! 28C3\$'-2)%24% 1\$%



Biochemistry PhD Program  
Pre-thesis Committee Meeting Report

Comments: \_\_\_\_\_

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&J1""?0, \$#"')&&A, =)"\$ )904+\*+2\$ -.44+&&))\$ ;+66\$ -. \*%+&(\$0&\$ 6)0%&\$ &"),))\$  
4)4E),%\$.1\$&")\$%&'()\*&C%\$3,)&")%+%\$-.44+&&):\$E'&\$\*.&\$&")\$Q(B+%.,<\$

&K1B@1)"#?A, =)"\$-.44+&&))\$;+66\$2,0()\$E.&"\$&")\$;,+&&)\*\$0\*(\$.,06\$-.43)\*&%\$.1\$&")\$  
3,.3.%+&&+.\*\$1.,\$1)0%+E+6+&/:\$Q\*.;6)(2):\$0\*(\$3,)%)&0&+.\*<\$R\*\$ .B),066\$2,0()\$.1\$`!0%`:`\$  
`a.\*(+&&+.\*06\$!0%`\$.,\$T0+6`\$;+66\$E)(\$)&,4+\*)(E/\$&")\$-.44+&&))<?1\$0\$2,0()\$.1\$`-.\*(+&&+.\*06\$  
30%`\$+%)\$2+B)\*.\$%3)-+1+-\$;)0Q\*)%L)%P\$+\*\$&")\$%&'()\*&Q\$;\$66\$E)(\$+)\*&+1+)\$0\*(\$  
.\*6/\$&"0&\$3.,&+.\*\$.1\$&")\$+\*+&+06\$-.43.)\*&\$\$.1\$&")\$3,.3.%+&&+.\*\$\*)(\$E)\$,)3)0&)(<\$=\$)"\$  
-.44+&&))\$;+66\$%-)"(6)\$0\$\*);\$-.436)&+.\*\$(0&)\$L%'066/\$\*.\$4.,)\$&"0\*\$&;;\$;)Q%P\$1.,\$&")\$  
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SOM Best Practices. Monitoring Student Progress and Ensuring Timely Completion of the PhD  
Minimal Guidelines for all PhD Programs in SOM

Developed by the Graduate Program Directors Leadership Council - approved 02/08/2018  
Approved and endorsed by the Council of Basic Science Chairs - 02/09/2018

The average time-to-degree for PhD students in the SOM over the past decade has been 5.7 years, a timeframe that is consistent with the national average for biomedical PhD programs. However, roughly 20 % of our students graduate after 6.5 years or longer, with some taking as many as 8-10 years to graduate. A longer time-to-degree has significant downsides: 1) it reflects negatively on NIH-sponsored programs, 2) it limits the number of available slots for new incoming graduate students, and 3) it delays a student's movement into a productive career. The NIH is encouraging programs to develop initiatives aimed at reducing the time to degree for PhD students. Our goal is to increase the percentage of SOM Ph.D. candidates that complete their PhD degree by 5 years, thus allowing our graduates to secure post-doctoral training and academic positions earlier in their careers.

All incoming and current students in all SOM Ph.D. programs will be informed through their academic programs that their goal is to complete a Ph.D. within 5 years. Inadequate progress on the part of the student during this time frame may result in a terminal master's degree. Student progress will be evaluated throughout the PhD degree using a variety of mechanisms (e.g., annual IDPs, annual review of students, thesis committee meetings, 701 evaluations, and others). Mentors, thesis committees, Chairs, and Graduate Program Directors (GPDs) must communicate to students honestly and openly whether expectations are being met or not. Similarly, students must also communicate with mentors and other leaders to ensure that their needs are being met as well.

The minimum guidelines to promote student progress and development in SOM PhD programs are delineated below. Individual programs may adopt additional processes to improve progress in their programs.

