



To: Massachusetts Delegation Legislative Directors, Education LAs and Science LAs

From: **Boston University** – Jennifer Grodsky and Emily Burlij, Federal Relations
Harvard University – Suzanne Day, Kara Haas, and Peter DeYoe, Office of Federal Relations
Massachusetts Institute of Technology – David Goldston, Philip Lippel, and Kate Stoll, Washington Office

Date: March 15, 2021

Re: FY 2022 Programmatic Requests for Federal Science and Education Agencies

Please find attached information on fiscal year (FY) 2022 priorities for Massachusetts' research universities to support your programmatic requests to the Appropriations Committee. We appreciate the strong support for research and education among our delegation, and we are happy to provide further information or assistance as required.

As the FY 2022 appropriations process begins, we encourage Congress to invest critically needed resources to create strong student aid and federal research programs. As you know, federal support for these programs enables Massachusetts' research universities to lead the way in scientific discovery and educating future leaders. This in turn attracts private investment and contributes to the vibrant economy of Massachusetts. This ecosystem of innovation depends on robust, sustainable investment by Congress in research and higher education.

The federal research enterprise has never been more important in guiding the nation as we seek to rebuild our economy in the pandemic's aftermath, take concrete action to combat climate change and address racial and other inequities. But the daily practice of that enterprise has never been so challenged. The safe return to work has come at great cost—in both resources and time. Many young graduate students and early researchers – often the most diverse classes of new scientists in their fields – have seen their projects paused and their careers made uncertain. Researchers report uneven consequences as a result of remote work and physical distancing requirements, which have reduced access to collaborators, lab facilities, and specialized equipment, reducing normal productivity. As we approach the year anniversary of the loss of university operations, and the return of up to 50 percent of normal operations in research labs, know that federally sponsored research is taking longer to complete and is more expensive to conduct.

While this letter is focused on the regular FY 2022 appropriations process, we must appeal to you for emergency support through federal research agencies to preserve the investments for which you fought in past years. If we seek to ease the disruptions to existing federal projects through regular appropriations, we will be sacrificing the support meant for new work, and vice versa. In addition to strong FY 2022 funding, we urge you to continue advocating with your

colleagues for emergency supplemental appropriations to support existing federal investment and the next generation of talented young minds.

In addition to the specific appropriations requests in this letter, we want to note that Congress may also consider important expansions to the research enterprise that would require additional funding. For example, proposals may move forward to create a new Technology Directorate at the National Science Foundation, to create an ARPA-C to increase the focus on climate research, and to create an H-ARPA focused on health, to cite some of the most prominent ideas.

Thank you for considering these requests, for your ongoing advocacy for research and education, and for your support of Massachusetts research universities.

LABOR, HEALTH, AND HUMAN SERVICES, EDUCATION AND RELATED AGENCIES

National Institutes of Health (NIH)

FY 2022 Request: \$46.1 billion

FY 2021 level: \$42.9 billion

Dear Colleague: Generally circulated by Reps. André Carson (D-IN) and David McKinley (R-WA)

Dear Colleague: Generally circulated by Sen. Bob Casey (D-PA)

Massachusetts institutions received over \$3 billion in funding from NIH in FY 2020. Our researchers are making discoveries to advance treatments and cures for diseases such as cancer, Alzheimer's disease, and mental health disorders. NIH also provides irreplaceable training support to early career biomedical researchers at our institutions; this support must be expanded so as not to disrupt the research workforce or the recent gains in diversifying the STEM pipeline.

Department of Education, Pell Grants

FY 2022 Request: \$13,000 Maximum Discretionary Award

FY 2021 Enacted: \$6,495 Maximum Discretionary Award

Dear Colleague: Generally circulated by Rep. Marcia Fudge (D-OH)

We urge Congress to double the maximum Pell Grant award for low-income students. The Pell Grant program is the foundation of federal student aid, helping approximately 110,000 students attend college in Massachusetts. Our universities build on the foundation provided by Pell and other federal aid programs with own institutional aid. As a result, we can maintain affordability and outstanding educational quality.

Department of Education, Federal Work Study (FWS)

FY 2022 Request: \$1.48 billion

FY 2021 Enacted: \$1.19 billion

Dear Colleague: Generally circulated by Sen. Kirsten Gillibrand (D-NY)

FWS helps student succeed in college and prepare for the world of work. Massachusetts universities participate in campus-based student aid programs at a very high level, with more than 32,000 Massachusetts students receiving FWS in the 2018-19 academic year.

