



Shining A Light on Excellence in STEM Teaching

STEM Teacher Award Programs in Urban Communities

Monica B. Mitchell, Ed.D.
Marcus G. Mitchell
MERAssociates, LLC



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Acknowledgements

The efforts of organizations responsible for making teacher award programs in science, technology, engineering, and mathematics (STEM) possible in urban communities are greatly appreciated. MERAssociates, LLC is grateful to the organizations involved in STEM teacher awards who shared their important work to inform this report.



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Executive Summary

The Alfred P. Sloan Foundation initiated the annual Sloan Awards for Teaching Excellence in 2009 to recognize excellence in science and mathematics teaching in New York City public high schools. The program has since recognized more than 40 exceptionally talented science and mathematics teachers. The Sloan awardees reflect the best science and mathematics teaching taking place in the vast array of high schools representing the diversity of communities in New York City. This report looks at the leading 10 major urban areas after New York City to identify teacher award programs specifically focused on science, technology, engineering and mathematics (STEM) for high school teachers that exist in these locations. Given the variation of organizational structures for high school, grades 6-12 and 7-12 are included in our grade band definition for high school.

The top 10 cities featured in this report include Los Angeles, Chicago, Washington DC, Boston, Philadelphia, Dallas, Houston, Atlanta, Miami and Detroit. Each city has some form of a STEM teacher award program that recognizes secondary teachers of science and mathematics. The major findings about the STEM teacher award programs at the secondary level that are available in our top 10 cities are listed below.

- A total of 30 STEM teacher award programs exist in the top 10 cities selected for this report. These 30 programs reflect a combination of statewide and local efforts.

- All of our top 10 urban areas have statewide or regionally-led STEM teacher award programs. Among the 20 statewide programs, only ¼ have an exclusive focus on high school teachers.
- Most (70%) of the locations have a locally-focused STEM teacher award program with geographic eligibility limited to the metropolitan urban area. Among the 10 locally-focused programs, ½ are exclusively focused on recognizing teachers at the high school level.
- Atlanta, Boston and Miami do not have locally-focused STEM teacher award programs, at the time of this report, to recognize public high school teachers. While STEM high school teachers in these three locations can access K-12 teacher recognition programs at the state level, an awards program for STEM high school teachers as the exclusive recognition focus is not available at the state or local level. High school science and mathematics teachers in these three locations receive recognition through state-level K-12 teacher recognition programs.
- The vast majority of STEM teacher awards programs in our top 10 follow a selection and award process similar to a teacher of the year (TOTY) model, typically involving a peer-nomination process, review by a selection committee, and presentation of awards at an annual luncheon.
- Monetary award amounts vary greatly depending on the resources of the sponsor. Most (56%) STEM teacher award programs offer a monetary award as a component of the award package. Of the remaining 13 programs, 69% have no monetary component, and information was not available for the remaining 31%.
- The majority of STEM teacher award programs in our top 10 are initiated, organized, and administered by STEM teacher associations and STEM-related professional organizations. These organizations are responsible for sustained activity in offering STEM teacher award programs, upwards of 50 years continuous commitment to STEM teacher awards in some cases.
- Other important stakeholders actively support and organize STEM teacher award programs, including corporate foundations, local education agency partnerships, and nonprofits who often partner with one another to offer and sustain programs.
- The Raytheon/Patriots Hall *STEM Teacher of the Year Award* is the only STEM teaching excellence award program among our top 10 that is initiated, administered, and delivered by a corporate foundation.
- Teacher award programs with corporate sponsorship, regardless of industry, tend to include recognition of the full spectrum of STEM subjects, unlike award

programs sponsored by professional organizations, which tend to focus primarily on their respective, specialized subject or disciplinary area.

- Corporate-sponsored STEM teacher awards also tend to stipulate evidence of exemplary extra-curricular and/or local community-based involvement in addition to strictly professional classroom, curricula- and pedagogically-related criteria.
- While most of the school districts in our top 10 participate in statewide teacher of the year programs, the Dallas Independent School District is the only local education agency in the top 10 that administers an annual STEM teacher excellence award program. Their program strategically aligns with district goals related to teacher quality.
- We were surprised to find only one teacher award program with a STEM focus in Los Angeles, the second largest school district in the country. Organized by a local educational reform organization, the program is unique from all other programs in the top 10 due to its explicit focus of serving underrepresented urban communities *exclusively*.
- Only two STEM teacher award programs are run by museums, both in Houston. While we did not find any non-profit museums in the STEM teacher award space outside the Houston area, we consider the involvement of museums in teacher recognition to be especially important given their community-based presence as well as their contribution to informal learning.
- While every city in our top 10 has some form of a STEM teacher award program at the secondary level, plenty of room exists to provide more opportunities to recognize teaching excellence in science and mathematics. The specific programmatic focus to recognize exemplary science and mathematics teachers in *urban* settings, to the exclusion of surrounding suburbs, is rather limited.

A light is being shined on STEM teacher excellence to varying degrees in our top 10 cities. These efforts are due to a variety of stakeholders' commitment to the advancement of quality mathematics and science education. These stakeholders include STEM teacher associations, STEM-related professional organizations, corporate foundations, local education agency partnerships, and non-profit organizations including museums.

Introduction

The issue of teacher quality has been a lightning rod in recent years, particularly with the passing of the 2001 No Child Left Behind (NCLB) legislation that tied educational quality to student achievement. National attention to the importance of STEM education has increased in response to concerns related to national economic competitiveness, global leadership in innovation, scientific and technological advancement, and national security. At the center of educational reform and improvement are the efforts of individual teachers in classrooms across this country.

More than 3 million teachers are responsible for K-12 education in American public schools (USDOE, 2015). Roughly representing 4% of the civilian workforce, their numbers exceed the ranks of many professions. According to Ingersoll (2004), there are twice as many teachers as registered nurses and five times the number of lawyers or professors. Mathematics and science teachers at the middle and high school levels account for approximately 12% of the teacher workforce. While educational quality is influenced by a variety of factors, both within and outside schools, the role of the teacher is a leading contributor to student achievement among all school-based factors (Nye, Konstantopoulos & Hedges, 2004). In relationship to mathematics achievement on standardized tests, “teachers are estimated to have two to three times the impact of any other school factor” (Rand Corporation, 2012).

This report discusses the results of a descriptive study to identify teacher award programs in urban communities that are focused on science, technology, engineering and mathematics

(STEM) at the secondary level. Teacher award programs recognize the importance of teachers and especially those whose classroom practice and educational contributions reflect qualities of excellence. Most outstanding teachers will never receive the public recognition they deserve. Hanushick (2002) reported that “80% to 90% or more of the exceptional teachers in most of our school systems go wanting for school and public recognitions and/or endorsements of their teaching of students” (p.63). The programs included in this report are efforts that strive to reverse this lack of public recognition and raise awareness of exceptional teacher quality resident in public schools, particularly in science and mathematics, and often in under-resourced communities.

STEM Teacher Award Programs in Urban Communities

For the past 32 years, the federal government has been at the forefront of recognizing excellence in STEM teaching through its Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) established by Congress in 1983 and administered by the National Science Foundation (NSF).¹ Considered the highest national distinction for mathematics and science teachers (including computer science), the program annually recognizes up to 180 teachers representing the 50 states and four U.S. jurisdictions. Awardees receive \$10,000 from NSF, a certificate signed by the President, and travel to Washington, DC to participate in recognition events as well as professional development. The program has recognized more than 4,300 STEM teachers as recipients of the PAEMST award.

¹ Information on the PAEMST program can be found at www.paemst.org.

While the Presidential Awards program has been long-standing and well known, local efforts can be responsive to the local context and have an opportunity to reach and recognize more teachers. An awards program that recognizes excellence in professional practice differs from other opportunities that may provide scholarships, grants, professional development, or project funds. The primary purpose of an award is to bestow honor and distinction among members of a profession who have met certain standards of excellence, whether explicit or implicit. In this report, we concentrate strictly on recognition programs for teachers that adhere to the definition of bestowing honor due to the quality of practice within the daily context of the profession. Other teacher recognition programs that require the candidate to submit proposals in order to secure funding or where the main purpose is the provision of professional development are excluded from this report.

New York City is the largest school district in the country providing education to more than 1 million students each year. Since 2009, the Alfred P. Sloan Foundation in association with the Fund for the City of New York (FCNY) has been responsible for offering the annual Sloan Awards for Teaching Excellence in Science and Mathematics in New York City Public High Schools. With more than 40 awardees, the Sloan program is the *sole* annual teacher awards program consistently recognizing high school science and mathematics teachers in New York City public schools.

As the largest school district in the country, New York City is often looked to for charting educational direction and innovation. And as the largest school district, NYC has many challenges and opportunities - 43.3% of students' households have a primary home language other than English, close to 160 languages are represented among languages spoken at home,

many students are from economically-distressed circumstances (NYCDOE, 2015), challenges of scale and a persistent achievement gap (Brennan, 2013; Kemple, 2013). The annual Sloan Teaching Awards program shines a light on success in teaching mathematics and science in spite of the challenges associated with a large urban school district. As an annual program, the Sloan Teaching Awards champions the message and affirms the reality that teachers of excellence in mathematics and science do exist in public schools in urban areas.

This report answers the question: *To what extent are the top 10 urban areas outside of New York City shining a light on teacher excellence in STEM at the high school level by offering a teacher awards program?* We take a look at the leading 10 major urban areas, after New York City, to identify and describe STEM teacher award programs offered in those communities. We started with the most populated cities in the contiguous United States as ranked by the U.S. Census Bureau's Metropolitan Statistical Areas survey and found many are concentrated in the southwest. In order to have greater representation of as many regions in the country as possible, the largest school districts as ranked by the National Center for Education and Statistics of the U.S. Department of Education were considered. New York City was not considered among the 10 selected for this report since the Sloan Teaching Awards program is the only STEM teacher awards program for high school teachers in New York City. The top 10 urban areas included in this report are listed in the table below.

Table 1. Top 10 Urban Areas Selected for Report

Urban Area	Metropolitan Ranking¹	by Population	Largest Public School Districts²	by Enrollment
New York City (New York-Newark-Bridgeport, NY-NJ-CT-PA)	1	21,976,224	1	1,036,053
1. Los Angeles (Los Angeles-Long Beach-Riverside, CA)	2	17,775,984	2	655,494
2. Chicago (Chicago-Naperville-Michigan City, IL-IN-WI)	3	9,725,317	3	403,461
3. Washington D.C. (Washington-Baltimore-Northern Virginia, DC-MD-VA-WV)	4	8,211,213	106	45,191
4. Boston (Boston-Worcester-Manchester, MA-RI-NH)	5	7,465,634	73	54,839
5. Philadelphia (Philadelphia-Camden-Vineland, PA-NJ-DE-MD)	7	6,483,714	17	143,898
6. Dallas (Dallas-Fort Worth, TX)	8	6,359,758	14	158,680
7. Houston (Houston-Baytown-Huntsville, TX)	9	5,641,077	7	202,586
8. Atlanta (Atlanta-Sandy Springs-Gainesville, GA-AL)	10	5,478,667	96	48,692
9. Miami (Miami-Fort Lauderdale-Miami Beach, FL)	11	5,463,857	4	354,236
10. Detroit (Detroit-Warren-Flint, MI)	12	5,410,014	91	49,854

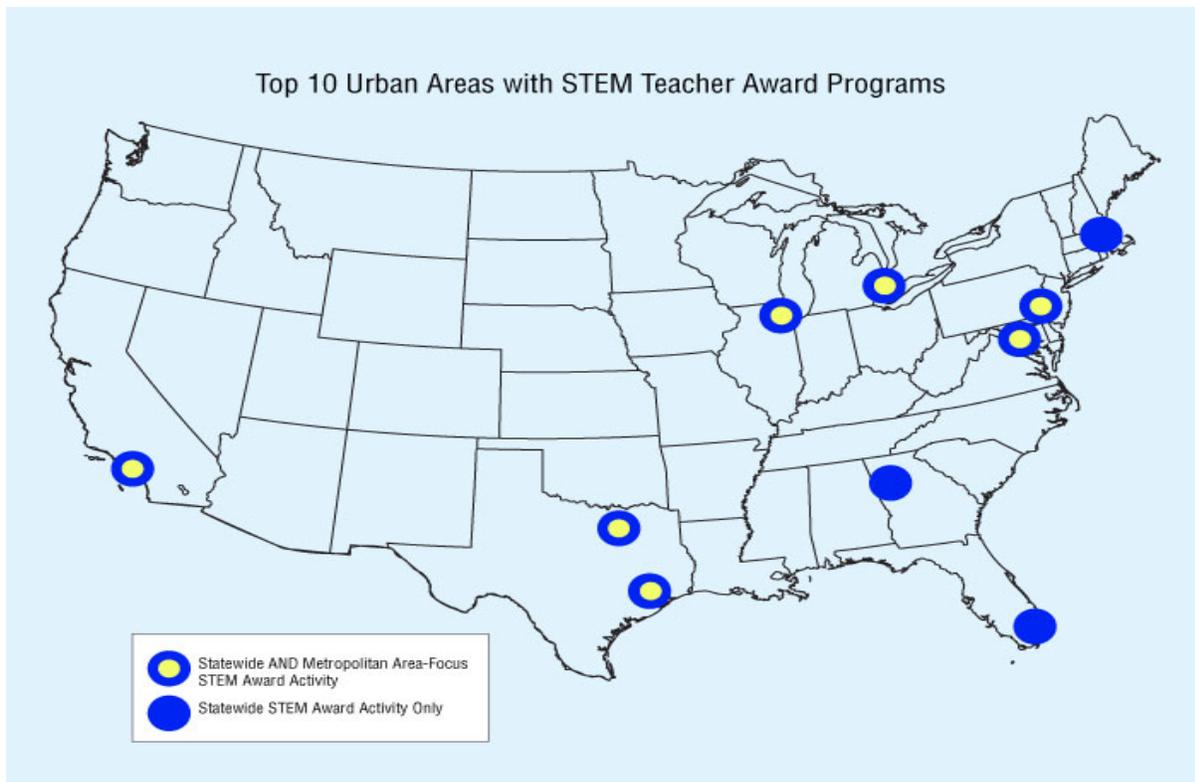
¹Metropolitan rankings are Metropolitan Statistical Area (MSA) data from the U.S. Census Bureau based on 2014 population estimates. The 6th ranked MSA (San Jose-San Francisco-Oakland) is not on our list due to the absence of a STEM teacher award program that met our selection criteria.² Information on largest public school districts is based on the most current released data (2012-2013 school year) at the time of this report.

