

LFIR # 2366

- Project Title
   Mote Marine Laboratory STEM Education
- 2. Senate Sponsor Kelli Stargel
- 3. Date of Request 01/08/2020

### 4. **Project/Program Description**

Mote Marine Laboratory is an independent, nonprofit marine research institution with a unique model for translating real-world STEM (science, technology, engineering and math) discoveries for direct K-12 educational impact. Access to high-quality STEM learning that engages young people in authentic experiences is a critical piece of addressing educational deficiencies and inequities for Florida students. The Mote STEM education model deploys both structured and informal STEM education strategies through a combination of Mote's world-class research, education and aquarium programs (a model approach endorsed by the National Research Council). By leveraging its unique scientific and public aquarium resources with exceptional award-winning education and research staff and an innovative, entrepreneurial culture, Mote seeks to implement a new paradigm for increasing success of Florida students in STEM through immersion in a unique experiential engagement by students, parents and teachers.

5. State Agency to receive requested funds

Department of Education

State Agency contacted? O Yes 

No

#### 6. Amount of the Nonrecurring Request for Fiscal Year 2020-2021

Type of Funding	Amount
Operations	2,500,000
Fixed Capital Outlay	2,500,000
Total State Funds Requested	5,000,000

7. Total Project Cost for Fiscal Year 2020-2021 (including matching funds available for this project)

Type of Funding	Amount	Percentage	
Total State Funds Requested (from question #6)	5,000,000	78.0 %	
Matching Funds			
Federal	300,000	5 %	
State (excluding the amount of this request)	00	0 %	
Local	975,000	15 %	
Other	130,000	2 %	
Total Project Costs for Fiscal Year 2020-2021	6,405,000	100 %	

### 8. Has this project previously received state funding? $\bigcirc$ Yes $\odot$ No

If yes, provide the most recent instance:

Fiscal Year			Specific	
(уууу-уу)	Recurring	Nonrecurring	Appropriation #	Vetoed

9. Is future-year funding likely to be requested? • Yes • No

If yes, indicate nonrecurring amount per year.

5,000,000



LFIR # 2366

### 10. Details on how the requested state funds will be expended

Spending Category	Description	Amount
Administrative Costs:		
Executive Director/Project		
Head Salary and Benefits		
Other Salary and Benefits		
Expense/Equipment/		
Travel/Supplies/Other		
Consultants/Contracted		
Services/Study		
Operational Costs: Oth	le la	
Salary and Benefits	Mote STEM education, research and support staff for designing, implementing, conducting and assessing proposed STEM initiative.	800,000
Expense/Equipment/	Supplies, materials and scientific tools for STEM research learning and experiments that provide	500.000
Travel/Supplies/Other	enhanced educational experiences for K-12 students.	500,000
Consultants/Contracted Services/Study	Includes professional design/consultations for enhancement and implementation of extended new STEM	1,200,000
Services/Study	experiences beyond the typical classroom, lab or aquarium engagement, ranging from virtual reality and advanced technology, to boat outings, and charters for dive and snorkel trips for students to experience	
	marine STEM first-hand.	
Fixed Capital Construc	tion/Major Renovation:	
Construction/Renovation/ Land/Planning	Partial funding for design, engineering and construction implementation of 3 K-12 STEM Education Teaching Laboratories and 2 high school/undergraduate STEM workforce training laboratories that will	2,500,000
Engineering	be co-located with the new Mote Science Education Aquarium located at Nathan Benderson Park, a	
	nexus location between Manatee and Sarasota Counties and within 60 minutes driving access for over 3 million Florida residents.	
Total State Funds Re	equested (must equal total from question #6)	5,000,000



LFIR # 2366

#### 11. Program Performance

#### a. What specific purpose or goal will be achieved by the funds requested?

Mote will work with partners (SW FL County School Systems and community organizations such as Children First, Easter Seals, Girls Inc., RL Taylor Community Complex, the YMCA Triad Alternative School and Boys and Girls Clubs) to design and deliver interactive and hands-on STEM education, especially for underserved and underrepresented youth and special needs students. Lesson plans will focus on ocean literacy and exposure to science as part of an educational or career path and curriculum is designed to complement the learning level and ability of the students. Students will use multiple disciplines to investigate and engineer solutions to problems and to construct evidence-based explanations of real-world scenarios in student-centered learning environments.