Department of Education, Supplemental Education Opportunity Grant (SEOG)

FY 2022 Request: \$1.06 billion

FY 2021 Enacted: \$880 million

Dear Colleague: Generally circulated by Sen. Kirsten Gillibrand (D-NY)

Campus-based student aid programs help students by leveraging federal dollars with universities' own aid. SEOG awards are available to students with "exceptional need." More than 47,000 Massachusetts students receive SEOG.

Department of Education, Institute for Education Sciences

FY 2022 Request: \$700 million

FY 2021 Enacted: \$643 million

Dear Colleague: Generally circulated by Reps. Suzanne Bonamici (D-OR) and Huffman (D-CA);

Dear Colleague: Generally circulated by Sen. Brian Schatz (D-HI)

Investing in peer-reviewed education research activities at the Institute of Education Sciences results in innovations in both teaching and learning, improving classrooms around the nation. IES is the only federal agency exclusively devoted to funding educational research, and is playing a critical role in understanding learning loss due to the pandemic. Only 1 in 10 IES applications is currently funded, leaving important education research questions unanswered.

Department of Education, International Education and Foreign Language

FY 2022 Request: \$151 million

FY 2021 Enacted: \$78 million

Dear Colleague: Circulated by Reps. David Price (D-NC) and Don Young (R-AK); contact Nora Blalock (Price) at nora.blalock@mail.house.gov or Kemorley Crosley (Young) at kemorley.crosley@mail.house.gov to sign on.

Dear Colleague: Generally circulated by Sen. Brian Schatz (D-HI)

The Title VI/ Fulbright-Hays International Education and Foreign Language programs support training in critical foreign languages, educational outreach activities for K-12 schools, and curriculum development for the multidisciplinary study of regions around the world, including Africa and the Middle East. In an increasingly interconnected world, these international education programs are an essential means for Massachusetts to develop a globally fluent citizenry.

Department of Education, Graduate Assistance in Areas of National Need (GAANN)

FY 2022 Request: \$35 million

FY 2021 Enacted: \$23 million

GAANN fellowships provide financial support for Massachusetts graduate students pursuing doctoral education in fields that are critical to national priorities, including: biology; chemistry; computer and information sciences; engineering; mathematics; nursing; physics; and educational assessment, evaluation and research. Our request is the program's authorized level.

Institute of Museum and Library Services (IMLS)

FY 2022 Request: \$206.5 million for Libraries and \$80 million for Museums

FY 2021 Enacted: \$197.5 million for Libraries and \$40.5 million for Museums

IMLS is the primary source of federal funding for the nation's museums and libraries, including many in Massachusetts, and this request builds on recently authorized levels for the agency. Through grants and local programs, the IMLS supports education, preservation, digitization, and many more programs to enrich the community. In 2020, the IMLS provided \$6.75 million in grants straight to the Commonwealth.

COMMERCE, JUSTICE, SCIENCE AND RELATED AGENCIES

National Science Foundation (NSF)

FY 2022 Request: At least \$10 billion

FY 2021 Enacted: \$8.48 billion

Dear Colleague: Generally circulated by Reps. G.K. Butterfield (D-NC) and David McKinley (R-WV)

Dear Colleague: Generally circulated by Sen. Ed Markey (D-MA)

NSF is the federal government's primary funder of basic research, supporting work across scientific disciplines with the potential to foster breakthrough discoveries. In FY 2020, NSF made more than 850 competitive awards totaling approximately \$550 million to over 100 institutions in Massachusetts. NSF makes awards based on intellectual merit and broader societal impact, through a proven system of peer review. Our institutions request robust, year over year increases to allow the agency to fund additional meritorious proposals across all its research directorates as well as the directorate for education and human resources.

National Aeronautics and Space Administration (NASA) Science account

FY 2022 Request: \$9 billion

FY 2021 Enacted: \$7.3 billion

NASA is a key federal contributor to advancing research in the physical sciences on Earth and in space, Massachusetts institutions continue to play key roles in major NASA missions, and researchers largely seek funding through the Science Mission Directorate's pool of grants that support research using data from these and other missions. This funding – divided across the Directorate's four discipline-specific Divisions and the Space Grant Program to encourage space education – collectively comprises the bulk of NASA research at our universities.

National Aeronautics and Space Administration (NASA) Space Technology

FY 2022 Request: \$1.5 billion

FY 2021 Enacted: \$1.1 billion

NASA Space Technology develops innovative tools and invests in cutting edge technology development that support some of the best minds in science. Moreover, it funds fellowship programs to support the next generation of innovators on Massachusetts campuses.

National Oceanographic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR)

FY 2022 Request: at least \$548 million

FY 2021 Enacted: \$548 million

The Office of Oceanic and Atmospheric Research (OAR) provides the research foundation for answering scientific questions and infrastructure challenges related to ocean research. The OAR increases the effectiveness of observations, monitoring, and modeling to help states manage their

infrastructure aquaculture and water resources, fisheries, as well as natural disaster planning and response approaches.

