



INNOVATION STRATEGY & ROADMAP



From Curiosity to Discovery: Citizen Science at the Library

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Info 287: The Hyperlinked Library

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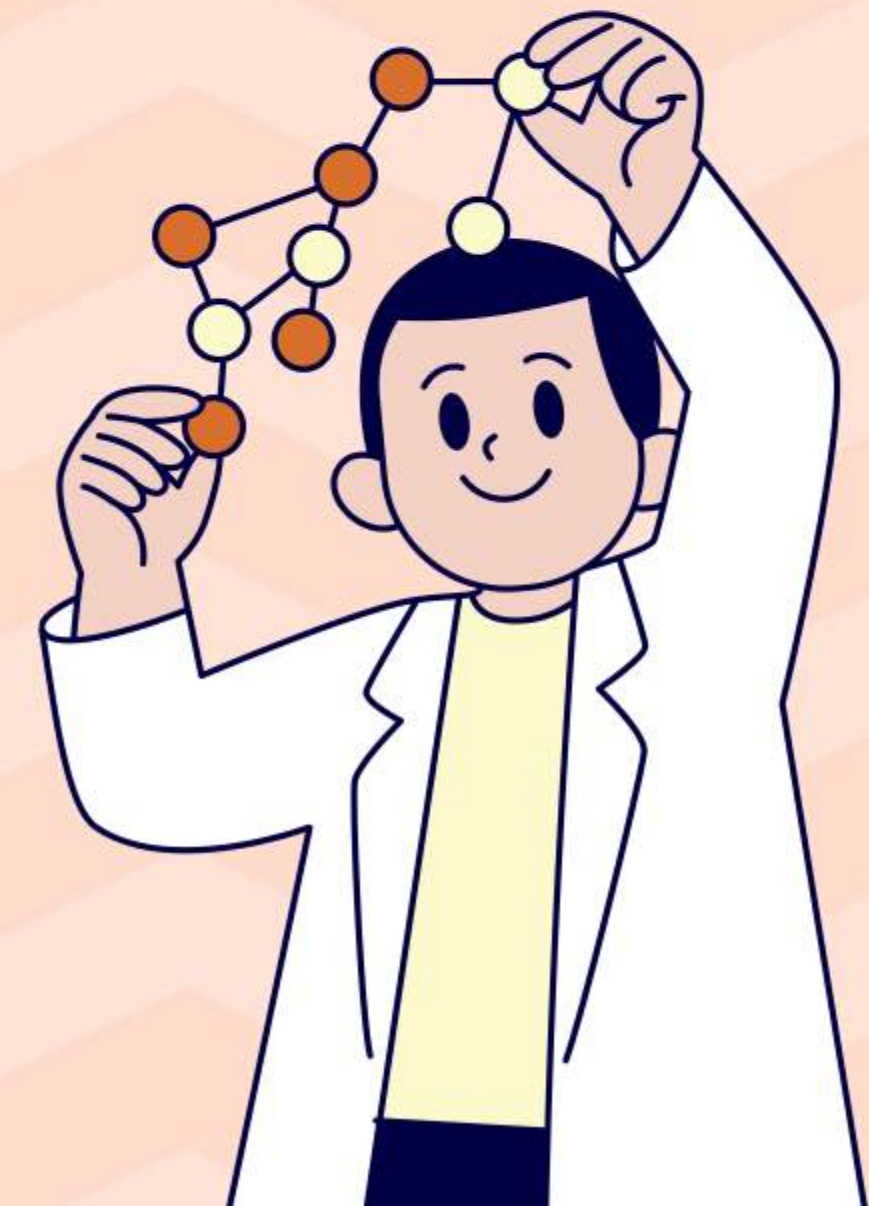
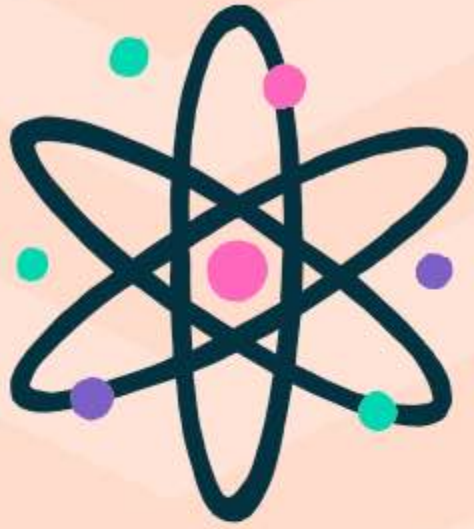
Fall 2024