Source: American School & University (2015); US Census Bureau (2014)

After selecting the 10 major urban areas, we conducted a comprehensive Internet search to identify STEM teacher award programs in each location. We then conducted interviews with program officers in as many locations as possible, and reviewed documents and other artifacts made available directly to us from them, or publically released on the programs’ websites. (A list of individuals interviewed for this report is included in the appendix.) Using the qualitative

methodology of the constant comparative method (Bogdan & Biddle, 2007), we identified several patterns and themes that emerged from the data. Foremost, we found the vast majority of programs included in the report share programmatic similarity to a more general Teacher of the Year (TOTY) typology exemplified by the National Teacher of the Year (NTOY) award program organized by the Council of Chief State School Officers (CCSSO). Founded in 1952, NTOY is “the nation’s oldest and most prestigious national honors program that focuses public attention on the excellence of teaching” according to the CSSO website (www.ccsso.org/ntoy.html). The underlying characteristics common to teacher awards programs in the top urban areas follow a selection and award process that is similar to TOTY that typically involves a peer-nomination process, review by a selection committee, and presentation of the awards at an annual luncheon. Monetary award amounts vary greatly depending on the resources of the sponsor and vary from zero to upwards of \$5,000.

We were most interested in examining STEM teacher award programs at the secondary level whose main mission centered on recognizing teaching excellence at a local level associated with an urban school district. While most (70%) of the urban areas have existing programs with a local focus, all of the top 10 urban areas are also served by a statewide or teacher award effort. The map below depicts the local and statewide presence of STEM teacher awards programs at the secondary level for each of our top 10 urban communities.



Our study also yielded several STEM award programs that went beyond the scope of the report but bear mention here due to interesting programmatic aspects. Space Center Houston’s *Cherri Brinley Space Science Educator Award*² was excluded from our report due to the fact that it has no geographic focus and draws from a national STEM teacher pool. The only requirement for this award is that the candidate must have attended the Space Museum’s annual conference. However, the award program is notable for the fact that it is organized, run, and funded entirely by a not-for-profit science museum and because it honors the teaching of space science, a highly specialized field within science education. The Georgia Department of Education’s *STEM*

² http://www.spacecenter.org/docs/SEEC_2013_CBaward.pdf

*Georgia Laureate Award*³ is a fascinating professional development tool for Georgia state teachers. Their innovative and meticulously structured Professional Learning Badge system functions as a comprehensive metric to evaluate teacher quality.

The STEM teacher award programs in our top 10 appear below. Programs listed in bold are limited to the secondary level.⁴ Table 2 lists programs focused on the local metropolitan area. Atlanta, Boston and Miami do not have STEM teacher award programs that are local in focus.⁵

Table 2. STEM Teacher Award Programs in Top 10 Cities with Local Focus

AWARD PROGRAM	LEAD ORGANIZATION	AMOUNT
LOS ANGELES		
<i>Helen Bernstein Award for Teacher Leadership</i>	Los Angeles Education Partnership	\$1,000
<i>Paul Shin Memorial Outstanding High School Chemistry Teacher Award</i>	American Chemical Society Southern California Section	\$500
CHICAGO		
<i>Chicago Drug & Chemical Association Outstanding Teachers of Science</i>	Illinois Science Teachers Association	\$1,000
DALLAS		
<i>Innovations in STEM Teaching Award</i>	Texas Instruments Foundation	\$10,000
HOUSTON		
<i>Wilhelmina C. Robertson Excellence in Teaching Award</i>	Houston Museum of Natural Science	\$2,000
WASHINGTON, DC		
<i>Leo Schubert Memorial Award</i>	Chemical Society of Washington Chapter	\$500
<i>Bernice Lamberton Award for the Teaching of Science</i>	Washington Academy of Sciences	N/A
PHILADELPHIA		
<i>Alan Barson Novice Teacher Award</i>	Association of Teachers of Mathematics of the Philadelphia Area and Vicinity	None
<i>Outstanding Math, Science, and Engineering Teaching Award</i>	Philadelphia Engineering Foundation	\$200
DETROIT		
<i>Outstanding Science Educator Award</i>	Metropolitan Detroit Science Teachers Association	None

³<http://stemgeorgia.org/wp-content/uploads/2014/08/STEM-Georgia-Educator-Laureate-Awards-For-Participants1.pdf>

⁴ In some cases, secondary includes middle school grades as the grade configuration of high schools varies.

⁵ As a result of a comprehensive search, STEM teacher award programs offered locally to teachers in Atlanta, Boston or Miami did not exist at the time of this report.

Table 3 lists statewide teacher award programs that teachers in our top 10 can participate. High school science and mathematics teachers in Atlanta, Boston, and Miami only have access to statewide award programs since locally-based programs are not available in their communities.

Table 3. Statewide STEM Teacher Award Programs Available to High School Teachers in Top 10 Cities

AWARD PROGRAM	LEAD ORGANIZATION	AMOUNT
Los Angeles, CA		
<i>George Polya Memorial Award</i>	California Mathematics Council	None
Chicago, IL		
<i>Excellence in Secondary Mathematics Teaching (T.E. Rine Award)</i>	Illinois Council of Teachers of Mathematics	None
<i>Illinois Promising New Teacher of Mathematics Award</i>	Illinois Council of Teachers of Mathematics	None
<i>ISTA/ExxonMobil Outstanding Teachers of Science</i>	Illinois Science Teachers Association	\$1,000
<i>ISTA New Science Teacher of the Year</i>	Illinois Science Teachers Association	None
<i>Illinois Outstanding High School Physics Teacher Award</i>	Illinois Section of American Association of Physics Teachers	\$200
Dallas/Houston, TX		
<i>High School Science Teacher of the Year</i>	Science Teachers Association of Texas	undisclosed honorarium
<i>Ernest and Sarah Butler Awards for Excellence in Science Teaching</i>	Texas Medical Association	\$7,000
Philadelphia, PA		
<i>William B. McIlwain Science Teaching Award</i>	Pennsylvania Science Teachers Association	N/A
<i>Award for Teaching Excellence</i>	Pennsylvania Earth Science Teachers Association	None
Miami, FL		
<i>Outstanding Teacher Awards for Elementary, Middle/Junior and High School</i>	Florida Association of Science Teachers	\$ 400
<i>Award of Promise</i>	Florida Association of Science Teachers	\$ 400
Atlanta, GA		
<i>Georgia Science Teacher of the Year</i>	Georgia Science Teachers Association	\$1,000
<i>Teacher of Promise</i>	Georgia Science Teachers Association	\$500
<i>Excellence in the Teaching of Mathematics</i>	Georgia Council of Teachers of Mathematics	N/A
<i>Teacher of Promise Award</i>	Georgia Council of Teachers of Mathematics	N/A
Boston, MA		
<i>Raytheon STEM Teacher of the Year*</i>	The Hall at Patriots Place	\$5,000
<i>Rev. Stanley J. Bezuska Achievement Award</i>	Association of Teachers of Mathematics in Massachusetts	None
Detroit, MI		
<i>High School Science Teacher of the Year</i>	Michigan Science Teachers Association	\$250-\$500
<i>Teacher of Promise</i>	Michigan Science Teachers Association	\$250-\$500

Due to the relative uniformity of mission, programmatic structure, and methodology of STEM Teaching Excellence Award programs in our top 10, our most redundant and relevant findings pertain more to the question of *who* is doing the work rather than *how the work is being done*. As discussed above, the uniformity of STEM teacher award programs follow a TOTY-based mission, programmatic structure and methodology. We therefore organized our research *according to four distinct types of organizations* responsible for making STEM teacher award programs available: (1) professional associations, (2) local education agencies (LEAs) partnerships, (3) corporate foundations, and (4) nonprofit organizations. We have therefore structured the report according to programs by organizational type.

The following section is based on the information gathered about the programs that appear in Tables 1 and 2. Individual summaries of the STEM teacher award programs in our top 10 by location are included at the end of the report, to the extent that information was available, following the narrative. It should be noted that data collection to gather information on several of teacher award programs proved difficult due to limited public access to information and non-responsiveness of program representatives in some cases. Some programs only release information on their teacher award programs to members of the organization or completely remove information from their websites after award competitions have ended.⁶

⁶ Sufficient information was not available at the time of this report on the following programs to include individual summary listings: the High School Science Teacher of the Year and Teacher of Promise programs of the Michigan Science Teachers Association, the Bernice Lamberton Award for the Teaching of Science of the Washington Academy of Sciences, and the Outstanding Science Educator Award of the Metropolitan Detroit Science Teachers Association.

Professional Organizations

We are all volunteers and we do what we can.

- Executive Director of a science teacher association

The great majority of teacher award programs that recognize STEM teachers in the top-10 urban areas are initiated, organized, and administered by professional organizations and associations. In particular, it is the STEM teacher association that is doing the bulk of the work across the country in offering STEM teacher award programs. All of the top 10 urban communities included in this report have a STEM teacher award program at the secondary level that reaches their school district due to the efforts of statewide professional teacher organizations in STEM. If not for the work of statewide and regional professional teacher organizations of STEM-related subjects, STEM teacher recognition award programs would simply not exist in the vast majority of urban communities. Not only are teacher associations the primary drivers of STEM teacher recognition awards, they have been supporting teacher award programs the longest.

Professional Science and Mathematics Teaching Associations

Recognition of exemplary achievement from professional colleagues is perhaps one of the highest honors in a career. It therefore is fitting that the overwhelming majority of middle- and high school-level STEM teacher award programs in major cities across the country are offered by statewide professional associations of mathematics, science, or chemistry teachers. Mathematics and science are largely most represented among STEM-subject teacher associations since these disciplines obviously comprise a large K-12 curricular presence. Additionally the National Association of Teachers of Mathematics (NCTM) and the National Science Teachers

Association (NSTA) are actively involved in STEM education. Consequently, most STEM-subject teaching awards focus either on mathematics and science with less representation in engineering, technology and specific science fields of study (e.g., chemistry, physics). All 10 of the geographic locations included in this report have active mathematics and/or science teacher award programs designed with more or less the same stated goal: to acknowledge, promote, and reward the work of exemplary teachers within the associations' respective teaching subject area, and—in the cases where awardee or nominee eligibility is restricted to members of the sponsoring association—to advance the goals of the professional organizations.

While statewide activity is prevalent, local activity of STEM teacher associations in organizing teacher award programs is limited. The existence of urban- or metropolitan-area STEM professional teacher associations offering teacher recognition awards is far less present in our 10 city survey with the notable exception of only a handful of programs located in Philadelphia, Detroit, and Chicago. These include the Association for Teachers of Mathematics of Philadelphia and Vicinity's (ATMOPAV) *Alan Barson Novice Teacher Award*, the Metropolitan Detroit Science Teachers Association's *Outstanding Science Educator Award*, and the *Outstanding Teacher of Science Award* of the Illinois Science Teachers Association in partnership with the Chicago Drug and Chemical Association. Teacher award programs with a local focus tend to provide a greater range of focus, as a whole, across the professional career of a teacher to include novice STEM teachers through the STEM educator continuum. STEM educators typically have made contributions to STEM education that extend beyond the classroom emblematic of exemplary professional development or curricular development.

Although many state and local teacher associations have loose affiliations with national teacher associations (e.g., NCTM, NSTA), their operations and governance structures are independent. Consequently, the scope and structure of their teacher award programs are distinctly dependent on the capabilities of their volunteer base. At the very minimum, all of the state and local teacher award programs in our top 10 survey offer a plaque and recognition at annual membership events—luncheons are very common—along with annual membership to the sponsoring teacher association, which typically varies from 1 to 5 years.

The application process usually requires nomination from a member of the organization. Nominees are restricted to the teaching subject of the sponsoring association and it is not unusual for the eligibility criteria to include a stipulation that the nominee must also be a member of the organization. Review and selection of nominees are conducted by an awards chair—sometimes a former award winner—and other officers or committee within the organization. The sponsoring association usually keeps a record of past winners and a press release is sometimes sent to the principal of the school of the awardee, or to local newspapers circulating within the awardee’s local school district. In some instances, the only record of press or publicity by the teacher association sponsoring the award is through their organization’s website, electronic newsletters to their membership, and their archives.

While the involvement of state-level teacher associations in mathematics and science teacher award programs may reach teachers in urban school districts, it usually happens as a default rather than the result of targeted and robust recruitment efforts. We did come across a program led by a state-based teacher association with a distinct and unique mission to shine a light on science teaching excellence in urban schools.

The Illinois Science Teachers Association (ISTA) has five awards programs that range from recognizing students, teachers, and schools, both new and current. The *ISTA Teacher of the Year* is supported by the ExxonMobil Foundation, discussed in more detail in the corporate foundations section.⁷ Here we focus on the ISTA teacher award program for science teachers in Chicago schools. The ISTA partners with the Chicago Drug and Chemical Association (CDCA) to offer the *CDCA Outstanding Teacher of Science Award* to recognize science teaching excellence specifically in Chicago schools, public or private. No other teacher award program that emanates from a statewide mathematics or science teacher association has an exclusive focus on recognizing STEM teachers in urban communities.

For some 12 years, the CDCA as an organization of professionals in the chemistry and pharmaceutical industries offered the *Outstanding Teacher of Science Award* to recognize science teachers of excellence in Chicago area schools. Due to lack of teacher applications, the CDCA approached the ISTA to run the program so teachers in Chicago schools would actually apply. The ISTA added *the CDCA Outstanding Teacher of Science Award* to their portfolio of teacher award programs adopting the same structure and processes of their existing programs. As a result the CDCA teacher award program is equivalent to the statewide *Outstanding Teacher of Science* program with the exception of being limited to Chicago area teachers.

The organization uses its regional structure to recruit and communicate with their membership base of slightly more than 1,000 science teachers in the state, approximately 13% of all science teachers in Illinois. Approximately half of the ISTA membership is from the Chicago area since most of the population in the state is concentrated in the Chicago metropolitan area.