DEFENSE

Department of Defense (DOD) Basic (6.1) Research

FY 2022 Request: \$2.83 billion

FY 2021 Enacted: \$2.67 billion

Our institutions support basic research, or 6.1 programs, across the services, including sustained funding for the Multidisciplinary University Research Initiative, which supports teams of faculty conducting research in high priority fields that cross typical scientific disciplines, and the National Defense Science and Engineering Graduate Fellowships program, which provides fellowships for doctoral students pursuing a degree of interest to the DOD. We also support the Minerva Initiative, the Department's premier social science research program that deepens understanding of the social, cultural, and political forces affecting areas of strategic importance to the U.S.

Defense Advanced Research Projects Agency (DARPA)

FY 2022 Request: \$3.7 billion

FY 2021 Enacted: \$3.5 billion

The Defense Advanced Research Projects Agency (DARPA) funds high-risk, high-reward research that can lead to innovative applications for the warfighter. DARPA is known for its willingness to fund ambitious research, leading to game changing technologies such as GPS and the Internet.

ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES

Department of Energy (DOE) Office of Science

FY 2022 Request: \$7.7 billion

FY 2021 Enacted: \$7 billion

Dear Colleague: Generally circulated by Reps. Bill Foster (D-IL), Lee Zeldin (R-NY), and Randy Weber (R-TX)

Dear Colleague: Generally circulated by Sens. Dick Durbin (D-IL) and Tammy Duckworth (D-IL)

The DOE Office of Science is a key funder of discovery-based and use-inspired basic research in fields including physics, chemistry, materials science, environmental science, advanced scientific computing, biology, and applied mathematics. Massachusetts universities and scientific organizations received more than \$100 million in DOE Office of Science funding in fiscal year 2020, with major awards from every part of the Office. Massachusetts scientists also take advantage of world-class user facilities at ten DOE National Laboratories funded through the Office of Science.

DOE Advanced Research Projects Agency-Energy

FY 2022 Request: At least \$500 million

FY 2021 Enacted: \$427 million

ARPA-E supports early-stage energy technologies with transformational potential in order to lessen our reliance on energy imports, reduce energy-related emissions such as greenhouse gases, and improve energy efficiency. The full request would allow the agency to hold competitions in 7 or 8 new areas as well as an open-topic competition. Thirty-five awards are currently being executed by Massachusetts' teams, including some at each of our universities and several at affiliated companies. Sixteen new ARPA-E projects were initiated in Massachusetts during the last year.

DOE Office of Energy Efficiency and Renewable Energy

FY 2022 Request: at least \$3.14 billion

FY 2021 Enacted: \$2.85 billion

The Office of Energy Efficiency and Renewable Energy funds research, development, and implementation programs aimed at improving the energy efficiency of homes, buildings, and industrial processes (including five ManufacturingUSA Institutes with Massachusetts members); developing clean and efficient new vehicles and transportation systems; and developing affordable renewable energy technologies such as wind, solar, and geothermal. Massachusetts universities and companies working towards a low-carbon energy future through EERE programs received over \$39 million in FY 2019, helping to make Massachusetts and New England leaders in the clean energy revolution.

INTERIOR, ENVIRONMENT AND RELATED AGENCIES

National Endowment for the Humanities (NEH)

FY 2022 Request: \$225 million

FY 2021 Enacted: \$168 million

Dear Colleague: Generally circulated by Reps. David Price (D-NC) and Steve Stivers (R-OH)

NEH provides support for humanities research, such as history, preserving endangered languages and cultures, and literature. NEH programs stimulate creativity and innovation, helping us better understand social and international dimensions of complex questions.

National Endowment for the Arts (NEA)

FY 2022 Request: at least \$168 million

FY 2021 Enacted: \$168 million

NEA provides support for Americans to participate in and engage with the arts across a wide variety of media and programs, including exhibits, concerts, readings, and other performances. This commitment to the arts—through state, local, and public-private partnerships—shares the benefits of these programs with every district in every state.

Environmental Protection Agency (EPA) Science and Technology

FY 2022 Request: \$769 million

FY 2021 Enacted: \$729.3 million

EPA's Science and Technology (S&T) programs provide the foundation for credible decision-making to safeguard human health and ecosystems from environmental pollutants. EPA supports research in a number of areas, including air quality, chemical safety, climate change, water and homeland security, among others. The agency's budget – including the budget for its S&T programs – has steadily eroded over the past decade, and we urge Congress to begin reversing this trend and restoring EPA S&T.