Given the influential role librarians play within the community at large, have you ever considered turning the library into a dedicated space where civic science is promoted through each and every citizen?





“LIBRARIANS WHO EVOLVE ALONG WITH TECHNOLOGY AND LOOK FORWARD TO NEW IDEAS AND CHANGING ENVIRONMENTS WILL BE THE ‘FULL STACK’ EMPLOYEES WHO ENLIVEN THEIR COWORKERS AND PATRONS WITH A REALISTIC VISION OF WHAT COMES NEXT ... THE ABILITY TO LEARN ABOUT AND ADAPT SERVICES TO EMERGING TECHNOLOGIES” (STEPHENS, 2016, CHAPTER 2, P. 37).



NEWPORT BEACH
PUBLIC LIBRARY

THE IDEA



As the community's quintessential cultural hub, the **Newport Beach Public Library (NBPL)** has served *books, information* and *technology* to **more than one million** patrons each year through its Central Library and three branches: Mariners, Balboa, and Corona Del Mar (NBPL, n.d.).

Through the community's generous donations over the past decade, the **NBPL Foundation** has contributed **more than \$7 million dollars** to vital programs, technology, and services **benefitting 1.2 million annual users** of all four library branches (NBPLF, n.d.).

In hopes of strengthening our community through the **advancement of knowledge** and **lifelong learning**, our core mission is to *maintain our libraries modern and up-to-date*, ensuring they always remain dynamic spaces where patrons can pursue their needs for **education, creativity, and connection.**



One way to achieve this is through **citizen science**: a collaborative effort between scientists and laypeople, curious about local/global issues, motivated to make a difference in the world through small yet meaningful actions (SciStarter, n.d.b).

Through widespread public involvement, these projects will empower library users to actively contribute and advance key areas of scientific research, while gaining a deeper understanding of the world.

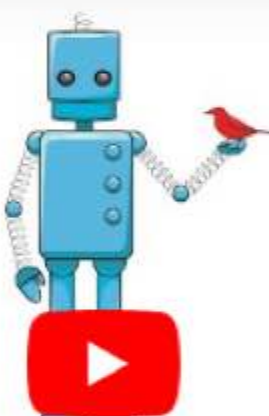
“Not only are participants creating, curating, and sharing, they are exchanging knowledge without curriculum and administrators ... [because] ‘Participation occurs when someone welcomed as a guest feels as though they have become a host’ ” (Stephens, 2016, Chapter 4, p. 81).




What is Citizen Science?



sci starter What is Citizen Science?



scistarter
People-powered science.

