

Budget Detail Request - Fiscal Year 2016-17

Your request will not be officially submitted unless all questions and applicable sub parts are answered.

1. Title of Project: Wall of Wind Infrastructure Upgrades
2. Date of Submission: 12/18/2015
3. House Member Sponsor(s): Jeanette Nunez

4. DETAILS OF AMOUNT REQUESTED:

- a. Has funding been provided in a previous state budget for this activity? No
If answer to 4a is ?NO? skip 4b and 4c and proceed to 4d
- b. What is the most recent fiscal year the project was funded?
- c. Were the funds provided in the most recent fiscal year subsequently vetoed? No
- d. Complete the following Project Request Worksheet to develop your request (Note that Column E will be the total of Recurring funds requested and Column F will be the total Nonrecurring funds requested, the sum of which is the Total of the Funds you are requesting in Column G):

FY:	Input Prior Year Appropriation for this project for FY 2015-16 (If appropriated in FY 2015-16 enter the appropriated amount, even if vetoed.)			Develop New Funds Request for FY 2016-17 (If no new Recurring or Nonrecurring funding is requested, enter zeros.)			
	Column: A	B	C	D	E	F	G
Funds Description:	Prior Year Recurring Funds	Prior Year Nonrecurring Funds	Total Funds Appropriated (Recurring plus Nonrecurring: Column A + Column B)	Recurring Base Budget (Will equal non-vetoed amounts provided in Column A)	INCREASED or NEW Recurring Requested	TOTAL Nonrecurring Requested (Nonrecurring is one time funding & must be re-requested every year)	Total Funds Requested Over Base Funding (Recurring plus Nonrecurring: Column E + Column F)
Input Amounts:					0	212,000	212,000

- e. New Nonrecurring Funding Requested for FY 16-17 will be used for:
 Operating Expenses Fixed Capital Construction Other one-time costs
- f. New Recurring Funding Requested for FY 16-17 will be used for:
 Operating Expenses Fixed Capital Construction Other one-time costs

5. Requester:

- a. Name: Arindam Gan Chowdhury
- b. Organization: Florida International University's International Hurricane Research Center
- c. Email: chowdhur@fiu.edu
- d. Phone #: (305)348-0518

6. Organization or Name of Entity Receiving Funds:

- a. Name: FIU's International Hurricane Research Center
- b. County (County where funds are to be expended) Miami-Dade
- c. Service Area (Counties being served by the service(s) provided with funding) Statewide

7. Write a project description that will serve as a stand-alone summary of the project for legislative review. The description should summarize the entire project's intended purpose, the purpose of the funds requested (if request is a sub-part of the entire project), and most importantly the detail on how the funds requested will be spent - for example how much will be spent on positions and associated salaries, specifics on capital costs, and detail of operational expenses. The summary must list what local, regional or statewide interests or areas are served. It should also document the need for the funds, the community support and expected results when applicable. Be sure to include the type and amount of services as well as the number of the specific target population that will be served (such as number of home health visits to X, # of elderly, # of school aged children to receive mentoring, # of violent crime victims to receive once a week counseling etc.)

The National Science Foundation recently selected the Wall of Wind as one of the nation's major Experimental Facilities (EFs) under the Natural Hazards Engineering Research Infrastructure (NHERI) program. The NSF award is a five-year cooperative agreement of nearly \$4.1 million and is geared to help researchers better understand wind effects on building systems and other structures and prevent wind hazards from becoming community disasters. This includes \$166 thousand in other facility upgrades including a gantry crane, data storage/management and telepresence. The WOW team is requesting additional state funding to help with facility infrastructure improvements:

One set of fan-motor system (\$100,000) Additional fan-motor system as a contingency in case one of the fans or motors malfunction

Wall of Wind Turntable control program and position encoder and Data Acquisition software/hardware upgrade(\$35,000) The WOW cRio data acquisition was built in 2009 and has been supporting the data collection at the facility since then. Newer hardware and/or a software upgrade can enhance the capabilities of the facility by providing more sampling channels, capability for different sensors currently not supported and faster sampling frequencies. Currently, the turntable control program and position encoder rely on an USB-through Ethernet-extender, which has been damaged by power surges several times. Also the turntable control program lost the capabilities of preset profiles for automated operation and the zero position makes the software lose control. It can be upgraded to support a more efficient operation during testing.

Calibration Update of Existing Instrumentation (\$20,000) Recalibration costs of existing instruments by third party laboratories

Scissor lift (used) (\$10,000) Equipment to help staff reach high elevations inside WOW building to install equipment, instruments and/or cameras.

Turntable pit improvement (\$4,000) The turntable pit isn't waterproof and every time a test with wind-driven rain is performed, instruments have to be removed from the pit. A/C would provide a comfortable working environment for staff working on instruments inside the pit, as well as dryer air for the operation of instruments.

Covered walkways between OCC-WOW-Staging (\$8,000) Covered walkways will provide students, staff and users with protection from the weather on the walkways between the different WOW buildings.

Test section anchor points (\$15,000) Anchor points on the test section will support holding down the test models to ensure the proper testing conditions.

WOW Building and test section lighting (\$20,000) Improvements can be done to lighting of the WOW building to have energy efficient fixtures that also minimize maintenance costs and also improve on the lighting of the test section to achieve better quality videos.

The FIU 12-fan Wall of Wind (WOW) Research and Testing Facility was inaugurated on August 24, 2012, the 20th anniversary of Hurricane Andrew's landfall in South Florida. The WOW facility is capable of performing controlled testing in flows that replicate hurricane winds up to Category 5 and accompanied by wind-driven rain. The WOW has confirmed the effectiveness of large- and full-scale wind and rain testing approaches. As a result, the team is advancing the understanding of hurricane impacts on buildings and developing/validating innovative damage mitigation products to foster hurricane resilient communities. Also, full-scale experimentation results were applied to improve Florida Building Code's wind load provisions on building roof mounted equipment for the State of Florida, including its High Velocity Hurricane Zones. Research collaboration has encompassed various engineering fields including wind, civil, mechanical, and structural engineering in addition to architecture.

8. Provide the total cost of the project for FY 2016-17 from all sources of funding:

Federal: 0

State: 0 (Excluding the requested Total Amount in #4d, Column G)

Local: 0

Other: 0

9. Is this a multi-year project requiring funding from the state for more than one year?

No