



## **DEPARTMENT OF COMMERCE**

### **National Institute of Standards and Technology**

**[Docket Number: 150702573-5573-01]**

### **Announcement of Requirements and Registration for National Institute of Standards and Technology Prize Competition – Reference Data Challenge**

**AGENCY:** National Institute of Standards and Technology (NIST), Commerce.

**ACTION:** Notice.

**SUMMARY:** The National Institute of Standards and Technology (NIST), a non-regulatory agency of the United States Department of Commerce, is conducting this prize competition to spur the development of innovative mobile applications that utilize NIST datasets to help better share the data and provide a useful service to those who can best use it. NIST Standard Reference Data (SRD) are well-documented numeric data used in technical problem-solving, research, and development; over 100 types are available for use in scientific and engineering applications, with over 19 million downloads recorded annually (excluding web-based time services). Most of these data sets are currently freely accessible through web-based interfaces or are made available on CD upon request. Mobile applications that can readily access and utilize this data will help drive further innovation and support research through easy and low-barrier access to the results of U.S. tax-payer funded research.

Participants in this prize competition are invited to submit Apps (as defined in this Notice) that use eligible NIST Standard Reference Data (SRD) datasets listed on the Event Website, <http://nistdata.challengepost.com>. These eligible datasets pertain to physics and chemistry and are frequently used by high school, college, and graduate students in advanced chemistry and physics coursework.

**DATES:** *Submission Period:* JULY 27, 2015 – SEPTEMBER 28, 2015.

*Announcement of Winners:* November 16, 2015

The Submission Period begins July 27, 2015, at 9 a.m. EDT and ends September 28, 2015, at 5 p.m. EDT. Prize competition dates are subject to change at the discretion of NIST. Entries submitted before or after the Submission Period will not be reviewed or considered for award.

**FOR FURTHER INFORMATION CONTACT:**

Questions about the prize competition can be directed to NIST via the Event Website, or by email to Heather Evans at [Appchallenge@nist.gov](mailto:Appchallenge@nist.gov), phone 301-975-4525.

Changes or updates to the prize competition rules will be posted and can be viewed at the Event Website, <http://nistdata.challengepost.com>.

Results of the prize competition will be announced on the Event Website, <http://nistdata.challengepost.com> and on the NIST website, [www.nist.gov](http://www.nist.gov).

**SUPPLEMENTARY INFORMATION:**

## **Competition Sponsor**

This prize competition (“Competition”) is sponsored by the National Institute of Standards and Technology (NIST; [www.nist.gov](http://www.nist.gov)), a non-regulatory Federal agency within the United States Department of Commerce. Founded in 1901, NIST’s mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. NIST carries out its mission through its programs, which include: the NIST Laboratories, conducting world-class research, often in close collaboration with industry, that advances the Nation's technology infrastructure and helps U.S. companies continually improve products and services; the Hollings Manufacturing Extension Partnership (MEP), a nation-wide network of local centers offering technical and business assistance to smaller manufacturers to help them create and retain jobs, increase profits, and save time and money; and the Baldrige Performance Excellence Program, which promotes performance excellence among U.S. manufacturers, service companies, educational institutions, health care providers, and nonprofit organizations, conducts outreach programs, and manages the annual Malcolm Baldrige National Quality Award, which recognizes performance excellence and quality achievement. The agency operates in two locations: Gaithersburg, Maryland (headquarters—234-hectare/578-acre campus); and Boulder, Colorado (84-hectare/208-acre campus). NIST employs about 3,000 scientists, engineers, technicians, and support and administrative personnel. NIST also hosts about 2,700 associates from academia, industry, and other government agencies, who collaborate with NIST staff and access user facilities. In addition, NIST partners with more than 1,300 manufacturing specialists and staff at more than 400 local MEP centers around the country. NIST provides measurement and

calibration services via its Standard Reference Materials®, calibration services, and Standard Reference Data.

### **Eligibility Rules for Participating in the Competition**

This Competition is open to all individuals over the age of 18 that are residents of the 50 United States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa, and to for-profit or non-profit corporations, institutions, or other validly formed legal entities organized or incorporated in, *and* which maintain a primary place of business in, any of the preceding jurisdictions. An individual, whether participating singly or with a group, must be a citizen or permanent resident of the United States.

To be eligible to win a Competition prize, a Participant (whether an individual or legal entity) must have registered to participate, must have complied with all the requirements under section 3719 of title 15, United States Code (“Prize competitions”).

A Participant shall not be deemed ineligible because the Participant used Federal facilities or consulted with Federal employees in preparing its submission to the Competition if the facilities and employees are made available to all Participants on an equitable basis.