Watch on  YouTube

Share

BASIC CONCEPTS



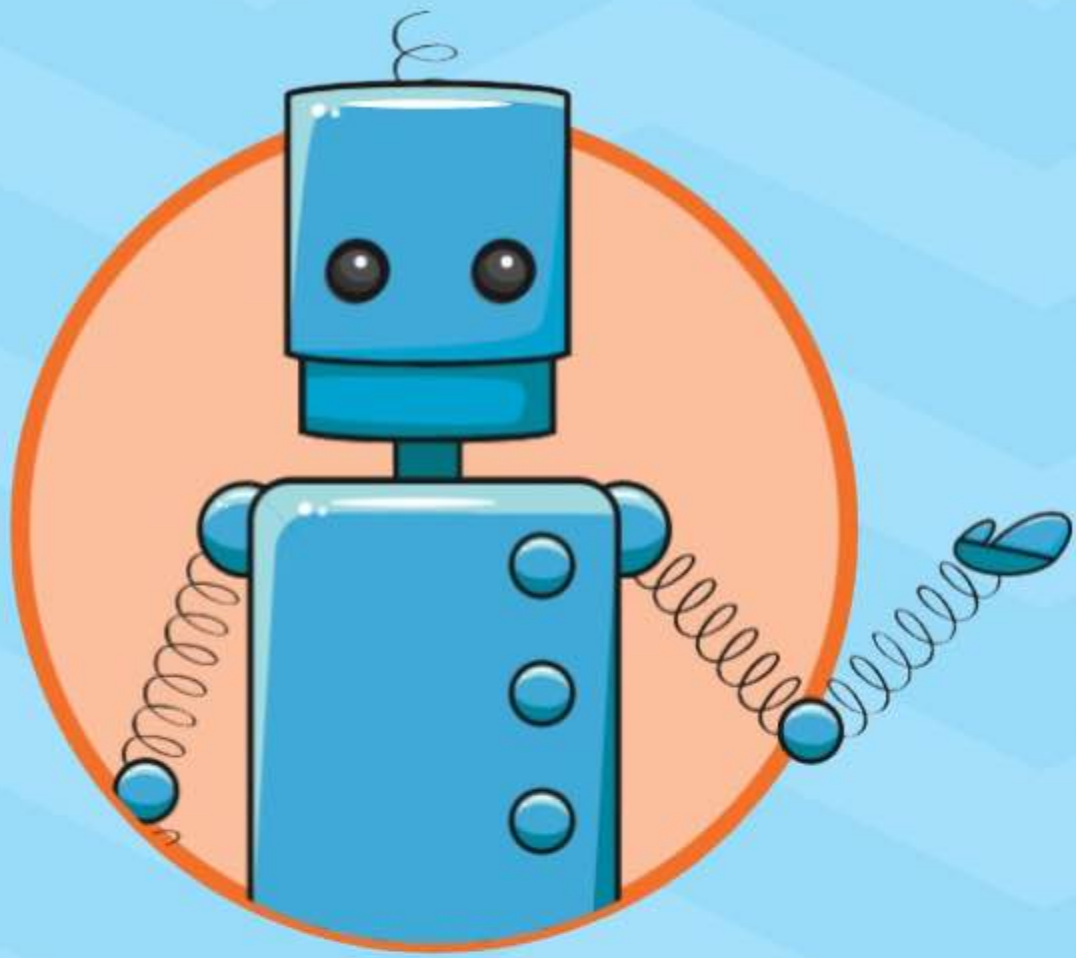
- Citizen science initiatives offer a wide range of opportunities, including programs, events, projects, and pre-made kits.

- Field-tested by external librarians and patrons, the kit provides everything required to participate in a specific project, including an activity guide, instructions, and specialized tools.



- With easy access to searchable databases containing thousands of projects, patrons can make and share their observations with professional scientists for data analysis in order to solve science-based problems.

- Projects advance research in a wide range of disciplines, such as public health, environmental health, astronomy, computer science, engineering, genetics, medicine, psychology, social science, statistics, emerging technologies and more (SciStarter, n.d.b).



Formed in Arizona, in 2017, to address the lack of awareness about citizen science and limited access to relevant materials, the *Libraries as Community Hubs for Citizen Science* program was created by SciStarter to support libraries with a national network and professional development to build and share best practices (SciStarter, n.d.c).

THE NATIONAL
CITIZEN & COMMUNITY SCIENCE
LIBRARY NETWORK



By joining the program's National Citizen and Community Science Library Network, NBPL will gain access to ready-made citizen science research projects and kits to share with the community. Network members also receive early access to free training webinars, a bimonthly newsletter, a Facebook group, and more helpful tips and resources in supporting libraries during this impactful work (SciStarter, n.d.d).