- 1) Student and mentor expectations need to be clearly delineated and communicated at the beginning of the PhD program. This is best accomplished by:
  - a. outlining general expectations early during student orientations and C3MB bootcamp
  - b. providing clear language in departmental student handbooks
  - c. requiring that all students and mentors agree to follow the AAMC compact at match time. This must be a part of all student-mentor match process.
- 2) Thesis Committees
  - a. Thesis committees should be formed early and no later than end of fall semester of Y2. Earlier mentoring or advising committees that meet regularly with the student from the beginning are expected, in order to guide early progress.
  - b. The student and mentor will work together to mutually agree upon thesis committee members.
  - c. The student's primary research mentor cannot be the chair of the thesis committee.
  - d. The composition of the committee should be considered carefully to avoid stacking. An indeppppc0 Tm (r





The following members of the compact review team are gratefully acknowledged for their contributions to this update:

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The AAMC is a not-for-profit association representing all 147 accredited U.S. medical schools, nearly 400 major teaching hospitals and health systems, and more than 80 academic and scientific societies. Through these institutions and organizations, the AAMC represents nearly 160,000 faculty members, 83,000 medical students, 115,000 resident physicians, and thousands of graduate students and postdoctoral trainees in the biomedical sciences.

To download this document, go to [www.aamc.org/gradcompact](http://www.aamc.org/gradcompact).

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## Introduction

The Compact Between Biomedical Graduate Students and Their Research Advisors presents guiding principles intended to support the development of positive mentoring relationships between predoctoral students and their research advisors. A successful student-mentor relationship requires commitment from the student, mentor, graduate program, and institution. This document offers a set of broad guidelines that are meant to initiate discussions at the local and national levels about the student-mentor relationship.

There are several potential uses for this document. Among those suggested are the following:

- As a starting point for discussions between predoctoral students, research advisors, and institutional administrators about the issues addressed by the compact
- As part of the orientation for new predoctoral students
- As part of a regular and ongoing discussion between predoctoral students and their research advisors
- As a source of topics to be discussed in graduate research programs
- As a part of the orientation for new research faculty
- As a source of topics to be discussed in faculty mentorship programs
- As a component of faculty evaluations
- As a tool to initiate the development of additional programs and support services for predoctoral students within a graduate research program

This compact was originally drafted in 2008 in collaboration with representatives of the AAMC Group on Graduate Research, Education, and Training (GREAT Group) and is modeled on the AAMC's Compact Between Postdoctoral Appointees and Their Mentors, available at [www.aamc.org/postdoccompact](http://www.aamc.org/postdoccompact). Input on this document was received from GREAT Group representatives and members of the AAMC governance. The document was endorsed by the then AAMC Executive Council on September 25, 2008. In 2016, a team consisting of representatives from the GREAT Group and the AAMC Council of Faculty and Academic Societies (CFAS) reviewed and updated the document. The GREAT Group, CFAS, and AAMC staff leadership provided input on the revised draft.

## Compact Between Biomedical Graduate Students and Their Research Advisors

Predoctoral training entails both formal education in a specific discipline and research experience in which the graduate student trains under the supervision of one or more investigators who will mentor the student through graduate school. A positive mentoring relationship between the predoctoral student and the research advisor is a vital component of the student's preparation for future careers and mentoring roles.

Individuals who pursue a biomedical graduate degree are embarking on a path of lifelong learning and are therefore expected to take responsibility for their scientific and professional learning and development from the onset. Graduate students must be in charge and take ownership of their progress through the graduate program. This means seeking guidance on and knowledge about course requirements and program requirements, policies, and procedures. Students must also commit to working on an individual development plan. Faculty members who advise students—with the backing of the graduate program and institution—are expected to fulfill the role of mentor, which includes providing scientific training, guidance, instruction in the responsible conduct of research and research ethics, and financial support. The faculty advisor also serves as a scientific and professional role model for the graduate student. In addition, the advisor offers encouragement as the graduate student prepares an individual development plan and

## Quality Mentoring

Effective mentoring is crucial for graduate school trainees as they begin their scientific careers. Faculty mentors must commit to dedicating substantial time to the scientific, professional, and personal development of the graduate student. Whether a faculty member acts as the primary research advisor or sits on a student's advisory committee, a relationship of mutual trust and respect between mentor and graduate student is essential for healthy interactions and to encourage individual growth. Effective mentoring should include teaching the scientific method, providing regular feedback in the form of both positive support and constructive criticism to foster individual growth, teaching the "ways" of the scientific enterprise, and promoting careers by providing or directing students to appropriate opportunities. The best mentors are careful listeners who actively promote and appreciate diversity. They possess and consistently maintain high ethical standards, acknowledge and recognize the contributions of students—in publications and intellectual property, for example—and have a record of research accomplishments and financial support. Finally, it should be recognized that mentoring does not end with a student's completion of the graduate program but continues throughout the student's professional life.