Multiple entries are permitted. Each entry will be reviewed independently. Multiple individuals and/or legal entities may collaborate as a group to submit a single entry, in which

case all members of the group must satisfy the eligibility requirements, and a single individual from the group must be designated as an official representative for each entry. That designated individual will be responsible for meeting all entry and evaluation requirements. Participation is subject to all U.S. federal, state and local laws and regulations. Void where prohibited or restricted by law. Participants are responsible for checking applicable laws and regulations in their jurisdiction(s) before participating in this Competition, to ensure that their participation is legal. Individuals entering on behalf of or representing a company, institution or other legal entity are responsible for confirming that their entry does not violate any policies of that company, institution or legal entity.

NIST employees, NIST associates, and any other individuals or legal entities involved with the design, production, execution, distribution or evaluation of the Competition, are not eligible to enter. NIST employees and NIST Guest Researchers are not eligible to enter. Federal entities and non-NIST Federal employees acting in their official capacities are not eligible to enter. Non-NIST Federal employees acting in their personal capacities should consult with their respective agency ethics officials to determine whether their participation in this Competition is permissible.

### **Entry Process for Participants**

To enter, create a user account at ChallengePost by visiting [challengepost.com](http://challengepost.com) and register your interest in participating in the Competition at the Event Website, <http://nistdata.challengepost.com>. Create an App (as defined herein) that uses at least one of the eligible NIST datasets identified on the Event Website.

NIST provides free online access to high quality scientific data in a wide range of disciplines. The eligible NIST datasets for this Competition pertain to physics and chemistry and are frequently used by high school, college, and graduate students in advanced chemistry and physics coursework. For example, below are links to four NIST Standard Reference Data that represent some of the eligible NIST datasets for this Competition:

(1) Ground Levels and Ionization Energies for the Neutral Atoms (SRD 111,

[http://www.nist.gov/pml/data/ion\\_energy.cfm](http://www.nist.gov/pml/data/ion_energy.cfm)),

(2) Atomic Weights and Isotopic Compositions (SRD 144,

<http://www.nist.gov/pml/data/comp.cfm>),

(3) CODATA Fundamental Physical Constants (SRD 121,

<http://physics.nist.gov/cuu/Constants/>), and

(4) the NIST Computational Chemistry Comparison and Benchmark Database (SRD 101,

<http://cccbdb.nist.gov>).

These four datasets are a subset of the eligible NIST SRD datasets that are listed on the Event Website, <http://nistdata.challengepost.com>. The four datasets listed above represent some of the most fundamental data in the NIST SRD collection – from the speed of light to the atomic weight of carbon. Participants in this Competition are invited to integrate other freely available datasets into their applications to increase the usefulness of the data to a wider audience. For example, additional free online NIST Standard Reference Data can be found by searching the NIST Data Gateway at <http://srdata.nist.gov/gateway>.

While not required, other freely available scientific data (from NIST or a third-party) may enhance the usefulness of the App for other users. A submission requires (1) your App software provided to the Competition Sponsor at no cost; (2) a brief (less than 250 words) text description of your App; (3) at least one screenshot image of your App in use on a mobile phone or tablet device; (4) a brief (less than five minutes) video demonstrating the functionality of your App; and (5) confirmation that you have read and agree to the Competition Rules contained in this Notice. Participants may begin submitting Competition Entries at 9:00 AM EDT on July 27, 2015, to the Event Website. Competition Entries must be submitted no later than 5:00 PM EDT on September 28, 2015, to the Event Website.

Entries submitted before the start date and time, or after the end date and time, will not be evaluated or considered for award. Entries sent to NIST in any manner other than through the Event Website will not be evaluated or considered for award. Entries that do not comply with the formatting requirements set forth in this Notice and the Event Website will not be evaluated or considered for award. Changes or updates to the prize competition rules will be posted and can be viewed at the Event Website, <http://nistdata.challengepost.com>.

Entries must be complete, non-confidential and in English.