ACTION BRIEF



Convince NBPL patrons **that by** participating in citizen science projects, kits, and events, **they will** be able to collaborate with scientists and assist them in answering important questions that might otherwise remain unanswered, **which will** promote a culture of civic science where any ordinary citizen can take an active role in finding solutions to science-based issues, **because** the library is a place where anyone can turn their curiosity into meaningful impact.

GOALS



- Advocate for individuals to learn about, engage in, and contribute to real scientific endeavors through both informal recreational activities and structured research initiatives
- Broaden their understanding of and appreciation for science and technology
- Create a collaborative space where scientists and project leaders can connect with individuals eager to participate in or learn about research projects
- Develop opportunities for people to experiment, create, and discover, making it easy and enjoyable to transform their interests and curiosities into real results



OBJECTIVES

Project Kits



EXPLORING BIODIVERSITY

Document and identify plants and animals around you.



MEASURING LIGHT IN THE NIGHT

Help gather light pollution data.



OBSERVING POLLINATORS

Identify and count pollinators as they visit flowering plants.



MAPPING MOSQUITO HABITATS

Download the app and help NASA scientists learn about planet Earth.



MONITORING AIR QUALITY

Capture measurements using an AirBeam sensor.



ZOMBEE HUNTING

Is the Zombie Fly attacking bees in your neighborhood?



With network members receiving special access to support, resources, and connections to other libraries nationwide, the network aims to:

- Amplify libraries' capacity as community centers for citizen science
- Bolster a supportive network of libraries actively involved in engaging their communities in citizen science initiatives
- Create substantial opportunities for diverse communities to broaden their participation in citizen science
- Expedite and Influence scientific research



(SciStarter, n.d.d)

WHO CAN BE A CITIZEN SCIENTIST?



- Typically not professional scientists, but curious citizens concerned with certain topics that pique their interest
- From any diverse, non-traditional background such as:
 - [Retirees](#) with extensive knowledge and lifelong experiences in search of social connections
 - Online gamers using their gaming skills to analyze [folding protein structures](#)
 - Students and Educators pursuing hands-on learning experiences [beyond the classroom](#)
 - Environmental justice advocates in search of empirical data on critical issues
 - Current and former [NFL and NBA cheerleaders](#) cheering on from their science professions
 - Or even [prisoners](#)!

(SciStarter, n.d.e)

EXAMPLES OF SUCCESSFUL IMPLEMENTATION



LOS ANGELES PUBLIC LIBRARY

[Neighborhood Science](#) with hyperlinks to free events/workshops, DIY kits, data collection forms, games, project finders, and family-friendly research projects

LONGWOOD PUBLIC LIBRARY (NY)

[Citizen Science At Your Library](#) with numerous citizen science kits available, covering topics from birdwatching to Zombee hunting

MARICOPA COUNTY LIBRARY DISTRICT (AZ)

with six different [Citizen Science Kits](#)

NATIONAL LIBRARY OF MEDICINE

the Network of the National Library of Medicine program – [Crowdsourcing and Citizen Science](#) initiative with classes & training, funding opportunities, a Wikipedia Edit-a-thon, and more

POLICIES & GUIDELINES

Set by **NBPL administrators** and **librarians** working alongside both formal and informal **science providers** (i.e., *park rangers, researchers at colleges, universities, museums, scientific organizations*) ensuring scientific integrity

Team may also include **legal advisors**, **IT specialists** (for data management), and **external partners** (i.e., *state agencies, other librarians or community organizers within California*)



Example policies can be found within citizen science networks, such as the **American Library Association** or the **SciStarter's [The Library & Community Guide to Citizen Science](#)**

Guidelines should cover **clear instructions for using citizen science kits, participant safety protocols, and privacy policies** including **ethical data collection measures**

Additionally, NBPL will outline the *staff and participants' roles and responsibilities*, and *methods for evaluation and reporting* the program's success



Timeline & Implementation



May range from **6 to 12 months**, contingent upon multiple project phases: *policy setting, staff training, securing resources, community outreach / promotion, and program evaluation*