⁷ The ISTA also partners with the Illinois Petroleum Resources Board to sponsor the outstanding science student award. The IPRB is a nonprofit supported by funds from the oil industry to conduct public outreach and education.

Serving as the liaison between the organization and their respective regions, regional directors are relied on heavily to promote the organization's programs in their respective regions. Full-time K-12 science teachers in Chicago (region 7) and the suburbs of Chicago (region 1) are eligible for the *CDCA Outstanding Teacher of Science Award*, which alternates annually between elementary and secondary. Similar to the structure of their other teacher award programs, the candidate must be a member of the organization. And while the CDCA award includes the Chicago suburbs, teachers from the city of Chicago are regularly among the winners. Chicago teachers are also represented fairly well among the other ISTA teacher awards. The award package of all of the ISTA teacher award programs include a \$1,000 monetary award (new teachers receive \$500), recognition at the organization's annual luncheon, special mention in the organizational publication, *Spectrum*, and posting on the ISTA website as a teacher award winner. Unfortunately, only two to three teachers from the Chicago public schools attend the annual luncheon, often due to other priorities in the district and/or schools. However involvement on the organization's board is well represented from the Chicago area and the significant proportion of the membership who lives and work in the metropolis helps to ensure that a firm commitment of ISTA to formally recognize exemplary science teaching in Chicago area schools remains strong.

While it is the only city among our top 10 that has a STEM teacher award program specifically focused on an urban area, Chicago also has a well-recognized active and storied history in advancing mathematics education. The Metropolitan Mathematics Club of Chicago, originally established in 1913, is one of the most active, local professional mathematics associations in the country that has greatly influenced the direction of mathematics education

nationally due to the contributions of the organization's members, including several mathematics professors at the University of Chicago and University of Illinois.⁸ The Metropolitan Mathematics Club predates the National Council of Teachers of Mathematics (founded in 1920) and its activity contributed to the new math movement following Sputnik, curricular developments (e.g., mathematical modeling), and inroads in mathematics pedagogy (e.g., the discovery method). As a result of this rich mathematics education history, Chicago also has the most teacher award programs in mathematics among any of our locations. The Illinois Council of Teachers of Mathematics (ICTM) organizes 9 different mathematics education award programs: new teachers in elementary, middle, and secondary schools; mathematics educator (usually post-secondary); mathematics leadership; engaging students outside the classroom (i.e., mathematics competitions); and life achievement. Their mathematics award program has existed for over 50 years. It started with the secondary mathematics teaching award, and additional recognition categories were introduced along the way. ICTM's programs share the same nomination and application forms (see appendix) with candidate eligibility criteria tailored to each specific program. Membership in the organization is required by all of their award programs.

⁸ For more information on the active mathematics community in Chicago and its contribution to mathematics education, see A personal history of the UCSMP secondary school curriculum, 1960-1999 by Zalman Usiskin in A history of school mathematics, Volume 1, pps. 673-736, published by the National Council of Teachers of Mathematics.

STEM Professional Associations

Associations of career professionals working within STEM-related disciplines and industries in urban metropolitan areas, such as the Philadelphia Chapter of the Pennsylvania Society of Professional Engineers, the Chemical Society of Washington (an affiliate of the American Chemical Society), and the Washington Academy of Sciences, both in the District of Columbia, also play an active part in the STEM teacher award landscape, although not as significant as the leading role of mathematics and science teacher associations. A distinguishing characteristic of teacher awards organized by STEM professional organizations is their more inclusive reach by extending eligibility beyond organizational membership and greater flexibility in honoring multiple STEM subjects.

A unique feature within the category of programs sponsored by a professional STEM organization is the *Outstanding Teacher of Science Award* sponsored by the Chicago Drug and Chemical Association (CDCA), a professional organization of Chicago area chemists, in partnership with the Illinois Science Teachers' Association (ISTA). Eligibility for this award is restricted to high school science teachers with a full-time teaching assignment in the city of Chicago who possess ISTA membership, and teachers who aren't already ISTA members must join with their application.⁹ The winner receives a generous \$1,000 award and an invitation to attend the annual CDCA luncheon. Within the scope of the study, CDCA's partnership with ISTA is the only one of its kind—between a statewide teacher association and a metropolitan-

⁹ A One-year membership with ISTA costs \$35. Applicants may apply online at <http://www.ista-il.org/membership.htm>

area professional association—that restricts teacher eligibility to an urban public school district in the top 10 cities surveyed.

The Philadelphia Engineering Foundation is another notable example of STEM teacher awards sponsored by professional career associations due to its inclusive award focus on multiple disciplinary areas of STEM, providing separate awards that honor teachers of mathematics, science, and engineering. The Philadelphia Engineering Foundation administers an *Outstanding STEM Teaching Award* independent of any teacher association. Candidate eligibility is open to mathematics, science, and engineering teachers at the middle-and high school-levels throughout the Delaware Valley, inclusive of the metropolitan region of Philadelphia. One teacher in each of the three subject areas is awarded \$200 and recognized at the Delaware Valley Engineers' Week Awards Luncheon.

The Chemical Society of Washington D.C.'s *Leo Schubert Memorial Award* was founded in 1979, honoring one “outstanding teacher of high school chemistry in the Washington D.C. area” (inclusive of neighboring counties in Maryland and Virginia) with an honorarium of \$500 and a certificate presented during the organization's annual awards luncheon. Candidates for the award are nominated by high school principals only, and eligibility for both nominee and nominators is not restricted to organizational membership.

Since the 1976 founding of its *Berenice Lamberton Award for the Teaching of Science in Secondary Schools*, the Washington Academy of Sciences extends eligibility to teachers of multiple disciplines including the “physical, biological and engineering sciences,” the only caveat being a preference for “individuals who will not have exceeded the 40th anniversary of their birth by the end of the calendar year for which the award is made.” Neither the

Philadelphia Engineering Foundation nor the Washington Academy of Sciences exercise membership restrictions on teacher eligibility or nomination criteria for their STEM teacher award programs. By contrast, many of the teacher award programs offered by teacher associations included in this report do stipulate organizational membership as a requirement for either teacher eligibility or the nomination process.

Unique to the STEM teacher awards landscape is the work of the Texas Medical Association (TMA). Based in Austin, Texas, TMA is the largest medical society in America with more than 40,000 physicians and medical students as members. Since 1990, the TMA Foundation has sponsored the Ernest and Sarah Butler Awards for Excellence in Science Teaching to recognize elementary, middle school, and high school teachers who “share their energy and enthusiasm for science with students.” The program awards \$5,000 to three Texas-certified science teachers, one at each of the three grade bands. The awardees’ schools also each receive \$2,000 and science departments at the schools of each of the three finalists in each category also receive \$1,000. Science teachers from both Houston and Dallas, with Houston to a greater extent, have been awardees. At the annual TMA conference where the award is presented, physicians who were taught by awardees are present and can attest to the impact their former science teachers have made on their preparation in studying science and medicine.

Corporate Foundations

These teachers are true STEM champions, and we are pleased to have the opportunity to honor them. . . . That is why we focus on this area, with a special emphasis on reaching girls and minorities who are underrepresented in STEM careers. As STEM-related jobs become a larger pillar of the U.S. economy, we rely on teachers like those we are honoring today to make STEM subjects interesting and accessible to all students.

- Ann Pomykal, TI Foundation Director

In addition to professional associations, corporate foundations play a significant role in shining a light on STEM teacher award programs in urban communities. On the local level, their involvement primarily functions as a financial sponsor of teacher award programs organized and administered by professional associations or local educational agencies with very close ties to the teaching community. Perhaps not surprisingly, we have found that teacher recognition award programs funded by corporate sponsorship offer the largest monetary awards.

One notable characteristic of teacher award programs with corporate sponsorship, regardless of industry, is that they tend to support teacher award programs that include the full spectrum of STEM subjects, unlike award programs sponsored by professional organizations that tend to focus primarily on their respective, specialized subject or disciplinary area. In keeping with the mission statements of many of the corporate foundations active in this arena, corporate-sponsored STEM teacher awards tend to stipulate evidence of exemplary extra-curricular and/or local community-based involvement in addition to strictly professional classroom and curriculum-related performance. We have found this to be true across corporate foundation-

sponsored teacher awards programs regardless of the level of corporate involvement, even when the involvement is limited to sponsorship.

Raytheon/Patriots Hall

Founded in the 2012-2013 school year, the Raytheon/Patriots Hall *STEM Teacher of the Year Award* is the only STEM teaching excellence award program among the 10 urban areas included in this report that was initiated, administered, and delivered by a corporate foundation. Although this teacher award program is named after the sponsoring partner Raytheon, the program is actually run by the Hall at Patriots Place. Founded in 2008 and based in Foxborough, Massachusetts, the Hall at Patriots Place presented by Raytheon is described on their website homepage as a “modern museum experience for all ages” whose purpose is to honor and promote the history and brand of the New England Patriots NFL team.¹⁰ The Hall at Patriots Place features interactive and traditional museum style exhibitions displaying team-related paraphernalia (e.g., Super Bowl Rings, etc.) in addition to an educational component designed to provide visiting school groups with curriculum-related experiences. On their website homepage, The Hall at Patriots Place cites STEM education as being important to the Kraft family, owners of the Patriots football team. The organization estimates 18,000 school field trip participants in the 2014-2015 school year. Curricular modules developed at the museum include pre-visit activities, which students use in the classroom prior to visiting the museum. The curriculum module culminates with the activities conducted at the museum during the field trip. For example, their *Helmet Design Challenge* is a STEM content module that integrates football-

¹⁰ <http://www.thehallatpatriotplace.com/>

related content with engineering design principles in an investigation where students use styrofoam bowls and materials to design the shell and padding of football helmets. The students then test the helmet prototypes at the museum. Another STEM content module developed by the Hall at Patriots Place is the *Power to Hear Engineering Design Challenge* in which visiting school groups design parabolic microphones and test them at the museum. In addition to the development of STEM curricular modules for school groups, the Hall also facilitates credit-bearing professional development.

According to the Executive Director of the Hall at Patriot Place, *STEM Teacher of the Year Award* was a direct outgrowth of the use of their STEM curricular modules. They found there simply wasn't an award program in Massachusetts that exclusively honored STEM teachers so they took it upon themselves to create one. When developing the inaugural program, the Hall at Patriot Place conferred with educational consultants and collaborated with the Massachusetts Department of Education (DOE). The announcement of the program was made at the Massachusetts STEM summit, an annual convention of the state's "educators, business leaders, policymakers, parents [and] students to share strategies, initiatives, collaborations and ideas" for STEM education and workforce development.¹¹ Additionally, members of the Massachusetts DOE participate on the teacher award selection committee, which includes applicant review and interviews of the finalists, and selection of the awardee. The winner of this award receives \$5,000 in addition to four finalists whose respective schools receive a monetary award of \$1,000 each. The 2015 finalists included an AP biology, chemistry, and bioengineering high school

¹¹ <http://www.mass-stem-summit.org/>

teacher, a high school physics, engineering and science research teacher, a 6th grade math and science teacher, a high school math teacher, and an 8th grade science teacher.

ExxonMobil Foundation

As a funding partner, the ExxonMobil Foundation supports the Illinois Science Teachers Association (ISTA) *Outstanding Teachers of Science* award for 7th - 12th grade science teachers in Illinois State. ExxonMobil Foundation was founded in 1955 as Esso Education Foundation but changed to its current name in 2000 following the merger of Exxon Corporation and Mobil Corporation. According to the foundation's website, it "has a strategically focused vision supporting math and science education, economic opportunities for women and malaria prevention." The impetus behind ExxonMobil's Math and Science initiative is described below:

*Globally, a strong emphasis on education empowers communities and builds the foundation for human progress. The ExxonMobil Foundation focuses on math and science education because they are [...] the universal languages of the global workforce and are critical tools for success in today's high-tech world. Through ExxonMobil's Math and Science Initiative, more than \$230 million has been invested in U.S. programs to advance math and science.*¹²

The ExxonMobil Foundation Math and Science Initiative has several programs to advance STEM including the *National Science and Math Initiative*, the *Mickelson ExxonMobil Teachers Academy*, and the *Bernard Harris Summer Science Camp*, as well as diversity and international initiatives. The Foundation also participates in *Teacher Appreciation Week* and produced a video to thank teachers "for their hard work and dedication each and every day."¹³

¹² <http://corporate.exxonmobil.com/en/community/worldwide-giving/exxonmobil-foundation/overview>

¹³ <http://corporate.exxonmobil.com/en/community/teacher-appreciation-week/supporting-teachers/lets-celebrate-our-teachers>

The activities of the ExxonMobil Foundation in supporting STEM education nationally are multiple and varied, and are too extensive to include in this report. ExxonMobil has, among other things, a STEM teachers' program in partnership with Torrance Unified School District (TUSD), a suburb of the city of Los Angeles that offers grants of up to \$4,000 to teachers within TUSD who submit winning proposals to enhance their classroom curriculum in STEM. However the only STEM teacher award program offered by the Foundation directed at a major urban area is their partnership with ISTA through the *Outstanding Teachers of Science Award*, which is not featured on the website of ExxonMobil Foundation. The only online presence acknowledging the existence of the STEM teaching award program seems to be on ISTA's website, in keeping with our finding that it is in fact local professional organizations responsible for offering the vast majority of STEM teacher award programs that are inclusive of urban communities.

The *Outstanding Teachers of Science* award consists of \$1,000 payable to the awardee. Additionally, award recognition includes an announcement in the ISTA journal *Spectrum*, on the ISTA website, and recognition at the annual ISTA conference and ISTA events. The award is restricted to current ISTA members. As is the case with most other corporate-sponsored awards, ExxonMobil's direct involvement in the administration, dissemination, and publicity of the award, is minimal and seems limited to a funding capacity.

In keeping with ExxonMobil Foundation's mission statement, the *Outstanding Teachers of Science* criteria for teacher excellence heavily underscore a commitment to extracurricular impact of nominees in their respective communities and is worth recording here verbatim:

Extraordinary accomplishments are intended to be something that goes beyond the classroom and enriches the lives of students (e.g.): 1) Personal or community-wide achievement which is science-related (grants for the school, working on environmental projects, etc.); 2) Working with other teachers or community members to develop a product or process related to science education; 3) Creation of a science group at the school which enriches and extends beyond the school day.

