



### **Center for STEAM Advancement (CSA) Program Coordinator**

The Program Coordinator (PC) is responsible for coordinating all aspects of the CSA as discussed in the Project Description provided in pages 3-7. It is a hybrid position working at TCM and the partner organizations as well as at the Program Coordinator's home.

#### Essential Functions:

- Coordinate communications, timeline and plan implementation between CSA partner organizations.
- Provide comprehensive written reports documenting the programs actions and outcomes.
- Other related duties as assigned.

#### Essential Skills:

- Demonstrated strong, positive communication and organizational skills.
- A clear knowledge of academic and career developmental challenges faced by Hartford youth.
- Ability to quickly immerse oneself in the organizations culture and mission and demonstrate an understanding of the overall business and organizational objectives.
- Demonstrated a solid understanding of successful business processes and financial reporting.
- Ability to foster a team approach and work collaboratively to move agenda.
- Ability to prioritize projects, meet deadlines and produce quality results within appropriate timeframe.
- Must have efficient and strong time and record keeping management skills.
- Proficient in Microsoft office applications, including Word, PowerPoint and Excel.

#### Qualifications:

- Minimum of a related 4-year degree from an accredited college with some experience in program or project management.
- Prior experience in Not-For Profit organizations preferred.

Salary range: \$40,000 to \$52,000 dependent on experience and prior demonstrated successes. Position is considered Full-Time and includes a benefit package.



This position reports administratively to the Director of Operations of The Children's Museum and programmatically to the Project Oversight Committee, Chaired by Adam Cloud, Hartford City Treasurer and with members from each of the partner organizations, The YMCA, the Parent University, the Legacy Foundation, the Hartford Youth Scholars and The Children's Museum.

### **The Center for STEAM Advancement**

*A multi-year collaboration engaging over 20 Hartford region organizations and supporters*

#### **The issue and its significance:**

There are two basic tenets underlying the proposed project:

- The academic interests and performance of Hartford area youth are below the levels needed.
- Academic achievement is a key element of their career and financial growth as well as the Hartford region's success and growth.

A major challenge faced by the children of Hartford, and similar such urban areas, is that of finding pathways out of their underserved situations to successful, responsible citizenship, meaningful careers and fiscal stability. In this quest, they encounter many barriers, two dominant ones of which are restricted perspectives and limited mobility. They are not routinely exposed to a range of developmental opportunities and have limited means to either discover or pursue them.

There is a distinct need to address these issues in Hartford and its peer cities at this particular time. After extended and pervasive periods of near-bankruptcy, social and economic improvements are crucial. To ensure a successful recovery, Hartford, like other cities, is partnering with political, corporate and philanthropic organizations to address the underlying issues of low per-capita income, low academic performance and high unemployment rates. Currently, Connecticut has one of the U.S.'s highest disparities in academic performance across racial, ethnic, and income groups. Its 2014 Connecticut Mastery Test results indicated that 44.6% of fifth grade and 38.9% of eighth grade science scores did not meet state goals. Young CT students of color lag even further behind--the percentages of 4th graders at or above a proficient math level in 2015 were: Whites: 52%, Hispanics: 19%, Blacks: 9%. Of the 165 CT school districts, Hartford Public schools' academic performance ranked 127th. According to data from the 2010 United States Census<sup>1</sup> and the "2011-2015 American Community Survey 5-Year Estimates,"<sup>2</sup>, Hartford's per-capita income of \$16,796 and median household income of \$28,790 places it as the lowest of the towns and cities in CT. In comparison, other CT towns and cities have an average median household income of \$90,300, while the US averages a median household income is \$71,900<sup>3</sup>. This is all occurring within a period of national record-low unemployment levels and high demand for a well-educated citizenry and workforce to sustain the economy. It is widely believed that for these children to emerge and participate will require them to develop a respectable level of STEM (Science, Technology, Engineering and Math) competency. There is also compelling evidence that this can be achieved if STEM



activities are introduced early in a child's development<sup>4-10</sup>, and they are actively supported by the child's family and community.

There are two additional challenges faced by the targeted urban populations. First, and most importantly, such programs must be easily accessible to such families, the majority of which have limited financial and transportation options—i.e. the programs must be available at low or zero cost on a regular recurring basis in the neighborhoods in which they reside. Secondly, there is a significant number of the adult urban population for which English is a second language, requiring an approach that is sensitive to the inherent limitations of the parents and caregivers to actively engage and support their children in STEM activities.