Key dependencies include **securing funding, finalizing partnerships** with scientists and citizen science organizations, **procuring materials** (i.e., kits, databases), and **ensuring staff readiness**

“Technology extends human reach but participation requires engaged participants who feel welcome, comfortable, and valued” (Stephens, 2016, Chapter 4, p. 81). Ergo, approval begins with the user. From there, it is obtained from **library administrators**, potential **funding bodies**, and key **community partners**/collaborators

If full approval or funding is not secured, we will seek **different grant opportunities**, consider **smaller projects**, or even **scale down required resources** and focus on virtual citizen science projects instead

MARKETING & PROMOTION

INTERNAL PROMOTION

- *Staff Training & Workshops*



- *Internal Newsletters/Emails/Bulletins*



- *In-House Flyers/Signage*



EXTERNAL PROMOTION

- *Prepare Social Media Campaigns* using platforms like Facebook, Instagram, and X to announce the program's official release to the public, providing regular updates on available projects/kits/activities in the library
- *Develop Media Partnerships* with local advertisers, newspapers, radio stations, and/or bloggers featuring articles and interviews about the program
- *Host Citizen Science Month events* with speakers/local project leaders (available on CitizenScienceMonth.org) with hands-on demonstrations for greater community awareness and participation
- *Collaborate with local Schools and Community Centers* for integrating program into their activities



STAFF TRAINING



- **Information will be shared** through staff meetings, internal newsletters, emails, and posts made on the NBPL staff portal
- **Training is required** for frontline staff members and librarians involved in supporting or promoting the program to the public
- **Training instructor** can be an experienced library staff member with a background in STEM programs, or an external partner/organization like SciStarter
- **Training will be designed** by experienced library administrators, including the training instructor, utilizing SciStarter's curated guidelines and [Libraries as Community Hubs for Citizen Science Training](#) modules
- **Training will take place** during staff development days, either in the early mornings before opening hours, or on specific training sessions staggered through the month

(Cavalier et al., p. 14-15)



PROGRAM EVALUATION



BENCHMARKS & PERFORMANCE METRICS:

- **User Engagement:** Tracking monthly event attendance, kit checkouts, and each project's participation rates
- **Feedback surveys:** Collecting patron and staff feedback for assessing effectiveness and satisfaction
- **Data Contributions:** Measuring the number of data submissions made to science projects through the program
- **Staff Training Success:** Evaluating how well the staff understood and promoted the program