While ISTA is a statewide organization, about half of the membership are from the Chicago area. Organizational membership includes about 13% of the 10,000 science teachers in the state of Illinois. Chicago is a hub for the community of mathematics and mathematics education, very active locally, regionally and nationally. As a result, among the cities included in this report, Chicago is the most active both in terms of the number of organizations and number of awards recognizing STEM teachers of excellence.

Texas Instruments

The Texas Instruments Foundation is very active in funding various STEM-focused educational sponsorships throughout the state of Texas, including the *Innovations in STEM Teaching Awards* which offers separate award programs in Dallas and Houston. Founded in 2007, this award is restricted to middle and high school science and mathematics teachers. Each honoree receives \$10,000, half directly awarded to the awardee. The remaining \$5,000 is to be used at the teacher's discretion toward professional development or instructional technology for the awardee's school.

Four northern Texas school districts, collectively referred to as the "Metroplex" including Dallas, Plano, Richardson and Mesquite, are eligible to participate in the award program. In

2015, the award program expanded to include two additional local school districts, Garland and Lancaster. The Texas Instruments program officer indicated that the award program seeks to improve local school systems. The Foundation does not play a role in administering the program but has set up separate local foundations to administer the awards in each of the respective school districts—of which Dallas is the largest.

Los Angeles Dodgers Foundation

The Los Angeles Dodgers Foundation is the official team charity of the Los Angeles Dodgers and sponsor of the Los Angeles Education Partnership's (LAEP) *Helen Bernstein Award for Teacher Leadership*. Although LAEP is the primary organization responsible for initiating and administering the program, we are mentioning the award in this section due to the sponsoring involvement of the second-most valued franchise (and market) in Major League Baseball in 2015 following the New York Yankees, according to Forbes. LAEP's involvement in this award program will be discussed below in more depth.

The primary focus of the LA Dodgers Foundation is to “support our key cornerstone programs in sports & recreation, education & literacy and health & wellness benefitting children and families throughout the greater Los Angeles region.” They also acknowledge that when “leveraging strategic partnerships, our goal is to harness the power of our brand and the passion our fans have for Los Angeles into a vehicle for positive change in under-served communities.” Their stated purpose to positively affect underserved communities is markedly absent from the explicit goals of professional organizations that offer teacher award programs, even when the program is active in major urban area such as Los Angeles, Chicago, Miami and the other cities

on our top 10 list. Like ExxonMobil, Texas Instruments and the other corporate sponsors included in this report, the LA Dodgers' partnership with LAEP, a nonprofit educational reform organization, is primarily financial. However, the LA Dodgers Foundation supports dissemination of the program by announcing award winners on a blog site associated with the LA Dodgers team.¹⁴

In summary our findings within the corporate foundation category reveal a consistent commitment to extracurricular contributions to the community, a broad and inclusive representation of STEM-area subjects beyond mathematics and science, and generous award dollar amounts to award winners and runners-up alike. While the involvement of STEM-industry heavy corporations like ExxonMobil and Texas Instruments should come as no surprise, our discovery of partnerships between major league sports organizations and the recognition of STEM teaching excellence in major urban centers is a notable and unexpected finding. In addition to the robust involvement of the New England Patriots and the notable contribution of the LA Dodgers, we also discovered the 2014 Arizona Super Bowl Host Committee's *STEM Superhero Awards presented by Freeport-McMoRan* which includes *Best STEM School*, *Most Innovative STEM Club*, and *Most Dedicated STEM Teacher* amongst their programs.¹⁵ While notable within this section, we did not conduct a full study of the program due to its temporary, one-off 2014 offering and exclusion from this report's geographic areas of focus.

¹⁴ <http://pitchinginthecommunity.mlblogs.com/2013/06/27/la-dodgers-support-los-angeles-education-partnership/>

¹⁵ <https://azsuperbowl.com/community/stemsuperheroes/>

Local Educational Agency (LEA) Partnerships

One of the main things that the district prides itself, as a district who recognizes exemplary teachers. . . . those teachers who are not only diligent, they love their students and they're about going above and beyond. . . about preparing students for the workforce and essentially in their careers. - District Staff

Another important category of organizations celebrating STEM teachers in urban school districts in the conduct of offering teacher award programs are local educational agencies (LEAs) such as state departments of education and city school districts. While every state department of education reviewed within the scope of this study manages some type of “Teacher of the Year Award” recognition program, their involvement in STEM-specific awards to teachers working in major US cities is more limited. The only metropolitan-area school district we found within the scope of this report operating a STEM teacher excellence award is the Dallas Independent School District, which ranks 14th among the *Top 100 U.S. School Districts by Student Enrollment* according to data published by the U.S. Census Bureau’s 2013 Report. They have partnered with Texas Instruments Foundation for the administration of the *Innovations in STEM Teaching Awards* as briefly discussed in the previous section. As it is the local school districts who do the actual work of recruiting, evaluating, and awarding the recipients of the award, their actual role will be discussed in further detail in this section.

Dallas Independent School District

The Dallas Independent School District (DISD) administers the *Innovations in STEM Teaching Awards* in partnership with the Texas Instruments (TI) Foundation, their corporate sponsor. Since its inception in 2007, the *Innovations in STEM Teaching Awards* program has recognized more than 75 middle and high school teachers throughout Northern Texas inclusive of surrounding school districts in proximity to the TI corporate headquarters in Dallas. Teacher awardees receive a check for \$10,000, half awarded directly to the teacher and half at the teacher's discretion for school-related purposes such as professional development or instructional technology. Among the six participating school districts, Dallas is the largest. In 2015, seven of 18 teachers receiving the award were from the Dallas ISD. The winners were mostly high school teachers responsible for teaching mathematics as well as specialized areas, including aquatic science and biotechnical engineering. At the middle school level, an awardee teaches data entry and computer keyboarding, an introductory experience for students interested in computing.

The Dallas ISD has had a longstanding partnership with TI that has involved the use of technology (e.g., IT calculators) and professional development. District staff recognize TI as a "leader in education" and values the importance of the partnership in supporting quality education that supports teachers and students. The introduction of a new district-wide teacher evaluation system in the 2014-2015 school year, the Teacher Excellence Initiative, brought a focus to the *Innovations in STEM Teaching Awards* to tie it to the new direction of the district. Teacher effectiveness is determined by the TEI process. Those teachers who reach a certain proficiency level are eligible for review as a *distinguished teacher* that carries an additional \$5,000 earning potential if successful. It is the pool of distinguished teachers in STEM that the

district will use as candidates for the *Innovations in STEM Teaching Awards*. Since the teacher evaluation system is fairly new, the district is unsure if the pool for the award program would be limited to classified or eligible distinguished STEM teachers. The pool of candidates for the award program would then need to be nominated by their principal, complete the application, submit a video of classroom instruction as a finalist, and be officially observed. An important award selection criterion is the use of technology in the classroom to align with the technology focus of TI as a company. The technology classroom use criterion would explain the variety of STEM-niche subject areas represented among the teaching areas of the awardees including biotechnical engineering and basic computing. A notable feature of the DTR process is ensuring equal access to effective teachers within the district by incentivizing distinguished teachers to transfer to schools in need of improvement. The purposeful integration of the STEM teacher awards program in the strategic direction of the Dallas ISD demonstrates an insightful and creative approach to leveraging teacher awards to further district-wide initiatives.

Non-Profit Organizations

It's a time to celebrate, not just the work we have done, because we see ourselves as capacity builders. The work is being done by the people in the schools, but we are there to help build capacity.

- (Nonprofit, Board and Partner Relations)

The fourth category of organizations active in STEM teacher award programs in our top 10 is the non-profit organization. Unique to this category are public museums such as the Houston Museum of Natural Science which offers the *Wilhelmina C. Robertson Excellence in Teaching Award* independent of any partnership with a professional organization, corporate foundation or local education agency. The Hall at Patriot Place, which organizes the *Raytheon STEM Teacher of the Year Award* is not included in this section because, while it functions as a museum and place of learning, it is still an arm of the for-profit Patriots NFL football team and corporate partner Raytheon.

Los Angeles Education Partnership (LAEP) is included in this section because it is a nonprofit organization that offers professional development services to targeted schools within the Los Angeles metropolitan area. As a local education fund, the mission of LAEP strives to improve and support public education to provide high quality teaching and learning for all students. Local education funds have been in existence for the past 20 years and have been characterized as brokers for the improvement of education often engaging in collaborations and partnership to carry out their mission (Brown, 2004). Of all the organizations and programs covered in this report, it is LAEP that is the most explicitly geared toward serving underrepresented urban communities *exclusively* and for that reason it is a major finding in this report.

Los Angeles Education Partnership

Los Angeles Education Partnership (LAEP) is a non-profit educational reform organization that offers a variety of educational-related resources to partner schools across Los Angeles with a particular focus on “high-poverty, multicultural communities” across Los Angeles County and claims to serve over 1,000 educators and 39,000 students. Through LAEP’s partner and network school system, from which Helen Bernstein Award nominees are eligible, it actively looks to pair the impetus of these programs in service of communities traditionally viewed as urban. Many of the other programs in our reports, while it is implied that they serve an urban community in a metropolitan area, they do not explicitly state any kind of demographic considerations relating to class, ethnic or cultural diversity, or other factors characteristic of major American urban populations. It is therefore worth including LAEP because its distinct focus and strategic partnerships with target schools are quite unique.

The Helen Bernstein Award for Teacher Leadership was inaugurated in 2013 in memoriam of Helen Bernstein, the president of the Los Angeles Teachers Union from 1990 to 1996. She was “known for her forceful style and dogged support for higher standards for students and decentralized administration” according to a New York Times obituary article.¹⁶ She was killed in a car accident in New York City on her way to a speaking engagement in 1997.

The Helen Bernstein Award for Teacher Leadership does not restrict teacher eligibility to the STEM disciplines. We are including it in the report because it is the only teacher award program we found in Los Angeles—the nation’s second largest Metropolitan Statistical Area and School District—and elsewhere, that honors STEM teaching efforts (although not exclusively) in

¹⁶ <http://www.nytimes.com/1997/04/09/us/helen-bernstein-52-ex-leader-of-los-angeles-teachers-union.html>

high-poverty and ethnically diverse urban areas. The award is also unique for the fact that teacher eligibility is restricted to middle and high school teachers working at LAEP “partner schools”—a network of 32 LAUSD public high schools participating in a program offered by the organization called Transform Schools.¹⁷ In 2014, the award went to a high school mathematics and robotics teacher at James A. Foshay Learning Center located in Exposition Park, a predominantly Latino and African-American community in South L.A.¹⁸

Science Museums

The contribution of student learning in STEM outside of the school has become increasingly recognized in education. Because students spend more time outside of the school day, the opportunity to explore and investigate all areas of STEM in an informal environment has great potential for fostering student interest in STEM while likely also improving student learning. Only two programs exist where museums are the lead organization that have conceived, sponsored, and funded the program: Houston Museum of Natural Science’s *Wilhelmina C. Robertson Excellence in Teaching Award* and the Space Center Houston’s *Cherri Brinley Space Science Educator Award*. While non-profit museums were not actively involved in STEM teacher awards outside of the Houston area, we find their involvement to be especially important given their community-based presence as well as their contribution to informal learning.

The Houston Museum of Natural Science (HMNS) offers a generous \$2,000 monetary award to the winner of the *Wilhelmina C. Robertson Excellence in Teaching Award* and an

¹⁷ <http://www.laep.org/our-work/transform-schools/>

¹⁸ <http://maps.latimes.com/neighborhoods/neighborhood/exposition-park/>

honorary luncheon for which science and mathematics teachers of grades K-12 in school districts within Harris County are eligible. Finalists are selected by a museum review committee. In addition to three letters of recommendation from a school principal, fellow teacher, or parent of a student to attest to the teacher's merits, the museum also requires a 1,000-word or less description of the nominee's classroom activities and teaching methods, or a detailed description of a specific activity that makes science or mathematics exciting and relevant to a wide variety of students.

Space Center Houston has an interesting award dedicated in the memory of Cherri Brinley, a space science educator active in the Space Center Houston's network who passed away from cancer in 2008. Eligibility is open to space science educators which is broader than the scope of our report but a review of past and prior winners of the award since its inception in 2009 shows robust representation of science educators at the high school level. Another interesting fact about the structure of the award is the absence of regional criteria. Eligible teachers are pulled from a pool of nominated applicants who "plan on attending" the annual Space Exploration Educators Conference at the museum each February. Past winners have included geographical representation from Houston, Colorado, Texas, and in its inaugural year, a teacher from Chicago. Similar to awards offered by professional teaching organizations, the specialized focus of this award on space science education gives these teachers, who may otherwise get lost in a broader pool of applications for a more general science award, an opportunity to shine.

Conclusion

STEM teacher award programs in the top 10 metropolitan areas outside of New York City exist to varying degrees due to the efforts of a variety of stakeholders committed to the advancement of quality mathematics and science education. We identified 10 teacher award programs recognizing STEM teaching excellence at the secondary level, 5 local programs and 5 offered statewide.¹⁹ The remaining 20 STEM teacher award programs recognize teachers throughout the K-12 continuum, many with different grade band categories of elementary school, middle school, and high school. The underlying characteristics common to teacher awards programs in the top 10 urban areas follow a selection and award process similar to a *Teacher of the Year* (TOTY) template that typically involves a peer-nomination process, review by a selection committee, and presentation of awards at an annual luncheon. Monetary award amounts vary greatly depending on the resources of the sponsor. Understandably, award programs funded by corporate sponsorship are able to offer the largest monetary awards. Programs in Texas carry the largest monetary award value, based on the involvement of sponsoring foundations attached to either a corporation or a financially well-endowed professional organization such as the Texas Medical Association with annual revenues exceeding \$20 million.

The great majority of STEM teacher award programs in the top 10 metropolitan areas are initiated, organized, and administered by STEM teacher associations and STEM-related professional organizations. These organizations do the bulk of the work in STEM teacher award programs and have been doing so the longest. In particular, the long-standing commitment of

¹⁹ Several programs include middle school in the grade span at the secondary level.

mathematics and science teacher associations in recognizing teaching excellence among their peers has been exemplary. However, the capacity of these efforts relies on the volunteer membership base of the organization. Awardee candidacy is usually limited to members of the organization. Science and mathematics teacher associations possess both the teacher networks and the practitioner knowledge base to identify deserving candidates.