In general, each Entry:

- a) Must affirmatively represent that the Participant (and each Participant if more than one) has read and consents to be governed by the Competition rules and meets the eligibility requirements;
- b) Must include an App (i.e., a working software application that operates on a mobile device using one of three operating systems, i.e., iOS, Android, or Windows, together with relevant documentation and code to install and run the application) that uses at least one of the eligible NIST datasets as described above in the Entry Process for Participants. The App should meet the minimum criteria described below in the **Evaluation, Judging, and Selection of Winner(s)**. The Participant must provide a way for the Competition Sponsor to test the App at no cost, such as a weblink, installation file, or shared test build. Details are provided at the Event Website. Namely, for Android or Windows applications, the Participant can upload an .apk file in the submission form or provide a link for the Competition Sponsor to download the Participant's App. For iOS applications, the Participant should provide a link if it is in the Apple Store (promo code must be provided if the Participant charges money for the app). If a Participant's iOS App is not yet publicly available, the Participant must send a test build following the instructions on the Event Website.
- c) Must include a brief (less than 250 words) text description of the Participant's App; and
- d) Must include at least one photograph of the App running on a mobile phone or tablet device, and

- e) Must include a weblink (YouTube or Vimeo) to a short (less than five minutes) video that demonstrates the functionality of the application. Participant must have permission to use all content in the video, including footage, music and images.

### **Competition Award(s)**

The Prize Purse is a total of \$45,000. The Prize Purse may increase, but will not decrease. Any increases in the Prize Purse will be posted on the Event Website and published in the Federal Register. The Prize Purse will be used to fund one or more awards.

NIST will announce via the Event Website any Entry(ies) as to which the Judges have made a cash award (each, an “Award”). The anticipated number and amount of the Awards that will be awarded for this Competition is set forth in this Notice; however, the Judges are not obligated to make all or any Awards, and reserve the right to award fewer than the anticipated number of Awards in the event an insufficient number of eligible Entries meet any one or more of the Judging Criteria for this Competition, based on the Judges’ evaluation of the quality of Entries and in their sole discretion. Awards will be made based on the Judges’ evaluation of an Entry’s compliance with the Judging Criteria for this Competition. All potential winners will be notified by the e-mail address provided in the submission document and may be required to complete further documentation confirming their eligibility. Return of any notification as “undeliverable” will result in disqualification. After verification of eligibility, Awards will be distributed in the form of a check or electronic funds transfer addressed to the official representative specified in the winning entry. That official representative will have sole responsibility for further

distribution of any Award among Participants in a group Entry or within a company or institution that has submitted an Entry through that representative. Each list of Entries receiving Awards for the Competition will be made public according to the timeline outlined on the Event Website.

All Awards are a one-time offer and there is no offer of licensure, royalty, or other financial compensation implied beyond the Awards. Winners are responsible for all taxes and reporting related to any Award received as part of the Competition.

All costs incurred in the preparation of Competition Entries are to be borne by Participants.

## **Evaluation, Judging, and Selection of Winner(s)**

### *Submission Evaluation Criteria*

This section discusses how Participant submissions will be evaluated.

### *Entry Submission and Review*

The requirements for submission of a complete entry are detailed in the above section “Entry Process for Participants” and at the Event Website. Submissions will be reviewed by Subject Matter Experts (described below), who will determine whether the submission meets the following minimum criteria for consideration for a Prize:

1. General: App submission should include detailed instructions on how to install and operate the App, and system requirements to run the App.
2. NIST Acknowledgment: The following notice should be displayed prominently within the application: “This product uses data provided by the National Institute of Standards and Technology (NIST) but is not endorsed or certified by NIST.” The NIST SRD number must also be displayed prominently in the application. Use of the NIST or Department of Commerce logos is prohibited.
3. Functionality/Accuracy: A Submission may be disqualified if the software application fails to function as expressed in the description submitted by the Participant.
4. Privacy: Participants should keep in mind that NIST considers protection of personal information an essential element of App security. Apps must seek user permission to access and use personal information.
5. Security Vulnerabilities: Participants must agree that NIST may conduct testing on the App to determine whether malware or other security threats may be present. NIST may disqualify the App if, in NIST’s sole judgment, the App may damage government or others’ equipment or operating environment. For guidance about minimizing security vulnerabilities in mobile applications, Participants can consult NIST Special Publication 800-163, “Vetting the Security of Mobile Applications” (<http://dx.doi.org/10.6028/NIST.SP.800-163>).
6. Completeness: other required components of the submission (as listed in the Entry Process for Participants section above) are complete.

Submissions that meet the minimum criteria specified above will be presented to the Judges for evaluation. Judges are not required to test the App and may choose to judge based solely on the text description, images, and video provided in the Submission. Judges will evaluate submissions using the following Judging Criteria (the weighting percentage for each criterion is given in parentheses):

1. Potential impact: How strong is the potential of the submission to help students and other technical experts use NIST Standard Reference Data? (25%)
2. Creativity and Innovation: To what degree is this submission innovative? Does it bring new thinking and creativity to improving access to NIST Standard Reference Data? (25%)
3. Implementation: Does the App work well? Does it provide an engaging user experience and have interactive capabilities? (25%)
4. Uses scientific reference data: Does the App use at least one of the eligible datasets? Preference will be given to applications that integrate more than one dataset. (25%)

Awards:

First, Second, and Third Place Prizes will be selected by the Judges.