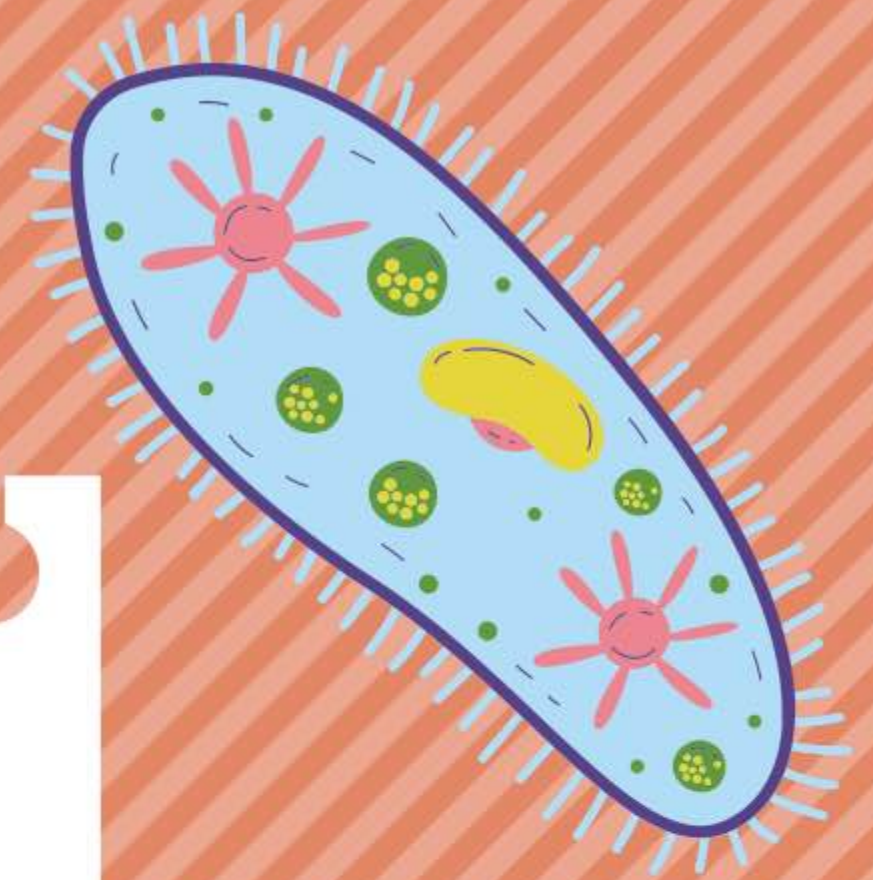
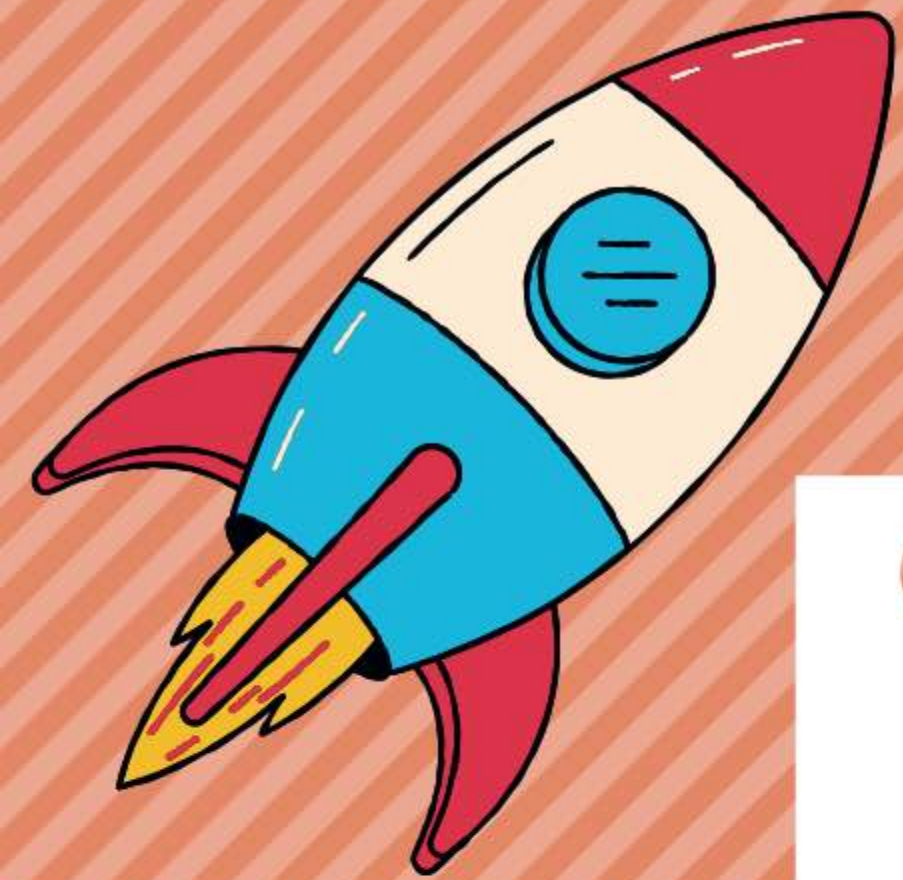
FUTURE EXPANSION

Introducing more advanced kits, broadening outreach to more schools/education centers, and developing greater partnerships with scientists/researchers to further enhance community engagement



STORYTELLING

Sharing success stories of community members contributing to real scientific discoveries or using kits in creative ways



*Thank
you!*





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