While statewide activity among STEM teacher associations in organizing teacher awards is widespread, activity with a local focus concentrated on urban communities is far less even. The existence of urban or metropolitan-area STEM professional teacher associations offering teacher recognition awards is far less present in our 10 city survey with the notable exception of only a handful of programs located in Philadelphia, Detroit, and Chicago.

The city of Chicago in particular presents an interesting and exciting case study. Professional STEM organizations and teacher associations in Chicago have been offering STEM teacher awards for at least the past 50 years, which recognize the professional teaching continuum – novice to educator to life-time achievement. The statewide science teachers association has a science teacher awards program in partnership with a professional organization for chemists to recognize science high school teachers in Chicago area schools. The legacy of involvement of Chicago-based mathematicians involved in mathematics education (e.g. Max Beberman and Paul Sally) provides a strong foundation for efforts to recognize STEM teachers who inspire students in mathematics and science.

The largest medical society in America is a unique contributor to the STEM teacher awards landscape. The Texas Medication Association has its own foundation which sponsors their statewide science teacher award program. While the program is not limited to the

secondary level, it carries prestige as the largest professional organization of physicians. The award comes with a substantial monetary component to both the awardees and their schools. The involvement of the largest medical society in recognizing K-12 science teaching and its importance to the field of medicine and healthcare is a significant validation to the teaching profession.

Partnerships emerged as a key theme in our findings. While STEM teacher associations and professional organizations have been at the forefront in organizing STEM teacher award programs, other important stakeholders include corporate foundations, local education agency partnerships, and nonprofits, often partnering with one another to offer and sustain a program. Partnerships are synergistic in nature. Key stakeholders such as STEM professional organizations and corporate partners may turn to teacher associations to buttress their efforts in reaching and identifying excellence among the ranks of STEM teachers. In keeping with the mission statements of many of the corporate foundations, corporate-sponsored STEM teacher award programs tend to stipulate evidence of exemplary extra-curricular and/or local community-based involvement in addition to strictly professional classroom and curricula-related performance. The goals of the awards program with corporate support and involvement also are more likely to have an orientation aimed at reaching underrepresented students, including girls and underrepresented minorities. Furthermore, programs with corporate backing also tend to support the full spectrum of STEM subjects, including technology- and engineering-related subjects, unlike award programs sponsored by professional organizations that tend to focus primarily on their respective, specialized subject or discipline. While we found several companies in the teacher award space, most involvement is limited to sponsorship. Our

discovery of partnerships between major league sports organizations (LA Dodgers, New England Patriots, Arizona Cardinals) in the recognition of STEM teaching excellence in major urban centers is a notable and unexpected finding. The Raytheon/Patriots Hall *STEM Teacher of the Year Award* is the only STEM teaching excellence award program among the top 10 urban areas included in this report that is initiated, administered, and delivered by a corporate foundation.

While much of STEM learning occurs outside of school in informal environments, museums as educational institutions only have a small space in the landscape of STEM teacher awards. We found only two STEM teacher award programs run by museums in our top 10. Both were based in Houston at the Houston Museum of Natural Science, a Smithsonian Affiliate museum, and Space Center Houston, the official visitor center for the Johnson Space Center. While we did not find any non-profit museums in the STEM teacher award space outside of the Houston area, we consider their involvement in teacher recognition to be especially important given their community-based presence as well as their contribution to informal learning.

Stakeholders close to the daily life of schools, such as local education agencies and educational reform organizations that often support school improvement, are not well represented in running teacher award programs in the urban areas included in this report. In fact the Dallas Independent School District was the *only* district in any of the school districts of our top 10 that manages a STEM teacher award program. Most districts participate in state-wide TOTY programs, but only Dallas had a district-based STEM teacher award program in partnership with Texas Instruments. And Dallas doesn't just offer a teacher awards program for the sake of having a program. The district takes a thoughtful and systemic approach to strategically align the STEM teacher award program to further the goals and direction of the

district. Possibly the absence of other district-led STEM teacher award programs may likely be due to the lack of sponsoring partners, and may also be related to the complexity of identifying a compelling and strategic fit that aligns with district goals and objectives.

We were surprised to find only one teacher award program with a STEM focus operating in Los Angeles, the second largest school district in the country. While LA County offers a TOTY program to recognize teacher excellence, the city does not have a teacher awards program exclusively for STEM teaching. The program of the Los Angeles Education Partnership is included in this report because it is the only teacher award program in Los Angeles that honors STEM teaching efforts (although not exclusively) of teachers assigned to high-poverty and ethnically diverse communities. Their model of teacher awards supports their school partnerships and a shared vision of effective teaching and learning exemplified in the practice of their award recipients. Of all the organizations and programs covered in this report, the LAEP teaching awards program is the most explicitly geared toward serving underrepresented urban communities *exclusively*.

The teacher award programs in the top 10 cities included in this report are a reflection of the context of their communities. While the process and structure of the majority of programs are very similar because they follow a general TOTY template, it is the commitment of the people and organizations within each community that make these programs possible. Common to all of our top 10 are the efforts of STEM teacher associations and professional organizations who have been organizing STEM teacher award programs tirelessly and consistently without much public or media recognition.

All of the urban school districts in our top 10 have an opportunity to participate in state-level teacher award programs, and most have access to a regional- or locally-based teacher awards program organized by a STEM teacher association or STEM professional organization. The presence of stakeholder partnerships enhance STEM teacher award programs in several ways, including greater visibility of both the program and the accomplishments of awardees, promotion of the importance of STEM teaching and learning excellence, alignment with systemic reform efforts, and greater accessibility to teacher award candidates. In the absence of established partnerships, especially from corporate foundations, the volunteer base of the effort often mitigates program capacity.

The range of stakeholders involved in STEM teacher awards programs reflects awareness from multiple sectors of the vital role classroom teachers play in inspiring and engaging all students to realize STEM success. Very few of the STEM teacher award programs in our top 10 are run by a local education agency, a nonprofit educational reform organization, or a museum. In the few cases where these stakeholders are the lead organization (i.e., Dallas, Houston, LA), we found many unique and exciting program features, including a greater breadth of STEM areas awarded (e.g., biotech engineering, space science) and alignment of the program with an agenda of systemic change and improvement (i.e., Dallas, LAEP).

Our findings also indicate that there is room for more opportunities in the space of STEM teacher award programs. Many of the volunteer-based efforts need increased capacity to manage their programs. Some areas, like Los Angeles, while included in this report, do not have a STEM teacher award program *exclusively* organized to recognize teachers in their schools. And a

specific programmatic focus of reaching exemplary teachers specifically in *urban* settings, without including schools in the surrounding suburbs, is limited.

A light is being shined on STEM teacher excellence to varying degrees in our top 10 cities. The following section provides a summary listing each STEM teacher award program that exists in each of the 10 metropolitan areas outside of New York City.²⁰ The efforts of every program are applauded for their important work in recognizing STEM teaching excellence.

²⁰ A program that may have started in 2015 would not be included in this report given the timing of our data collection and reporting.

Helen Bernstein Award for Teacher Leadership

Organization	Los Angeles Education Partnership
Sponsor	Los Angeles Dodgers Foundation
School District	Los Angeles Unified School District (LAUSD)
STEM Focus	Grades 6-12; not restricted to STEM (selected Robotics teacher in 2014)
Year Established	2012-2013
Purpose	To recognize teaching excellence and leadership among under-recognized teachers; To give the students and schools of awarded teachers a sense of pride; To promote the importance of future leadership within the organization’s community school framework in Los Angeles
Award Summary	\$1,000, recognition at annual LAEP fundraising event
District Eligibility	Open to LAEP network and partner schools within/throughout LAUSD
Candidate Eligibility	Teachers from “LAEP Partner Schools” who make use of various LAEP professional and curriculum development, and networking services.
Nomination & Application	Nomination through submission of nomination form, self-nomination not eligible
Award Criteria	Advocate of teacher-led efforts and education equity; model and mentor to students, peers, and community; recognized leader by peers; leader who embodies LAEP’s principles of collaboration and building school/community capacity
Selection Process	Committee of board members, educators, former administrators, and others
Dissemination & Publicity	Public Education Network (PEN) network reaches “about 30-40,000 nationwide”, award receives approx. 12 applications annually, first winner published an article in the United Teachers of Los Angeles (UTLA) union newspaper
Other Info	Award is in memory of Helen Bernstein, former president of the Los Angeles Teacher’s Union
Website	http://www.laep.org

George Polya Memorial Award

Organization	California Mathematics Council
School District	Los Angeles Unified School District (LAUSD)
STEM Focus	K-12 Mathematics
Year Established	1987
Purpose	Recognition of outstanding teachers of K-12 mathematics
Award Summary	Plaque
District Eligibility	Statewide, CA
Candidate Eligibility	Individuals who have been deemed as outstanding teachers of mathematics over a sustained period of time, have supported CMC activities, have been active participants in CMC, and have high visibility throughout the state of California.
Nomination & Application	Completed nomination form, with 1-2 pages stating (1) Why nominee is an outstanding classroom teacher (site specific examples); (2) How nominee has supported and encouraged the mission of CMC. May 1 submission deadline.
Award Criteria	<i>Nominee should be one of the two or three finest teachers that [the nominator] has ever known. Since award eligibility is statewide, nominee should be well-known throughout California, not just in a section or region.</i>
Selection Process	N/A
Dissemination & Publicity	Website
Website	http://cmc-math.org/awardsgrantsscholarships/george-polya-memorial-award/

Paul Shin Memorial Outstanding High School Chemistry Teacher Award

Organization	Southern California Section of the American Chemical Society (SCALACS)
School District	Los Angeles Unified School District (LAUSD)
STEM Focus	High School Chemistry
Year Established	1989
Purpose	To recognize deserving High School chemistry teachers
Award Summary	\$500, certificate, and recognition at annual education award banquet
District Eligibility	Los Angeles County
Candidate Eligibility	Full-time high school chemistry teacher
Nomination & Application	<p>Nominating documents include: (1) Biography; (2) List of publications; (3) Written statement that attests to a) nominee's teaching quality, emphasizing unusually effective methods of presentation, and b) nominee's ability to challenge/inspire students' extracurricular work in chemistry, including science fairs, science clubs, & activities; (4) Appropriate secondary information such as evaluations of the teacher's effectiveness by a supervisor, principal, colleague, or SACLAS members who have visited the nominee's class, letters from former students (letters from currently enrolled students are not acceptable).</p> <p>Nomination deadline - November 15</p>
Award Criteria	Must have substantial contributions to field of chemical education (e.g. students have gone on to Chemistry Olympiad); Must have made a contribution to chemical education as a profession (such as writing or contributing to textbook)
Selection Process	Anonymous three-person committee of High School chemistry teachers who have been recognized for contributions to chemical education.
Dissemination & Publicity	Website, nationally distributed newsletter "SCALACS", press releases to principals of winning schools for distribution to local newspapers.
Other Info	The SCALACS Outstanding High School Teacher of the Year Award was renamed in 2010 to the Paul Shin Memorial Outstanding High School Teacher of the Year Award. The late Paul Shin was Section Chair in 2010.
Website	http://scalacs.org/?page_id=19

Illinois Outstanding High School Physics Teacher Award

Organization	Illinois Section of the American Association of Physics Teachers
School District	Chicago Public Schools
STEM Focus	High School Physics
Year Established	1980-1981
Purpose	Recognition of teaching excellence.
Award Summary	Citation, a plaque, and \$200 presented during the banquet at the fall meeting of the organization, award.
District Eligibility	Statewide, IL
Candidate Eligibility	High School physics teaching assignment in Illinois.
Nomination & Application	Fellow teachers and school administrators who are aware of exceptional performance and enthusiastic student response are encouraged to fill out the online nomination form.
Award Criteria	Nominees are assessed on (1) Teaching philosophy; (2) Impact on students; (3) Steps taken toward professional development over past 5 years; (4) Assisting other teachers in their professional development; (5) Incorporating state and national science teaching standards in teaching; (6) Innovations in teaching.
Selection Process	Nominees are notified by email and asked to complete “candidate information form.” The deadline for receiving the candidate information is February 28 .
Dissemination/ Publicity	<i>The Illinois Physics Teacher</i>
Website	http://helios.augustana.edu/isaapt/awards.html

Excellence in Secondary Mathematics Teaching (T.E. Rine Award)

Organization	Illinois Council of Mathematics Teachers (ICTM)
School District	Chicago Public Schools
STEM Focus	High School Mathematics
Year Established	1965
Purpose	To honor one outstanding secondary school mathematics teacher each year.
Award Summary	Five year ICTM membership (worth \$160); plaque presented at annual award ceremony featuring video presentation from colleagues and school community.
District Eligibility	Statewide, IL
Candidate Eligibility	Nominee must be a current ICTM member and a highly motivated 9-12 mathematics teacher in Illinois whose current assignment includes teaching math at least 50% of the time.
Nomination & Application	Self-nominations accepted. Complete applications include: (1) Downloadable application form; (2) Current resume & Curriculum Vitae (3) 1-2 page narrative describing nominee’s qualifications and contributions to the improvement of state mathematics education; (4) At least 2 letters of support from anyone familiar with nominees qualifications and contributions to the improvement of state mathematics education.
Award Criteria	(1) Prolonged and effective service in the classroom; (2) Active participation in professional organizations; (3) Contributions to the advancement of mathematics education; (4) Continued growth as a mathematics educator; (5) Leadership and influence on others toward improved math education.
Selection Process	Seven member committee comprised of K-16 Illinois math educators.
Dissemination & Publicity	Monthly newsletter, website, and listserv (member website/RSS). 4-5 applications per year. ICTM notifies school of winners and encourages school publicize winner with local media outlets.
Website	http://www.ictm.org/ictmawards/terine.html