- First Place Prize is \$30,000
- Second Place Prize is \$10,000
- Third Place Prize is \$5,000

### *Subject Matter Experts and Judges*

Subject Matter Experts, to be selected by NIST, will, as a body, represent a high degree of technical background in App development, software security, and scientific research data.

Subject Matter Experts will consist of NIST employees or NIST associates and will provide initial assessments of App submissions using the criteria described herein to determine whether the submission meets the minimum criteria. Subject Matter Experts will not select winners of any Awards.

A panel of highly qualified Judges appointed by the NIST Director will select winners of Awards to be awarded to First, Second, and Third Place Submissions using the Judging Criteria described herein. The panel of Judges has a collective expertise that creates an overall balanced panel with broad representation of relevant areas to the challenge such as App design, NIST datasets, measurement science, standards, data security, user interfaces, websites, and/or mobile devices. Judges include individuals from both inside and outside NIST who are experts in areas relevant to the challenge. The Judges may not have personal or financial interests in, or be an employee, officer, director, or agent of any entity that is a registered Participant in this Competition, and may not have a familial or financial relationship with an individual who is a registered Participant. In the event of such a conflict, a Judge must recuse himself or herself. A Participant(s) should review the list of the Judges available at the Event Website, and must identify, as part of their Entry submission, any Judge who has personal or financial interests in, or is an employee, officer, director, or agent of any entity that is a Participant in this

Competition, or who has a familial or financial relationship with an individual who is a Participant. Thereafter, a Participant(s) must immediately inform the Competition Sponsor through the Event Website of a change in status resulting in a conflict for any Judge as described above. Failure to do so may disqualify a Participant(s) from receiving an Award.

**Intellectual property rights:**

Other than as set forth herein, NIST does not make any claim to ownership of your Entry or any of your intellectual property or third party intellectual property that it may contain therein. By participating in the Competition, you are not granting any rights in any patents or pending patent applications related to your Entry; provided that by submitting an Entry, you are granting NIST certain limited rights as set forth herein.

By submitting an Entry, you grant to NIST the right to review your Entry as described above in the section “Entry Submission and Review,” to describe your Entry in connection with any materials created in connection with the Competition and to have the Subject Matter Experts, Judges, Competition administrators, and the designees of any of them, review your Entry.

By submitting an Entry, you grant a non-exclusive right and license to NIST to use your name, likeness, biographical information, image, any other personal data submitted with your Entry and the contents in your Entry (including any created works, such as YouTube® videos, but not

including any App software submitted with or as part of your Entry), in connection with the Competition. You also agree that this license is perpetual and irrevocable.

You agree that nothing in this Notice grants you a right or license to use any names or logos of NIST or the Department of Commerce, or any other intellectual property or proprietary rights of NIST or the Department of Commerce. You grant to NIST the right to include your company or institution name and logo (if your Entry is from a company or institution) as a Participant on the Event Website and in materials from NIST announcing winners of or Participants in the Competition. Other than these uses or as otherwise set forth herein, you are not granting NIST any rights to your trademarks.

Entries containing any matter which, in the sole discretion of NIST, is indecent, defamatory, in obvious bad taste, which demonstrates a lack of respect for public morals or conduct, which promotes discrimination in any form, which shows unlawful acts being performed, which is slanderous or libelous, or which adversely affects the reputation of NIST, will not be accepted. If NIST, in its sole discretion, finds any Entry to be unacceptable, then such Entry shall be deemed disqualified and will not be evaluated or considered for award. NIST shall have the right to remove any content from the Event Website in its sole discretion at any time and for any reason, including, but not limited to, any online comment or posting related to the Competition.

**Confidential information:**

By making a submission to the Competition, you agree that no part of your submission includes any confidential or proprietary information, ideas or products, including but not limited to information, ideas or products within the scope of the Trade Secrets Act, 18 USC §1905. Since NIST does not wish to receive or hold any submitted materials “in confidence,” it is agreed that, with respect to your Entry, no confidential or fiduciary relationship or obligation of secrecy is established between NIST and you, your Entry team, the company or institution you represent when submitting an Entry, or any other person or entity associated with any part of your Entry.