### **Background:**

Four years ago, TCM initiated a study in direct partnership with numerous Hartford based organizations to identify an approach for understanding and addressing the issues and challenges identified above. These exploratory efforts resulted in three pilot STEAM-based ((Science, Technology, Engineering, the Arts and Math) efforts conducted in 2017 and 2018 as well as the launch of a scaling effort in the summer of 2019 through the "***Bringing STEM/STEAM to Hartford Neighborhoods***"<sup>11</sup> (the Neighborhoods) Project involving 11 community service groups plus several community and corporate support groups. The Neighborhoods Project, with its continued focus on 3-14 year-olds and their parents/caregivers, will be the foundational element of the Center for STEAM Advancement (CSA), a collaborative endeavor by five Hartford based organizations.

### **CSA's Goal:**

To markedly improve the level of STEAM/STEM interests and competency, as well as the academic achievements of Hartford area's youth. In so doing it will also precipitate a perceptual shift toward a community collectively embracing/promoting STEM competency for all youth. This will be achieved through the creation and management of a STEAM/STEM-pipeline from kindergarten through college by CSA's member organizations. To that end, each member organization of CSA will bring their existing mission statements, strengths and community relationships to the project so as to create a more comprehensive and coordinated approach producing higher levels of impact.

### **Approach:**

CSA's approach for achieving its goals will have three core elements:

- ***Connecting Hartford's dots***, by integrating the good works of numerous existing Hartford organizations and supporters.
- ***Sustaining for impact***, by making no less than a five-year commitment to the effort and process.
- ***Monitoring, measuring and adjusting for improvement***, by employing best practices to learn what needs to be changed and how.



Five community-based organizations will conduct a multi-year collaborative project aimed at enhancing the career development pipeline, strengthening parent engagement and creating a seamless level of mentoring and guidance for Hartford's underserved children. It will specifically focus on bringing high quality STEAM/STEM-based activities and learning opportunities into local Hartford neighborhoods for children from kindergarten-age through college. The founding Center members will be The Legacy Foundation, The Hartford Parent University, Hartford Youth Scholars, the Wilson Gray YMCA Tech Center and The Children's Museum (TCM), who will move its operational headquarters to Hartford and manage the initiative. This project will have at its foundational base, the existing **Hartford Neighborhoods** project wherein a collaborative of 11 service organizations, led by TCM, provide STEAM/STEM-based enrichment activities<sup>12</sup> directly to 3 to 14-year old children with their families/caregivers at local venues in their respective Hartford neighborhoods. Within the CSA, the other four member organizations of the Center will introduce additional children and parents to the value of Out-of-School-Time STEAM/STEM-based activities as well as provide teenagers and college students opportunities to learn and experience how to teach and mentor elementary school-age children.

Five fundamental best-practices will be employed in this project: 1.) The well-known, time-tested "Families-Learning Together" approach employed by virtually all museums and libraries to engage parents/caregivers actively in their child's learning activities; 2.) The semi-structured use of children's "Out-of-School-Time" to engage them in STEM enrichment activities as advocated the National Academies<sup>4</sup>, Werle<sup>5</sup> and many others; 3.) Providing children fun self-directed learning opportunities in familiar, safe environments--per John Holt's studies<sup>6-7</sup> of how young children learn; 4.) Assuring sustained, intense delivery of high-quality learning opportunities by knowledgeable professionals--as studied and verified by Vandell et al<sup>8-10</sup> among others and finally 5.) Tracking and assessing all activities on a continuous basis to allow for redirection and adjustments as needed.

With joint planning in the first 12 months, the CSA will launch a four-year project in 2021. The City of Hartford, acting by and through the Office of the Treasurer, will serve as a strategic partner to ensure that the project achieves its' goals and initiatives. A dedicated project Coordinator with the appropriate social awareness and management skills will be hired by TCM to guide the joint design and implementation of the project. TCM will serve as the fiduciary agent for the project.

### **Expected outcomes:**

This project's direct beneficiaries will be Hartford children from kindergarten through college along with their parents and caregivers, with focus on those economically disadvantaged. A large majority will be from ethnic or racial minorities. There will be four areas for measurable changes attributed to this project:

- **Number of returning children/families:** By far, one of the most significant measures of success will be the number and frequency of children and families returning to participate in the project's activities, giving clear evidence of achieving the overarching goal of getting urban youths excited about, comfortable with and engaged in STEAM/STEM related topics.