Illinois Promising New Teacher of Mathematics Award

Organization	Illinois Council of Mathematics Teachers (ICTM)
School District	Chicago Public Schools
STEM Focus	K-16 Mathematics
Year Established	2002
Purpose	<i>The Promising New Teacher of Mathematics Award honors one outstanding new teacher each year who has started his or her teaching career with tremendous success.</i>
Award Summary	Five year ICTM membership worth \$160; plaque presented at award ceremony at annual meeting; video presentation from colleagues and school community of each awardee featured at award ceremony.
District Eligibility	Statewide, IL
Candidate Eligibility	Nominee must be a current member of ICTM; and a <i>highly motivated and effective teacher in Illinois whose current assignment includes time teaching mathematics AND be teaching for less than five years total</i> (if the current teaching year is the fifth year, the nominee is still eligible).
Nomination & Application	Same as <i>Secondary Mathematics Teaching Award</i> (above).
Award Criteria	Aside from candidate eligibility, no other criteria given
Selection Process	Seven member committee comprised of K-16 mathematics educators throughout Illinois
Dissemination & Publicity	Monthly newsletter, website, and listserv (member website/RSS). Received 14 applications in 2013/1014. ICTM does not publicize winners but notifies school and encourages school to do so, with local media outlets.
Other Info	Promising New Teacher Award receives more nominations than any of the 8 other ICTM awards possibly due to the “psychological factor” of desiring to reward, and thus retain, new teachers (J.Benson, ICTM Award Chair).
Website	http://www.ictm.org/ictmawards/newteacher.html

Chicago Drug and Chemical Association Outstanding Teacher of Science

Organization	Illinois Science Teachers Association (ISTA)
Sponsor	Chicago Drug and Chemical Association
School District	Chicago Public Schools
STEM Focus	Science, Grades 7-12
Year Established	2013-2014
Purpose	To recognize extraordinary accomplishment in science teaching; applicants must provide evidence that supports outstanding classroom teaching
Award Summary	\$1000 payable to the winning new teacher; Invitation to attend the CDCA Annual Luncheon in November.
District Eligibility	ISTA Regions 1-7 in IL (Region 7 - City of Chicago)
Candidate Eligibility	Current ISTA membership (applicants can join with their application); Science teaching assignment in grades 7-12 in ISTA Regions 1 or 7 with 5 or more years of experience; Previous CDCA Awardees are ineligible.
Nomination & Application	Complete applications must include: (1) Written narrative describing teacher's extraordinary accomplishments; (2) Evidence supporting teacher excellence (e.g. newspaper & journal articles, grant applications & acceptance letters, letters from community agencies, action research reports, photos, etc.); (3) Resume; (4) One letter of support.
Award Criteria	Applicant must provide evidence of extraordinary accomplishments in science teaching (see Nomination & Application, above).
Selection Process	Applications must be submitted by June 1. Awardees notified in September. Awardees honored at the CDCA annual conference in November.
Dissemination & Publicity	Winner announced in ISTA journal <i>Spectrum</i> and ISTA website.
Other Info	ISTA and CDCA will recognize K-6 teachers in the 2014-2015. .
Website	http://www.ista-il.org/CDCAOutstandingTeacherofScience.html

ISTA/ExxonMobil Outstanding Teachers of Science Award

Organization	Illinois Science Teachers Association (ISTA)
Sponsor	ExxonMobil Foundation
School District	Chicago Public Schools
STEM Focus	Science, Grades 7-12
Year Established	2009-2010
Purpose	To recognize extraordinary accomplishment in science teaching
Award Summary	\$1,000 check payable to each of 7 total winning teachers; Recognition in the ISTA journal "Spectrum" and on ISTA website; Recognition at 2014 "Science in the South Luncheon" (9/7/14).
District Eligibility	ISTA Regions 1-7 in IL (Region 7: City of Chicago).
Candidate Eligibility	Current ISTA membership (applicants can join with their application); Full-time science teaching assignment in grades 7-12; 5+ years' experience; Previous ExxonMobil Outstanding Teacher Awardees are ineligible; (2006-7007): Teaching assignment in grades K-8.*
Nomination & Application	Self-nomination by application submission: Written narrative (max. of 500 words) describing nominee's accomplishments, Two letters of recommendation; Curriculum Vitae.
Award Criteria	(1) Personal or community-wide achievement which is science-related (grants for the school, working on environmental projects, etc.); (2) Working with other teachers, community members to develop a product or process related to science education; (3) Creation of an enriching afterschool science group.
Selection Process	Applications sorted by ISTA region (addresses verified by Chair and Membership Secretary); Awards committee of member volunteers reviews applications; rubric used to score applications and finalize decisions.
Dissemination & Publicity	School notified by letter; Press release sent to awardees' local newspaper.
Other Info	ExxonMobil sponsorship discontinued in 2014.
Website	http://www.ista-il.org/ExxonMobilOustandingTeacherofScience.html

ISTA New Science Teacher of the Year Award

Organization	Illinois Science Teachers Association (ISTA)
School District	Chicago Public Schools
STEM Focus	K-12 Science
Year Established	2012-2013
Purpose	<i>To recognize 'new' teachers for excellence in facilitating science learning in their classrooms; to encourage bright, up-and-coming teachers to continue striving to be the best teachers that they can be. The 2013-2014 program consists of honoring 3 to 5 teachers throughout Illinois in their first 4 years of teaching.</i>
Award Summary	Certificate of Recognition, one-year membership to ISTA (worth \$25), recognition at "Science in the South" Conference Luncheon (9/7/14) and at various ISTA events
District Eligibility	ISTA Regions 1-7 in IL (Region 7: City of Chicago).
Candidate Eligibility	Current ISTA membership; Teachers with initial Illinois certification in first 4 years of service; Currently teaching science (elementary teachers are encouraged to apply); <i>Prior 'New Science TOY' Awardees ineligible.</i>
Nomination & Application	Must be nominated by an ISTA member teacher or school administrator. Must e-mail a letter of reference from an ISTA member or a school administrator; Resume.
Award Criteria	Awardees must demonstrate <i>innovative teaching experiences, exemplary service, professional development activities and best practice.</i>
Selection Process	June 01, 2014: Applications due; August, 2014: Awardees notified; Nov.6-8, 2014: 'Science in the South in Carbondale' Luncheon (complimentary registration).
Dissemination & Publicity	Awardee recognition in ISTA journal <i>Spectrum</i> and ISTA website.
Website	http://www.ista-il.org/NewScienceTeacheroftheYear.html

Innovations in STEM Teaching Award

Organization	Dallas Independent School District
Sponsor	Texas Instruments Foundation
School District	Dallas Independent School District
STEM Focus	All STEM subjects, Grades 6-12
Year Established	2007
Purpose	<i>To acknowledge instructors in Dallas, Plano and Richardson Independent School Districts' secondary schools who consistently demonstrate quality instruction and enhance student achievement in STEM subjects.</i>
Award Summary	Each honoree receives \$10,000, half of which is directly awarded to the teacher. The other \$5,000 is to be used at his or her discretion for professional development or instructional technology.
District Eligibility	Dallas, Plano, Richardson & Mesquite (Northern Texas Region)
Candidate Eligibility	Any Science, Technology, Engineering or Math classroom teacher in eligible school districts, teaching grades 6-12 for a minimum of 3 years.
Nomination & Application	Principals nominate exceptional STEM teachers based upon pre-selected candidates who have met Dallas ISD pre-requisites for STEM teaching.
Award Criteria	Demonstrable and documented teaching effectiveness; Establishing classroom innovation; Participating in education activities outside of the classroom; Encouraging curiosity and generating excitement in STEM subjects among students.
Selection Process	Teams within each district review the applications and make classroom observations. A list of finalists is then submitted to the districts' foundations, and winners are selected.
Dissemination & Publicity	Via newsletter
Other Info	In 2012 there were seven award winners; In 2015, there were 18 award winners and seven were from Dallas ISD teachers.
Website	http://www.ti.com/corp/docs/csr/education.html

Wilhelmina C. Robertson Excellence in Teaching Award

Organization	Houston Museum of Natural Science
School District	Houston Independent School District
STEM Focus	K-12 Science and Mathematics
Year Established	2013-2014
Purpose	Awards presented to a K-5 and a 6-12 teacher in Harris County who demonstrate significant ability and dedication to teaching in either discipline in Harris County.
Award Summary	\$2,000 presented at annual fall awards luncheon to one K-5 grade science or math teacher, and one 6-12 grade science or math teacher
District Eligibility	All school districts in Harris County, TX
Candidate Eligibility	Science and math teachers, Harris County public and private schools
Nomination & Application	Nominations should include: completed nomination form; 3 letters of recommendation from school principals, fellow teachers, parents, or others. The following information from nominee: (1) Curriculum Vitae or Resume; (2) 500-word or less description of nominee's teaching philosophy; (3) 1,000-word or less description of nominee's classroom activities/methods, <i>or</i> detailed description of a specific activity that makes science or mathematics exciting and relevant to a wide variety of students.
Award Criteria	Aside from candidate eligibility, no other criteria given
Selection Process	The deadline for all submissions is April 24, 2015. Finalists selected by museum review committee.
Dissemination & Publicity	Museum website, local school district websites
Other Info	Program coordinated and conceived by the museum. Another Houston-area science museum, Space Center Houston, offers a comparable nomination-based "Cherri Brinley Space Science Educator Award" but not included in this study because the scope and definition of candidate eligibility is not limited to classroom teaching.
Website	http://www.hmns.org/

High School Science Teacher of the Year

Organization	Science Teachers Association of Texas (STAT)
School District	Dallas ISD, Houston ISD
STEM Focus	High School Science
Year Established	2000
Purpose	To recognize extraordinary accomplishment in the field of science teaching.
Award Summary	Winner receives a plaque, honorarium, and 2 tickets to annual event.
District Eligibility	Statewide, Texas
Candidate Eligibility	Members only
Nomination & Application	Nomination from current members only, after which an email application is sent to the nominee. Applications consist of (1) Completed questionnaire that asks about instructional strategies and approach; (2) Current resume; (3) Essay describing the applicant's philosophy of education, and (4) three letters of support from a supervisor/administrator, a colleague, and a parent/student, describing the applicant's science classroom and approach to instruction.
Award Criteria	Evidence of creativity in the classroom, where state standards are taught effectively, classroom management exceeds expectations, and safety procedures are followed.
Selection Process	Each application is evaluated using a rubric, by an awards committee headed by the STAT past-president, and consisting of at least 5 other volunteers (all of whom must be current STAT members in good standing). A representative from one of our content-area affiliate organizations is also typically included.
Dissemination & Publicity	Advertised via website in the spring, when nominations are open, at annual state conference, and via email to the membership. Winners are announced via email to membership, on the website, and are honored publically at the annual conference.
Website	http://www.statweb.org/?page=Awards

Ernest and Sarah Butler Awards for Excellence in Science Teaching

Organization	Texas Medical Association (TMA)
Sponsor	TMA Foundation
School District	Dallas ISD, Houston ISD
STEM Focus	K-12 Science
Year Established	1990
Purpose	To honor K-12 teachers who share their energy and enthusiasm for science through creative and innovative methods to cultivate student interest in medicine and science
Award Summary	\$5,000 for three winning teachers each, \$2,000 to each awardee’s school, science departments of three finalists receive \$1,000 each; all expenses paid trip to TMA annual conference for awards presentation
District Eligibility	Statewide, TX
Candidate Eligibility	Texas state-certified, full-time public and private school science teachers, minimum two years’ classroom experience, commitment to teach following school year; previous recipients may not reapply in same award category (i.e., elementary, middle school, or high school); all areas of science are eligible.
Nomination & Application	Self-nomination, nomination of multiple teachers accepted. Application includes: educational history/professional development; three letters of support; professional essay; professional bio/philosophy of teaching; portfolio
Award Criteria	<i>A personal commitment and enthusiasm for teaching science; Innovative and motivational methods to cultivate student interest.</i>
Selection Process	<i>Panel of qualified individuals will screen and score all completed applications in February/March 2016. Completed electronic applications and supporting materials due by December 18.</i>
Dissemination & Publicity	Program website, area organizations, local schools
Other Info	Over 440 nominations and 210 applications received in 2014.
Website	http://www.texmed.org/teachers/

Leo Schubert Memorial Award

Organization	Chemical Society of Washington, D.C. (CSW)
School District	District of Columbia Public Schools
STEM Focus	High School chemistry
Year Established	1979
Purpose	<i>To recognize an outstanding teacher of high school chemistry in the Washington, D.C. area</i>
Award Summary	\$500 honorarium and award certificate, presented at the December dinner meeting of the organization.
District Eligibility	Secondary schools within the geographic region of the CSW, which include neighboring counties in Maryland and Virginia.
Candidate Eligibility	The nominee must teach chemistry at a secondary school in the geographic region of the Chemical Society of Washington (<i>see District Eligibility above</i>).
Nomination & Application	Nomination from school principals only, to include: supporting Letters and details about nominee's accomplishments
Award Criteria	Innovation in teaching, writing curricula, outside teaching, papers published, involvement in science fairs, and postgraduate study
Selection Process	Completed nominations including the nomination form must be submitted by first week of June. Selection Committee of five individuals consists of CSW President, Board of Members, and individuals recruited by CSW President.
Dissemination & Publicity	Annual letters are sent to approximately 200 high schools in the region requesting principals to nominate teachers; also via digital newsletter subscription.
Other Info	Awardees automatically become regional nominees for <i>CSW Middle Atlantic Region Award</i> , and may advance further to win the national <i>James B. Conant Award</i> .
Website	http://csw.sites.acs.org/awards.htm

Alan Barson Novice Teacher Award

Organization	Association of Teachers of Mathematics—Philadelphia and Vicinity (ATMOPAV)
School District	Philadelphia
STEM Focus	PK-12 Mathematics
Purpose	Presented to an outstanding novice classroom teacher (Pre-K – 12) who has demonstrated effective student-centered teaching grounded in strong mathematical content and pedagogy
Award Summary	Winner and nominator both receive one free year ATMOPAV membership (\$10 per annual membership); Winner also invited and recognized at the Spring ATMOPAV Banquet with a complimentary dinner for recipient and guest
District Eligibility	Philadelphia
Candidate Eligibility	PK-12 mathematics classroom teacher, maximum three years teaching experience
Nomination & Application	Nominations accepted from a direct supervisor (chairperson/supervisor/administrator)
Award Criteria	Nominee should have the ability to : (1) Bring creativity and/or innovation to the classroom; (2) Establish quality interactions with students and colleagues; (3) Show a continued love of learning through active membership in a professional learning community.
Selection Process	Deadline for applications: March 9, 2015
Dissemination & Publicity	Twitter (@ATMOPAV), Newsletter
Other Info	Award program notable for honoring both award winner and nomine.
Website	http://atmopav.com/