#### b. What activities and services will be provided to meet the intended purpose of these funds?

Lesson plans will be designed to provide meaningful, inquiry-based experiences that engage participants with a variety of essential skills within the context of a locally relevant marine STEM topic. Mote STEM education programs will significantly reduce traditional barriers to access in education and the sciences through a strategic combination of structured education programs at one of Mote's campuses, digital distance-learning opportunities, Mote staff traveling to and providing STEM education program at our partners locations, and providing innovative and interactive STEM informal education experiences for students at the Mote Aquarium. Programs and lesson plans are highly customized and accommodate for a variety of factors including age, ability, need, demographic and socio-economic status. Our partner organizations' teachers and staff also gain increased knowledge of science topics, as well as improved confidence incorporating STEM into their instructional practice.

#### c. What direct services will be provided to citizens by the appropriation project?

Access to high-quality STEM informal learning that engages young people in authentic experiences is a critical piece of addressing STEM educational deficiencies and inequities for Florida students. Despite the well-publicized and well-understood need for STEM education and hands-on experience in science, only one-third of 8th graders, are interested in the fast-growing STEM careers of the future. As a world-class marine research laboratory, with a public aquarium and extensive Education Division, Mote Marine Laboratory is in a unique position to help improve STEM education in partnership Florida's local schools and education organizations. Our STEM education programs will provide intellectually and socio-emotionally rich and authentic experiences that leverage the real science that is being done at Mote, our audience interests, experiences, and cultural resources to make explicit and meaningful connections across settings, including different environments, throughout one's life.

#### d. Who is the target population served by this project? How many individuals are expected to be served?

Approximately 25,000 k-12 students will participate in at least one of over 40 structured STEM education programs, approximately 70,000 k-12 students will engage in Mote's informal science education programs, and approximately 200 high school and undergraduate students will participate in STEM workforce education internships at Mote. Students, especially girls and those from under-served communities, working side-by-side with Mote professionals, will have the ability to gain real-world ocean related STEM experiences and explore STEM-related careers, while also practicing valuable job skills such as communication, public speaking, collaboration and time management.

### e. What is the expected benefit or outcome of this project? What is the methodology by which this outcome will be measured?

Project will increase participants' STEM content knowledge and applied STEM-related skills, including: problem solving, working in teams, thinking critically, approaching challenges creatively, and applying new information. Results will also include increase positive feelings toward STEM and confidence when conducting science-related activities by students, and make careers in science more accessible for them. Outcomes will be measured by a variety of metrics including number of students who participate in the Mote STEM education programs, and increased STEM competencies of students.

### f. What are the suggested penalties that the contracting agency may consider in addition to its standard penalties for failing to meet deliverables or performance measures provided for in the contract?

Quarterly reimbursable funding could be withheld on a proportional basis for annual student participation level deliverables not achieved in the following manner: annual participation of ~25,000 k-12 students in at least one of over 40 Mote STEM education programs constitutes 50% funding, ~70,000 k-12 students in Mote's informal science education programs constitutes 30% funding, and ~200 high school and undergraduate students in STEM workforce education internships at Mote constitutes 20% funding.



# 12. The owners of the facility to receive, directly or indirectly, any fixed capital outlay funding. Include the relationship between the owners of the facility and the entity.

The owner of the new facility will be Mote Marine Laboratory Inc., a Florida 501 (c) 3.

#### 13. Requestor Contact Information

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	b.	Organization	Mote Marine Laboratory		
	c.	E-mail Address	mcrosby@mote.org		
	d.	Phone Number	(941)388-4441	Ext.	
14.	Re	cipient Contact	Information		
	a.	Organization	Mote Marine Laboratory		
	b.	Municipality and	County Sarasota		
	c.	Organization Typ	De		
		O For-profit E	ntity		
		O Non-Profit 5	501(c) (3)		
		O Non-Profit &	501(c) (4)		
		<ul> <li>Local Entity</li> </ul>	,		
		O University of	or College		
		<ul> <li>Other (plea</li> </ul>	se specify) Non Profit 501(c) (3)		
	d.	First Name	Michael	Last Name	Crosby
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15.	Lo	bbyist Contact I	nformation		
	a.	Name	Mr. David Shepp		
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