## Skill Sets and Counseling for a Broad Range of Career Choices

The institution, training programs, and mentor should provide training relevant to a broad variety of careers that will allow graduate students to appreciate, navigate, discuss, and develop career choices. Effective and regular career guidance activities should be offered.

## Commitments of Graduate Students

- I acknowledge that I have the primary responsibility for the successful completion of my degree. I will be committed to my graduate education and will demonstrate this by my efforts in the classroom, the research laboratory, and all other related academic and professional activities. I will maintain a high level of professionalism, self-motivation, initiative, engagement, scientific curiosity, and ethical standards, including complying with institutional and research group standards for contributing to an inclusive research environment.



- I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution. I will commit to meeting these requirements in the appropriate time frame and will abide by all institutional policies and procedures.
- I will attend and actively participate in laboratory meetings, seminars, and journal clubs that are part of my educational program. To enhance research, leadership, and additional professional skills, I will seek out other enrichment opportunities, such as participation in professional organizations and meetings, student representation on institutional committees, and coordination of departmental events.
- I will be knowledgeable of all institutional research policies. I will comply with all institutional laboratory safety practices and animal-use and human-research policies. I will participate in my institution's Responsible Conduct of Research Training Program and practice the guidelines presented therein while conducting my research. I will also seek input on and comply with institutional policies regarding my research design and data analysis.
- I acknowledge that I have the primary responsibility for the development of my own career. I recognize that I need to explore career opportunities and paths that match and develop my individual skills, values, and interests to achieve my desired career goals. I understand that there are tools such as the individual development plan that I should use to help me define my career goals and develop my training plan. I will seek guidance throughout my graduate education from my research advisor, career counseling services, thesis/dissertation committee, other mentors, and any other resources that can offer advice on career planning and the wide range of opportunities available in the biomedical workforce.

## Commitments of Research Advisors

- Throughout the graduate student's time in my laboratory, I will be supportive, equitable, accessible, encouraging, and respectful. I will foster the graduate student's professional confidence and encourage intellectual development, critical thinking, curiosity, and creativity. I will continue my interest and involvement as the student moves forward into a career.
- I will be committed to meeting one-on-one with the student on a regular basis. I will regularly review the student's progress and provide timely feedback and goal-setting advice.
- I will be committed to the graduate student's research project. I will work with the student to help plan and guide the research project, set reasonable and attainable goals, and establish a timeline for completion of the project.
- I will help the graduate student select a thesis/dissertation committee. I will assure that this committee meets at least annually (or more frequently, according to program guidelines) to review and discuss the graduate student's progress and future directions. I understand that the function of this committee is to help the student complete the doctoral research, and I will respect the ideas and suggestions of my colleagues on the committee.
- I will provide an environment that is intellectually stimulating, emotionally supportive, safe, equitable, and free of harassment.
- I will demonstrate respect for all graduate students as individuals without regard to gender, race, national origin, religion, disability or sexual orientation, and I will cultivate a culture of tolerance among the entire laboratory.
- I will be committed to providing financial resources, as appropriate and according to my institution's guidelines, for the graduate student to conduct thesis/dissertation research. I will not require the graduate student to perform tasks that are unrelated to the training program and professional development.
- I will expect the graduate student to share common laboratory responsibilities and use resources carefully and frugally. I will also regularly meet with the graduate student to review data management, storage, and record keeping. I will discuss with the student intellectual policy issues regarding disclosure, patent rights, and publishing research discoveries.
- I will discuss with the graduate student authorship policies regarding papers. I will acknowledge the graduate student's scientific contributions to the work in my laboratory, and I will provide assistance in getting the student's work published in a timely manner.
- I will be knowledgeable of and guide the graduate student through the requirements and deadlines of the graduate program and the institution, as well as teaching requirements, if any, and human resources guidelines.

- I will encourage the graduate student to attend and present their research at scientific/professional meetings and make an effort to secure and facilitate funding for such activities. In addition, I will provide opportunities for the student to discuss science and their research findings with colleagues and fellow scientists within the institution and broader scientific community—for example, at lab meetings, research days, and seminars.
- I will promote the training of the graduate student in professional skills needed for a successful career. These skills include but are not limited to oral and written communication, grant writing, management and leadership, collaborative research, responsible conduct of research, teaching, and mentoring. I will encourage the student to seek opportunities to develop skills in other areas, even if not specifically required by the student.<sup>18.1 (admission, entrance)</sup>