Outstanding Math, Science, and Engineering Teaching Award

Organization	Philadelphia Engineering Foundation
Affiliate Organization	Delaware Valley Engineers Week Committee of the Engineers' Club of Philadelphia
School District	Philadelphia Schools
STEM Focus	Mathematics, Science and Engineering, Grades 6-12
Year Established	2010
Purpose	<i>To help recognize and promote the engineering profession and education in the Delaware Valley</i>
Award Summary	\$200 each award category (by discipline), recognition at Delaware Valley Engineers Week Awards Luncheon during Engineers Week, two complimentary tickets (awardee and guest)
District Eligibility	(PA) Bucks, Chester, Delaware, Montgomery, Philadelphia Counties, (Southern NJ) Burlington, Camden, Gloucester, Mercer, Salem Counties
Candidate Eligibility	Grades 6-12 teachers of mathematics, science, or engineering
Nomination & Application	No restrictions on nominations; application consists of 1-3 letters of recommendation and professional resume or curriculum vitae.
Award Criteria	Degree in a STEM field, an advanced degree, teaching AP courses, innovative approaches to promoting engineering in instruction (e.g., Project Lead the Way) and/or extracurricular activities (e.g., Future Cities)
Selection Process	Calls for nominations normally issued in summer and early fall; Nominations due in December; Applicants reviewed by selection committee of 3-4 individuals formed by acting Philadelphia Engineering Foundation Executive Director and/or Award Chair; early January Awardees announced
Dissemination & Publicity	Organization website and school mailing list
Other Info	The Engineering Teaching Award will be added in 2015 as a category in recognition of the engineering courses offered at some schools.
Website	http://pefound.org/students/

William B. McIlwain Science Teaching Award

Organization	Pennsylvania Science Teachers Association
School District	Philadelphia Public Schools
STEM Focus	K-12 Science
Year Established	2000
Purpose	To promote and recognize outstanding K-12 science teaching by full-time undergraduate and graduate students, and full-time teachers who have completed no more than two years of teaching
Award Summary	Plaque, two-year PTSA membership, complimentary two-day registration and lodging for annual convention following the Award
District Eligibility	Statewide, PA
Candidate Eligibility	Applicants must be: (1) undergraduate students who have completed student teaching; or, (2) full-time graduate students currently enrolled in academic programs leading to a degree and/or certification in a teaching field; or, (3) full-time teachers having a total of no more than two years of teaching experience at any level
Nomination & Application	Applicants must be nominated by a current member of PSTA. The nominator must submit (1) Nominee’s Resume; (2) Nominee’s Data Form; (3) Nominee’s Supporting Information; (4) Nominator’s Data Form; (5) Nominator’s Supporting Information; (6) Nominator’s Data Form; (7) Nominator’s Supporting Information. Application packets must be postmarked by September 1st of the year in which the nomination is made
Award Criteria	Knowledge and use of content specific teaching methods; Innovative manipulative lessons; Motivational techniques; Attention to the development of student comprehension; Accommodation of varying student abilities; and Personal goals in science education
Selection Process	none given
Dissemination & Publicity	Posted on organization website.
Website	http://www.pascience.org/Award-McIlwaine-Science-Teaching.php

Award for Teaching Excellence

Organization	Pennsylvania Earth Science Teachers Association (PAESTA)
School District	Philadelphia Public Schools
STEM Focus	K-12 Earth and Space Science
Year Established	2012
Purpose	To recognize a dedicated Pennsylvania K-12 teacher who has made exemplary contributions to the field of Earth and Space Science education
Award Summary	Plaque presented at annual PAESTA conference
District Eligibility	Statewide, PA
Candidate Eligibility	K-12 PA earth and space science teachers
Nomination & Application	Nomination by organization members only; self-nominations accepted. Applications include 3 letters of recommendation Completed applications due September 17.
Award Criteria	(1) Demonstrated sustained excellence and exemplary Earth and Space Science Teaching; (2) Effective use of Earth and Space Science printed and technological materials; (3) Presented and/or published in the field of Earth and Space Science; (4) Served as an advocate for Earth and Space Science teaching and learning beyond the classroom.
Selection Process	none given
Dissemination & Publicity	website, Facebook
Website	http://www.paesta.psu.edu/award-for-teaching-excellence

Outstanding Teacher Awards for Elementary, Middle/Junior and High School

Organization	Florida Association of Science Teachers (FAST)
School Districts	Miami-Dade County Public Schools
STEM Focus	K-12 Science
Purpose	Recognition of significant contributions of teachers to science education
Award Summary	\$400, plaque, award presented at annual conference
District Eligibility	Statewide, FL
Candidate Eligibility	K-12 science teachers in Florida
Nomination & Application	Nomination packet available on website to members of the organization; Teachers are not precluded from nominating themselves; must be able to login as member to access nomination and application award packet.
Award Criteria	Nominee should demonstrate: 1) Participation in professional organizations showing active leadership through the participation in professional science and science education organizations at the local, state, and national levels; 2) A classroom/laboratory environment that encourages a positive student attitude toward science, enhances student curiosity, participation, and promotes scientific literacy; 3) Developing and using innovative instructional materials and new approaches to the teaching of science; 4) Effectively using community resources including projects, speakers, and field trips; 5) Continuing education, attending workshops, and professional conferences to continue to develop as an effective educator.
Selection Process	None given
Dissemination & Publicity	Annual conference program, Website
Website	https://fastscience.wildapricot.org/WA-Themes

Award of Promise

Organization	Florida Association of Science Teachers (FAST)
School Districts	Miami-Dade County Public Schools
STEM Focus	K-12 Science
Purpose	The Award of promise is intended for a teacher with one to three years of experience who has demonstrated an interest and aptitude for teaching science.
Award Summary	\$400, plaque, award presented at annual conference
Eligibility District	Statewide, FL
Candidate Eligibility	K-12 science teachers in Florida with one to three years of teaching experience
Nomination & Application	Nomination packet available on website; Teachers are not precluded from nominating themselves.
Award Criteria	Interest and aptitude for teaching science; <i>The same criteria for Outstanding Teacher will be used for evaluation, but consideration will be given to the formative state of the nominee.</i>
Selection Process	None given
Dissemination & Publicity	Annual conference program, Website
Website	https://fastscience.wildapricot.org/WA-Themes

Excellence in the Teaching of Mathematics Award

Organization	Georgia Council of Teachers of Mathematics_(GCTM)
School District	Atlanta Public Schools
STEM Focus	K-12 Mathematics
Year Established	2006
Purpose	<i>Three awards, one each for elementary, middle, and secondary levels, are given to excellent teachers who have strong content foundations in mathematics appropriate for their teaching level, show evidence of growth in the teaching of mathematics, and show evidence of professional involvement in GCTM and NCTM.</i>
Award Summary	Plaque in each category of elementary, middle school, and high school; complimentary GSTA conference registration, recognition/award presentation at February GSTA Awards Banquet
District Eligibility	Georgia (Statewide) school districts.
Candidate Eligibility	Georgia teachers are eligible to receive awards in for Excellence in Teaching Mathematics. An elementary teacher (K-5), a middle school teacher (6-8), and a high school teacher (9-12) will be selected as recipients.
Nomination & Application	Nominations accepted from GCTM members only in the form of downloadable completed form and letter of nomination.
Award Criteria	Nominee must (1) be a member of GCTM, (2) have taught mathematics at least 3 years in Georgia, (3) have strong content foundation in mathematics appropriate for their teaching level, (4) show evidence of growth in the teaching of mathematics, (5) show evidence of professional involvement in GCTM and NCTM, and (6) not have received the Excellence in Teaching Mathematics award in the past 5 years.
Selection Process	Deadline for nominations usually in May, sometimes extended through August
Dissemination & Publicity	<i>Reflections</i> GCTM Quarterly Journal, award winner's local newspaper when possible and website
Website	http://gctm-resources.org/drupal/node/30

Teacher of Promise Award

Organization	Georgia Council of Teachers of Mathematics_(GCTM)
School District	Atlanta Public Schools
STEM Focus	K-12 Mathematics
Year Established	2006
Purpose	to recognize outstanding new teachers in the state who demonstrate qualities of excellence in the teaching of mathematics
Award Summary	Plaque, complimentary GSTA conference registration, recognition/award presentation at February GSTA Awards Banquet
District Eligibility	Georgia (Statewide) school districts.
Candidate Eligibility	Georgia K-12 mathematics teachers with no more than three years mathematics teaching experience at time of the nomination, GCTM membership not required .
Nomination & Application	Nominations accepted from GCTM members only in the form of downloadable completed nomination form and letter of nomination.
Award Criteria	Nominee must demonstrate qualities of excellence in the teaching of mathematics.
Selection Process	Deadline for nominations usually in May, sometimes extended through August
Dissemination & Publicity	<i>Reflections</i> GCTM Quarterly Journal, award winner's local newspaper when possible and website
Website	http://gctm-resources.org/drupal/node/30

Georgia Science Teacher of the Year

Organization	Georgia Science Teachers Association (GSTA)
School District	Atlanta Public Schools
STEM Focus	K-16 Science
Year Established	2013
Partner Organization	Georgia Science Teachers Education Foundation (GSTEF)
Purpose	<i>To recognize ongoing excellence in the teaching of science and commitment to its improvement</i>
Award Summary	\$1,000 at each grade band, complimentary conference registration, recognition/award presentation at February awards banquet
District Eligibility	Statewide, GA
Candidate Eligibility	Certified Georgia teacher with minimum four years teaching experience
Nomination & Application	Nominations from supervisors or peers; nominee completes online application and registration process including: Biographical Information / Professional Organizations - professional organizations may also include civic organizations plus description of how these organizations improved nominee's expertise as a teacher; submission of a lesson or unit taught by nominee and reflects nominee's educational philosophy based on grade level appropriate Georgia Performance Standards; description of how the submitted lesson/unit plan reflects nominee's educational philosophy; resume\professional activities; photo for publicity; three supporting letters (administrator, past student or parent, and a peer teacher, can include one letter from the nominator).
Award Criteria	Results of rubric related to criteria. <i>(See rubric in appendix.)</i>
Selection Process	November 30 deadline for submission of electronic application packet
Dissemination & Publicity	Website, GSTA Newsletter, GSTA Social Media
Other Info	Recipients make presentation at annual GSTA conference or submit article for GSTA Newsletter.
Website	http://georgiascienceteacher.org/page-1105981

Teacher of Promise

Organization	Georgia Science Teachers Association (GSTA)
School Districts	Atlanta Public Schools
STEM Focus	K-12 Science
Year Established	N/A
Purpose	To recognize novice science teachers of exceptional promise.
Award Summary	Recognition at three levels – elementary, middle school, and high school; each level receives \$500, complimentary registration to annual GSTA conference, recognition/award presentation at February GSTA Awards Banquet
District Eligibility	Statewide, GA
Candidate Eligibility	Science teachers in Georgia with one to three years of teaching experience
Nominations Application	No nomination restrictions; application same as TOTY (above) except [Section3] questions: (1) <i>Describe the major challenge you face in your school and how you have addressed it;</i> (2) <i>How would you improve science education in your school and school system?</i> (3) <i>Describe a recent science lesson that you felt was successful and reflected your view of science instruction;</i> (4) <i>Provide an example and description of a unique or creative activity you have adapted or developed for the teaching of science based on the Georgia Performance Standards.</i>
Award Criteria	demonstration of exceptional promise
Selection Process	Results of rubric score related to criteria. (See rubric in appendix.)
Dissemination & Publicity	Website, GSTA Newsletter, GSTA Social Media
Other Info	Teachers of Promise are recognized at the elementary, middle school, and high school levels.
Website	http://www.georgiascienceteacher.org/Awardlist

Raytheon STEM Teacher of the Year

Organization	The Hall at Patriot Place
Affiliated Organization	Raytheon
School District	Boston Public Schools
STEM Focus	K-12 Science, Mathematics and Engineering
Year Established	2013
Purpose	<i>To recognize and honor a Massachusetts STEM teachers making significant contributions to STEM education and to promote the impact that educator is making in the field</i>
Award Summary	\$5,000 to awardees' school, awardees honored at Patriots pregame ceremony, tickets to a Patriots home game, recognition in The Hall at Patriot Place, invitation to join Governor's STEM Advisory Council, \$1,000 granted to schools of four finalists
District Eligibility	Statewide, MA
Candidate Eligibility	Full-time, active, certified K-12 classroom STEM teachers in state-accredited public or private schools
Nomination & Application	Teachers cannot nominate themselves. Nomination includes two questions about candidate. Applications completed online, or downloaded and mailed. Candidates complete Part II of application. (<i>See Selection Process.</i>)
Award Criteria	1) Spends majority of the school day in direct instruction; 2) skilled in effective teaching strategies; 3) explain personal teaching philosophy; 4) inspire students in STEM-related topics; 5) involvement and leadership in student-related extracurricular activities; 6) respected by students, parents and co-workers.
Selection Process	1) Nominations received at The Hall in February; 2) Part II of the application sent to the nominated teacher as soon as initial nomination is received. Part II will need to be received or postmarked by March; 3) Five finalists selected by Selection Committee; 4) Interviews with Selection Committee conducted in May; 5) winner contacted early June 1; 6) Selection Committee consists of representatives from the Hall at Patriots Place, Raytheon, and the Massachusetts State Department of Education.