**Warranties:**

By submitting an Entry, you represent and warrant that all information you submit is true and complete to the best of your knowledge, that you have the right and authority to submit the Entry on your own behalf or on behalf of the persons and entities that you specify within the Entry, and that your Entry (both the information and software submitted in the Entry and the underlying technologies or concepts described in the Entry):

- (a) is your own original work, or is submitted by permission with full and proper credit given within your Entry;
- (b) does not contain confidential information or trade secrets (yours or anyone else’s);
- (c) does not knowingly, after due inquiry (including, by way of example only and without limitation, reviewing the records of the United States Patent and Trademark Office and inquiring of any employees and other professionals retained with respect to such matters), violate or infringe upon the patent rights, industrial design rights, copyrights, trademarks, rights in

technical data, rights of privacy, publicity or other intellectual property or other rights of any person or entity;

(d) does not contain malicious code, such as viruses, malware, timebombs, cancelbots, worms, Trojan horses or other potentially harmful programs or other material or information;

(e) does not and will not violate any applicable law, statute, ordinance, rule or regulation, including, without limitation, United States export laws and regulations, including, but not limited to, the International Traffic in Arms Regulations and the Department of Commerce Export Regulations; and

(f) does not trigger any reporting or royalty or other obligation to any third party.

**Limitation of liability:**

By participating in the Competition, you agree to assume any and all risks and to release, indemnify and hold harmless NIST, each of the Judges, and Subject Matter Experts, from and against any injuries, losses, damages, claims, actions and any liability of any kind (including attorneys' fees) resulting from or arising out of your participation in, association with or submission to the Competition (including any claims alleging that your Entry infringes, misappropriates or violates any third party's intellectual property rights). In addition, you agree to waive claims against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from your participation in this Competition, whether the injury, death, damage, or loss arises through negligence or otherwise.

NIST is not responsible for any miscommunications such as technical failures related to computer, telephone, cable, and unavailable network or server connections, related technical failures, or other failures related to hardware, software or virus, or incomplete or late Entries. Any compromise to the fair and proper conduct of the Competition may result in the disqualification of an Entry or Participant, termination of the Competition, or other remedial action, at the sole discretion of NIST. NIST reserves the right in its sole discretion to extend or modify the dates of the Competition, and to change the terms set forth herein governing any phases taking place after the effective date of any such change. By entering, you agree to the terms set forth herein and to all decisions of NIST, the Judges, the Subject Matter Experts, and/or all of their respective agents, which are final and binding in all respects.

NIST is not responsible for: (1) Any incorrect or inaccurate information, whether caused by a Participant, printing errors, or by any of the equipment or programming associated with or used in the Competition; (2) unauthorized human intervention in any part of the Entry process for the Competition; (3) technical or human error that may occur in the administration of the Competition or the processing of Entries; or (4) any injury or damage to persons or property that may be caused, directly or indirectly, in whole or in part, from a Participant's participation in the Competition or receipt or use or misuse of an Award. If for any reason an Entry is confirmed to have been deleted erroneously, lost, or otherwise destroyed or corrupted, the Participant's sole remedy is to submit another Entry in the Competition.

**Termination and Disqualification:**

NIST reserves the authority to cancel, suspend, and/or modify the Competition, or any part of it, if any fraud, technical failures, or any other factor beyond NIST's reasonable control impairs the integrity or proper functioning of the Competition, as determined by NIST in its sole discretion.

NIST reserves the right to disqualify any Participant or Participant team it believes to be tampering with the Entry process or the operation of the Competition or to be acting in violation of any applicable rule or condition. Any attempt by any person to undermine the legitimate operation of the Competition may be a violation of criminal or civil law.

**Verification of Potential Winner(s):**

All potential winners are subject to verification by NIST, whose decisions are final and binding in all matters related to the Competition.

Potential winner(s) must continue to comply with all terms and conditions of the Competition Rules described in this notice and posted on the Event Website as Official Rules, and winning is contingent upon fulfilling all requirements. In the event that a potential winner, or an announced winner, is found to be ineligible or is disqualified for any reason, NIST may make award, instead, to another Participant, as may be determined by the Judges.

**Privacy and Disclosure under FOIA:**

Personal and contact information is not collected by NIST for commercial or marketing purposes. Except as provided herein, information submitted throughout the Competition will be used only to communicate with Participants regarding Entries and/or the Competition.

Participant Entries and submissions to the Competition may be subject to disclosure under the Freedom of Information Act (“FOIA”).

**Authority:** 15 U.S.C. 3719.

**Kevin Kimball,**  
*Chief of Staff*

**BILLING CODE 3510-13**

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