American Physical Society

Chairman Mollohan, Ranking Member Wolf and members of the committee, thank you for the opportunity to testify today. I, too, wish to add my appreciation, on behalf of American Physical Society and its members, for the much-needed science funding included in the American Recovery and Reinvestment Act of 2009 and the FY 2009 Omnibus Appropriations Act. Despite the significant increases, I would like to identify two related issues that should be taken into account: the out year mortgage created by the use of $2 billion in the Recovery Act for new grants; and the impact of state budget strictures and steeply declining university endowments on new faculty hires. According to information provided by the Administration, funding in the Recovery and Reinvestment Act must be obligated this year with outlays not extending beyond FY 2011. NSF has noted that it will treat the grants funded from the Stimulus as they do all other grants, with some terms extending up to five years. In this case, even if the NSF budget continues to grow at the rate recommended by President Obama, there could be a budget shortfall in FY 2012 to cover those stimulus-funded grants. We estimate that the shortfall could lie between $150 and $200 million.

It is important that we avoid the "boom and bust" cycle for science funding that has been seen in the past, one in which science funds rise abruptly and then fall short of needs several years later. This kind of funding pattern has well documented consequences, as evidenced in the physical sciences during the 1970's and the biomedical sciences most recently. Such disruptions in the academic community tend to fall disproportionately on the most vulnerable: students and young faculty members.

To alleviate the out-year mortgage I recommend that the Committee consider appropriating an aggregate of $150 to $200 million in FY 2010 and FY 2011 in the form of one-year start-up funds for new, young, non-tenured faculty members. These funds are necessary to equip their labs so that they can have successful careers. In recent years, in areas such as experimental science, universities have provided such start-up funds, amounting to about $500,000 per new hire. But most universities are not in a position to make such commitments today, due to declining endowments and, in the case of public universities, sharp reductions in state support. Moreover, we do not expect to see endowments recover fully for at least 5-8 years.

In addition to the lack of start up funds for young investigators, many senior, tenured faculty have been unable to retire because of the declining value of their retirement funds. As a result, faculty positions are not coming open for the many worthy young investigators coming through the academic pipeline. Because they are unable to gain employment in their fields, they will either leave science entirely or look for employment in other countries. Five years from now the academic science pipeline could be remarkably damaged.

Unless universities are able to get near-term assistance from NSF to fill this economic gap, the academic pipeline of young investigators will suffer.