Raytheon STEM Teacher of the Year (Continued)

Dissemination & Publicity	Winner featured in web-based, education-related PSA; announced and honored at annual Massachusetts STEM Summit.
Other Info	Notable program as it was conceived, developed and administered by a professional sports team (the New England Patriots) and sponsored by a major corporation; Owner of Patriots, Robert Kraft, is staunch supporter of STEM education; Selection Committee includes members from State DOE. In the initial stages of program development, private educational consultancy firms were hired to assist with program dissemination as well as the program structure itself.
Website	http://thehallatpatriotplace.com/education/

Rev. Stanley J. Bezuska, S. J. Achievement Award for Mathematics
Teaching and Learning

Organization	Association of Teachers of Mathematics in Massachusetts (ATMIM)
School District	Boston Public Schools
STEM Focus	Mathematics; PK – 16.
Year Established	2009
Purpose	To honor the commitment and excellence of teachers of mathematics
Award Summary	Plaque, recognized on ATMIM website
District Eligibility	Statewide, MA
Candidate Eligibility	Nominee must possess: 1) At least 15 years of teaching mathematics experience at the PreK - 16 level; 2) demonstrated excellence in stimulating students in their mathematics learning; 3) a history of presentations at ATMIM events. Current ATMIM Board Members are ineligible.
Nomination & Application	Nomination letter plus two letters of recommendation
Award Criteria	Nominee should be an outstanding teacher of mathematics or mathematics education both in the classroom <i>and</i> in the ATMIM community of members.
Selection Process	Nomination materials sent directly to ATMIM in February
Dissemination & Publicity	<i>Math Murmurs</i> (published three times per year)
Website	https://atmim.wildapricot.org/page-1177134

List of References

- Brennan, J. F. (2013, September). New York City student achievement on national tests during mayoral control: A comparative perspective 2003 to 2011. Albany, NY.
- Hanushek, E. A. (2002). Teacher quality. In L. T. Izumi and W. M. Evers (Eds.), *Teacher Quality*. Stanford, CA: Hoover Institute Press, pp. 1-12
- Ingersoll, R. M. (2004, November). *Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers?* Washington, DC: Center for American Progress.
- Kemple, J. J. (2013). The condition of New York City high schools: Examining trends and looking toward the future. New York: The Research Alliance for New York City Schools.
- New York City Board of Education (2015). New York City's English language learners: School year 2013-2014 demographics report. New York, NY. Retrieved from schools.nyc.gov/Academics/ELL/default.htm
- Nye, B., Konstantopoulos, S., & Hedges, L. V. (2004, Fall). How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26(3), pp. 237-257.
- Rand Corporation (2012). Teachers matter: Understanding teachers' impact on student achievement. Santa Monica, CA. http://www.rand.org?pubs/corporate_pubs/CP693z1-2012-09.
- U. S. Department of Education, National Center for Education and Statistics. (USDOE, 2015). *Digest of Education Statistics, 2013* (NCES 2015-011), Introduction and Chapter 2.

Appendix

Appendix A Individuals Interviewed

Appendix B Illinois Council of Teachers of Mathematics: Nomination and Application Form

Appendix C Georgia Science Teachers Association: Teacher of the Year Award Rubric

Appendix D Georgia Science Teachers Association: Teacher of Promise Award Rubric

Appendix A

List of Individuals Interviewed

02 LOS ANGELES

Tina Demirdjan
Fund & Partnership Development
Los Angeles Education Partnership
www.laep.org

Michael Moore
Executive Committee
American Chemical Society of Southern
California
www.scalacs.org

Nancy Paradiso
Section Administrator
American Chemical Society of Southern California
www.scalacs.org

03 CHICAGO

John Benson
Awards Chair
Illinois Council of Teachers of Mathematics
www.ictm.org

Harry Hendrickson
Executive Director
Illinois Science Teachers Association
www.ista-ill.org

04 DALLAS

Crystal Alexander
STEM Manager
Dallas Independent School District
www.dallasisd.org

Oswaldo Alvarena
Executive Director, STEM
Dallas Independent School District
www.dallasisd.org

Amy Pomykal
Director, Major Education Grants
Texas Instruments Foundation
www.ti.com/corp/docs/csr/ti_foundation.shtml

Steve Sanchez
Math Director
Dallas Independent School District
www.dallasisd.org

Elaine Williams
Education Technology Department
Dallas Independent School District
www.dallasisd.org

06 PHILADELPHIA

Susan Best
Vice Chair
Delaware Valley Engineers Week Committee
/Engineers Club of Philadelphia
www.dvewc.org

Ernest Hanna
Principal
GZA GeoEnvironmental, Inc.
www.gza.com

07 WASHINGTON, D.C.

Allan Anderson
President
Chemical Society of Washington
csw.sites.acs.org

John Malin
Chairman, Public Relations
Chemical Society of Washington
csw.sites.acs.org

10 BOSTON

Bryan Morry
Executive Director
The Hall at Patriot Place
www.thehallatpatriotplace.com

Appendix B

Illinois Council of Teachers of Mathematics: Nomination and Application Form

APPLICATION FOR ICTM AWARDS 2015

The following mathematics educator is hereby nominated for an ICTM award. (Nominees are limited to one award application per year)

Name of Award for which the educator is being nominated:

- Elementary Mathematics Teaching Award
- Middle School Mathematics Teaching Award
- T.E. Rine Secondary Mathematics Teaching Award Post-Secondary
- Mathematics Teaching Award Max
- Beberman Mathematics Educator Award
- Lee Yunker Mathematics Leadership Award
- Distinguished Life Achievement in Mathematics Award Illinois Promising New Teacher of Mathematics Award
- Fred Flener Award: Engaging Students in Mathematics Beyond the Classroom

Full Name of Nominee: _____

Home Address: _____

School Name and Address: _____

Home Phone _____ Cell Phone _____ School Phone _____

Description of Current Teaching Assignment:

Names and email addresses of People writing letters of support

Name _____ email _____

This application is being completed by:

Name: _____ email: _____

Address: _____

Phone: _____

Appendix C

Teacher of the Year Award Rubric Georgia Science Teachers Association



GSTA Teacher of the Year Award Rubric



Complete Application			Section Score:	(x1)=
Level 4	Level 3	Level 2	Level 1	
All components of the application were submitted in an organized and timely manner.	Components of the awards application were submitted in a timely manner (by the due date), but they could have been better organized.	Components of the awards application were submitted in an organized and timely manner, but 1- 2 were incomplete or missing.	Several components of the awards application were incomplete and/or poorly organized.	
Biographical Information / Professional Organizations			Section Score:	(x2)=
Level 4	Level 3	Level 2	Level 1	
Response provides clear and convincing evidence of positive impact on teaching performance	Response provides clear evidence of positive impact on teaching performance	Response provides some evidence of positive impact on teaching performance	Response provides limited or no evidence of positive impact on teaching performance	
Applicant provides evidence of a distinguished and lengthy association with several professional organizations or community/civic groups	Applicant provides evidence of a distinguished OR lengthy association with several professional organizations or community/civic groups	Applicant provides evidence of a distinguished OR lengthy association with 1-2 professional organizations or community/civic groups	Applicant provides evidence of a limited association with professional organizations or community/civic groups	
Educational Philosophy			Section Score:	(x3)=
Level 4	Level 3	Level 2	Level 1	
Response shows an in-depth sophisticated understanding of student learning and science education	Response shows a solid and less sophisticated understanding of student learning and science education	Response shows a partial understanding of student learning and science education	Response shows a very limited understanding of (or serious misconceptions about) student learning and science education	
Relationship among science concepts are clearly, completely, and accurately explained and fully supported with relevant examples or citations	Relationships among science concepts are explained and generally supported with relevant examples or citations	Attempt to explain relationships among science concepts, but some serious omissions or misconceptions are evident; insufficient support is provided	Relationships among science concepts are not explained; little or no support is provided	
Ideas are expressed clearly and succinctly in a logical manner	Ideas are expressed for the most part clearly and succinctly	Ideas are not always addressed in a clear and local manner	Ideas are not presented in a clear and logical manner	
Spelling, language, length conventions are correctly applied	Spelling, language, length conventions are generally correct, minor errors do not interfere with meaning	Flaws in spelling, language, length conventions interfere with understanding	Major flaws in spelling or language convention make the response difficult to follow; or length requirements were not adhered	

GSTA Teacher of the Year Award Rubric

Lesson/Unit Plan Example			Section Score: (x4)=
Level 4	Level 3	Level 2	Level 1
All elements of lesson and unit plan are clearly aligned to Georgia Performance Standards and appropriate for the selected grade level	Various elements of the lesson and unit plan are clearly aligned to the Georgia Performance Standards and appropriate for the selected grade level	Elements of lesson and unit plan are loosely aligned to Georgia Performance Standards and may or may not be appropriate for selected grade level	Lesson and unit plan are not aligned to Georgia Performance Standards and not appropriate for selected grade level
100%-80% of the elements of the lesson and unit plan are original and those that are not have been adapted by the submitter to meet the unique requirements of their learners	79%-60% of the elements of the lesson and unit plan are original and those that are not have been adapted by the submitter to meet the unique requirements of their learners	59%-40% of the elements of the lesson and unit plan are original and those that are not have been adapted by the submitter to meet the unique requirements of their learners	Fewer than 40% of the elements of the lesson and unit plan are original and/or there is limited evidence of adaptation by the submitter to meet the unique requirements of their learners
Resume & Professional Activities			Section Score: (x2)=
Level 4	Level 3	Level 2	Level 1
Applicant provides evidence of a variety of distinguished educational teaching experiences and professional activities (such as conference presentations, school leadership roles, article submissions, advanced degrees, etc.)	Applicant provides evidence of a variety of educational experiences and professional activities	Applicant provides evidence of a some educational experiences and professional activities	Applicant provides evidence of limited educational experiences and professional activities
Substantial evidence is provided of professional learning & development to enhance and improve professional practice and productivity	Evidence is provided of professional learning & development to enhance and improve professional practice and productivity	Some evidence is provided of professional learning & development to enhance and improve professional practice and productivity	Limited evidence is provided of professional learning & development to enhance and improve professional practice and productivity
Letters of Support			Section Score: (x1)=
Level 4	Level 3	Level 2	Level 1
Letters of support provide a glowing in-depth description of the applicant, their impact on the entire school culture, and endeavors to engage students in high quality scientific learning experiences	Letters of support describe the applicant as an educator who has facilitated a classroom culture that enables students to engage in high quality scientific learning experiences	Letters of support describe an educator who has engaged a students in a variety of scientific learning experiences	Letters of support provide a cursory description of the applicant and their impact on students
			Total Score:

Appendix D

Teacher of Promise Award Rubric Georgia Science Teachers Association



GSTA Teacher of Promise Award Rubric

Complete Application			Section Score: (x 1)=
Level 4	Level 3	Level 2	Level 1
All components of the application were submitted in an organized and timely manner	Components of the awards application were submitted in a timely manner (by the due date), but they could have been better organized	Components of the awards application were submitted in an organized and timely manner, but 1-2 were incomplete or missing	Several components of the awards application were incomplete and/or poorly organized
Continuing Education			Section Score: (x 2)=
Level 4	Level 3	Level 2	Level 1
Applicant provides substantial evidence of continuing education in science to enhance and improve professional practice and productivity AND association with science-minded professional organizations or community/civic groups	Applicant provides evidence of continuing education in science to enhance and improve professional practice and productivity OR association with science-minded professional organizations or community/civic groups	Applicant provides evidence of continuing education (not directly science related) to enhance and improve professional practice and productivity OR association with professional organizations or community/civic groups not directly science related	Applicant provides limited evidence of continuing education to enhance and improve professional practice and productivity or association with professional organizations or community/civic groups
Challenges to Science Instruction at School			Section Score: (x 1)=
Level 4	Level 3	Level 2	Level 1
Response shows a sophisticated understanding of challenges impacting student learning and science education in schools	Response shows a solid and less sophisticated understanding of the challenges impacting student learning and science education in schools	Response shows a partial understanding of the challenges impacting student learning and science education in schools	Response shows a very limited understanding of (or misconceptions about) the challenges impacting student learning and science education in schools
Plan to Improve Science			Section Score: (x 2)=
Level 4	Level 3	Level 2	Level 1
Response provides clear and convincing evidence of positive impact on teaching performance, student learning, or science education in general	Response provides clear evidence of positive impact on teaching performance, student learning, or science education in general	Response provides some evidence of positive impact on teaching performance, student learning, or science education in general	Response provides limited or no evidence of positive impact on teaching performance, student learning, or science education in general

GSTA Teacher of Promise Award Rubric

Description of Recent Science Experience			Section Score: (x 2)=
Level 4	Level 3	Level 2	Level 1
<p>The science experience describes clear, accurate, and appropriately detailed evidence of:</p> <ul style="list-style-type: none"> •the nature of learning •special characteristics of the material to be learned •the conditions under which the teaching and learning to take place 	<p>The science experience describes clear and detailed evidence of:</p> <ul style="list-style-type: none"> •the nature of learning •special characteristics of the material to be learned •the conditions under which the teaching and learning to take place 	<p>The science experience describes some evidence of:</p> <ul style="list-style-type: none"> •the nature of learning •special characteristics of the material to be learned •the conditions under which the teaching and learning to take place 	<p>The science experience displays little to no evidence of:</p> <ul style="list-style-type: none"> •the nature of learning •special characteristics of the material to be learned •the conditions under
Sample Creative Lesson/Activity Based On GPS			Section Score: (x 2)=
Level 4	Level 3	Level 2	Level 1
<p>Relationship among science concepts are clearly and accurately explained and supported with relevant examples or citations</p>	<p>Relationships among science concepts are explained and generally supported with relevant examples or citations</p>	<p>Attempt to explain relationships among science concepts, but some serious omissions or misconceptions are evident; insufficient support is provided</p>	<p>Relationships among science concepts are not explained; little or no support is provided</p>
<p>All elements of sample lesson/activity are clearly aligned to Georgia Performance Standards and appropriate for the selected grade level</p>	<p>Various elements of the lesson/activity are clearly aligned to the Georgia Performance Standards and appropriate for the selected grade level</p>	<p>Elements of lesson/activity are loosely aligned to Georgia Performance Standards and may or may not be appropriate for selected grade level</p>	<p>Lesson and unit plan are not aligned to Georgia Performance Standards and not appropriate for selected grade level</p>
Letters of Support			Section Score: (x 1)=
Level 4	Level 3	Level 2	Level 1
<p>Three letters of support are included in the application packet. All letters provide a positive, in-depth description of the applicant's qualities as an outstanding science teacher</p>	<p>Two letters of support provide a positive, in-depth description of the applicant's qualities as an outstanding science teacher</p>	<p>One letter of support provides a positive, in-depth description of the applicant's qualities as an outstanding science teacher</p>	<p>None of the letters of support provided a positive, in-depth description of the applicant's qualities as an outstanding science</p>
Total Score:			