- **Partner's Interest in continuing STEAM/STEM-based programs:** The continued interest of the CSA's member organizations for bringing such STEAM/STEM-based programs to their client bases will be a critical program metric to monitor. These organizations are constituted to know and serve their constituents' needs. Their interest and support for continuing the project each year will be a clear indicator of the success of the project's approach and methods for achieving its goals.
- **Interest of other organizations in supporting the project:** The degree to which this project is able to attract the resource and financial support of other organizations will be a critical indicator of its sustainability. If local corporate and political organizations see this project as a potential means of strengthening their workforce development pipelines, they will provide ongoing support for the foreseeable future.
- **Interest of other CT cities/towns for implementing the project:** While Hartford is an ideal urban location to initiate this project, there are numerous urban areas in CT and other states where it could be equally effective. Such indications will signal the potential for systemic change in the way we collectively address child development and workforce readiness in under-served urban settings.

The project will continuously monitor/track the degree of interest, comfort and excitement in STEM/STEAM topics that we generate among the participating children and parents. To that end, assessment surveys will be offered to all to participate on a voluntary basis. The results of these surveys will directly affect the continued development of the content presented, as well as the methods of delivering the program as well as the methods of delivering the program.

## References

1. [https://en.wikipedia.org/wiki/List\\_of\\_Connecticut\\_locations\\_by\\_per\\_capita\\_income](https://en.wikipedia.org/wiki/List_of_Connecticut_locations_by_per_capita_income), All data is from the 2169 United States Census and the 2011-2015 American Community Survey 5-Year Estimates, see Refs 2 & 3 below
2. "SELECTED ECONOMIC CHARACTERISTICS 2011-2015 American Community Survey 5-Year Estimates". U.S. Census Bureau.
3. "Profile of General Population and Housing Characteristics: 2010 Demographic Profile Data". U.S. Census Bureau. Archived from the original on March 5, 2014. Retrieved 2012-11-25.
4. National Research Council, "Identifying and Supporting Productive STEM Programs in Out-of-School Settings", Committee on Successful Out-of-School STEM Learning; Board on Science Education; Division of Behavioral and Social Sciences and Education, pp 1, 8-10, 49-60, 65, 2015, ISBN 978-0-309-37362-3 | DOI 10.17226/21740, <http://nap.edu/21740>
5. Werle, M.J., "Its time to invest in children's out-of-school education", Hartford Courant Op-Ed, July 23, 2019. <https://www.courant.com/opinion/op-ed/hc-op-werle-children-stem-0723-20190723-In7gp4a3kzcstd6kkhpt2rm5s4-story.html>
6. Holt, John, "How Children Learn", 50<sup>th</sup> Anniversary Edition (originally published in 1967) DeCapo Press, 2017, New York.
7. Holt, John, "Learning all the time", Perseus Books Group, 1989, <https://www.perseusbooks.com/>
8. Vandell, D.L., "The Achievement Gap is Real: Afterschool is a real Solution Linked to Closing the Gap", August 2016, [http://expandinglearning.org/research/vandell/resources/VANDELL\\_K4.pdf](http://expandinglearning.org/research/vandell/resources/VANDELL_K4.pdf)



9. Auger, Anamarie, Pierce, Kim M. and Vandell Deborah Lowe, "Participation in Out-of-School Settings and Student Academic and Behavioral Outcomes1 " presented at the Annual Meeting of the Society for Research in Child Development, pp 4-5, April 28, 2013  
[http://expandinglearning.org/research/vandell/resources/AERA\\_Promising\\_Programs\\_FINAL.pdf](http://expandinglearning.org/research/vandell/resources/AERA_Promising_Programs_FINAL.pdf)
10. Vandell Deborah Lowe, "Expanding Learning: Making a Difference for Youths and Youth " Keynote presentation at presented at the National Meeting of Afterschool Networks Meeting, Washington DC, May 21, 2014,  
[http://expandinglearning.org/research/vandell/resources/network2014\\_keynote.pdf](http://expandinglearning.org/research/vandell/resources/network2014_keynote.pdf)
11. Walsh, Michael, "New Grant Helps Children's Museum Expand Its Hartford Footprint", Hartford Courant, July 29, 2019. <https://www.courant.com/community/west-hartford/hc-wh-west-hartford-childrens-museum-steam-programs-20190801-20190729-hswf4vopw5ap7ohykwpuuwz4i-story.html>
12. Education Staff; "Educator Program Guide", The Children's Museum, pp 1-14, September, 2019, <https://www.thechildrensmuseumct.org/wp-content/uploads/2019/10/Educator-Program-Guide-2019-2020-Version-2.1.pdf>