

## MeettheExpert –TherapyResearch

Research,beitradiationtherapyorimaging,requiresmanpower.Inthepast,clinicalresourceswererelativelygenerousandsignificantresearchcouldbeconductedusingclinicalfunds.Decreasedclinicalresourcesmeansthatresearchgroupswillneedtodevelopfundingstrategieshatinvolveextramuralfunding,generallydividedinto corporate,foundation,andgovernmentalfunding.

Corporatefundingcanprovide significantresourcesforresearch.Thescopeofsuch grantswillspanfundamentalresearchtoproductdevelopmentandevaluation.In most cases,corporategrantsarecloselytiedtothecompany'sprofitgoalsandagoodfitis essentialtosecuringandmaintainingfunding.Thereisoftena“marketing”componenttothegrant,inthatthecompanybenefitsbykeepingthegranteehappy.However,this shouldnotbeconstruedasarationaleforthe grant,norshoulditbeconsideredwhen determiningthescopeofwork.Onlythehighestqualityresearchanddevelopmentwill leadtoalong-termgrantrelationship.Unlikegovernmentalgrants,agoodpersonal relationshipbetweenthe researchersandthecompanyrepresentativesisessential. Effectiveandregularcommunicationwillkeeptheprojectsontrackandflexibilitywill oftenberequiredasthe technologydevelopsandthecompanystrategychanges. Corporate fundingalsotendstobemorestablethangovernmentalfunding,firstbecauseitrelies heavilyonpersonalrelationships,andsecondbecausethecorporateenvironmentcan changerapidly.Whileitislessstablethangovernmentalfunding,itisoftenmuch easier toacquire. Corporateapplicationsaretypicallymuchshorterthanforgovernmental grantsandarigorousscientificapproachandstellarscientifictrackrecordarenotas importantasforgovernmentalgrants.

Governmental grants,includingfromtheNationalInstitutesof Health,theNational ScienceFoundation,andtheDepartmentofDefense,canprovideastablesourceof researchsupport, buttheytypicallyrequirelong,detailedapplicationsaswellasthe developmentofateamofexpertsomeofthespecificaims.Thesegrantsarevery competitiveandarepeer-reviewed,soobtainingoneofthesegrantsisveryvaluableto a CV,andmanyuniversitieshaverewrittenorunwrittenureguidelinesthatrequirethe facultymembertobetheprincipalinvestigatoronamajorgovernmentgrant.While therearemany sourcesofgovernmentalfunding,Iwillconcentratethediscussiononthe NationalInstitutesofHealth.Themajorinvestigator-initiatedgrantiscalledtheR01, whichhasnospecificlimitonfundingperyear(althoughtheruleschangeasthe requestedbudgetincreases),buttypicallyhasamaximumfundingperiodof5years(with a1-2yearextensionifsomefundsremainuncommitted).Themethodsforsubmission, review,andfundingofanR01willbepresented.Guidancefordevelopingaplan to successfullysubmitamajorgrant,suchasanR01willbedescribed.

ThisforumwillallowaspiringresearchersthabilitytodiscussthesissueswithDr. DanielLow,DirectorofMedicalPhysicsandaProfessorintheDepartmentofRadiation OncologyatWashingtonUniversity.

Dr. Low earned his Ph.D. in 1988 in the field of experimental Nuclear Physics from Indiana University and spent two years as a postdoctoral fellow at M.D. Anderson Cancer Center. In 1991, Dr. Low joined the faculty at Washington University in radiation oncology physics at what was then the Mallinckrodt Institute of Radiology. Dr. Low spent the next 10 years developing his medical physics research skills before getting his first NIH R01. Since then, Dr. Low has been the PI on two additional R01s and an R21 and has co-authored more than 90 peer-reviewed publications. Dr. Low was instrumental in the clinical implementation of IMRT and is now engaged in research in tomotherapy, human breathing motion for purposes of radiation therapy treatment planning, imaging, and delivery, and the development of a small-animal experimental conformal irradiator, called microRT. Dr. Low is a member and fellow of the AAPM.

Educational Objectives:

- 1) Understand corporate grants, including proposal and costs of corporate funding
- 2) Understand governmental grant submission, review, and funding processes
- 3) Be able to generate a plan for developing a funded research program