ARPA SICILIA
AGENZIA REGIONALE PER LA PROTEZIONE DELL'AMBIENTE
UOC RICERCA E INNOVAZIONE

Sistema Nazionale per la Protezione dell'Ambiente

ARPA
Cla: 8.00 TIPO-I
N. 0018619 del 14/04/2021

Alla UOS Comunicazione e Marketing

Oggetto: DDG 491 DEL 23/09/2020- Trasmissione verbale seduta del 29/03/2021.

Con la presente si trasmette il verbale n. 2 della seduta del 29/03/2021 per gli adempimenti necessari a garantire la trasparenza.

Il Presidente della Commissione

Dr. Ignazio Cammalleri

ARPA SICILIA
AGENZIA REGIONALE PER LA PROTEZIONE DELL'AMBIENTE

AVVISO PUBBLICO PER TITOLI E COLLOQUIO PER CONFERIMENTO INCARICO LIBERO PROFESSIONALE DI ESPERTO IN CITIZEN SCIENCE DESTINATO ALLE ATTIVITA' STRATEGICHE DI RICERCA E INNOVAZIONE

INDETTO CON DDG N. 491 DEL 23.09.2020

VERBALE n.2
PROVA ORALE

L'anno 2021, addì 29 del mese di marzo alle ore 14.30 presso i locali della Direzione Generale di ARPA Sicilia di Via S. Lorenzo 312/G, si è riunita la Commissione Esaminatrice, i cui componenti, nominati con DDG 63 del 17/03/2021 di rettifica della precedente Commissione designata con DDG 520/2020, sono:

- Dott. Ignazio Cammalleri (Presidente);
- Dott.ssa Lidia Maugeri (Componente);
- Dott. Giuseppe Cuffari (Componente);
- Dott.ssa Maria La Monica (Segretaria);

Svolge le funzioni di segretaria della Commissione esaminatrice e cura la redazione del presente verbale, la Dott.ssa Maria La Monica.

Si prende atto del verbale n. 1 del 19/03/202, prot. 14487, in cui la Commissione, a seguito di un'attenta analisi delle esperienze curriculari e professionali della Dr.ssa **Gaia Agnello**, attribuisce alla candidata un punteggio pari a 28/30; pertanto la stessa viene ammessa alla prova orale prevista per il 29/03/2021 alle ore 15.00 presso la sede della Direzione Generale di ARPA Sicilia, via San Lorenzo n. 320/G.
In particolare, nel sopracitato verbale, la Commissione aveva stabilito i criteri di valutazione ex art. 5 del sopracitato Avviso di Selezione relativi alla prova orale, prevedendo un punteggio minimo di punti 39 fino ad un massimo di 70 punti.
Nell'odierna seduta, la Commissione procede alla predisposizione di n. 7 quesiti da sottoporre alla candidata (Allegato n. 1), a ciascuno dei quali può essere assegnato un punteggio massimo di punti 10, per un totale complessivo di punti 70.
Alle ore 15.00 la Commissione procede alla identificazione della candidata, le cui generalità vengono registrate nell'apposito foglio firme (Allegato n. 2).
Preliminarmente si verifica la padronanza di lingua inglese, ex art. 2 lettera f), così come dichiarata nel curriculum vitae della candidata: alla stessa si propone un breve brano di natura scientifica (Allegato n. 3) da leggere e tradurre. La candidata legge speditamente con ottima pronuncia e traduce in maniera adeguata utilizzando un linguaggio specialistico.

In secondo luogo si verificano le competenze informatiche di base tramite il corretto utilizzo di programma Excell, sul quale la candidata viene invitata ad eseguire alcune operazioni di calcolo.

Si procede quindi a sottoporre alla candidata i quesiti precedentemente stabiliti dalla Commissione, ai quali la candidata risponde adeguatamente, dimostrando grande padronanza della materia Citizen Science, sia in relazione alla realtà delle varie Agenzie nazionali che a livello di strategia del SNPA.

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Per quanto sopra detto, la Commissione è concorde nell'attribuzione del punteggio massimo di punti 70 alla prova orale della candidata.

Tenuto conto che nel verbale n. 1 del 19/03/2021, giusto prot. 14487 del 22/03/2021, si era attribuita la valutazione di 28/30 al curriculum vitae della Dr.ssa Agnello, il punteggio complessivo risulta pari a 98/100.

Il presente verbale viene trasmesso alla Responsabile del Procedimento per gli adempimenti conseguenziali, ivi compresa la comunicazione degli esiti alla candidata.

I lavori della commissione si concludono alle ore 16.45.

Letto firmato e sottoscritto

Presidente dr. Ignazio Cammalleri .....

Componente Dr.ssa Lidia Maugeri .....

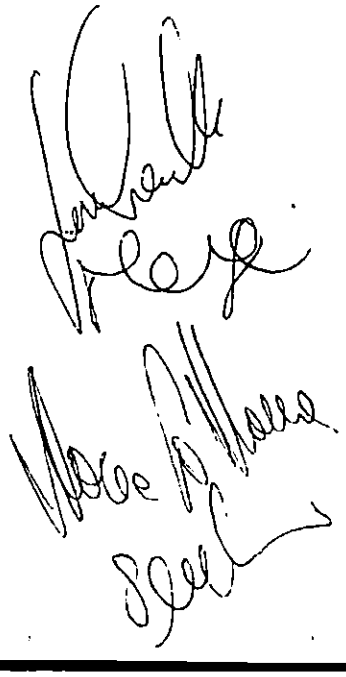
Componente Dr. Giuseppe Cuffari .....

Segretaria Dr.ssa Maria La Monica .....

AVVISO PUBBLICO PER TITOLI E COLLOQUIO PER CONFERIMENTO INCARICO LIBERO PROFESSIONALE DI ESPERTO IN CITIZEN SCIENCE DESTINATO ALLE ATTIVITA' STRATEGICHE DI RICERCA E INNOVAZIONE

SEDUTA del 29/03/2021

1. **Che cosa è la Citizen Science?**
2. **Quali sono le aree di lavoro o aree tematiche dell'Agenzia in cui la Citizen Science potrebbe essere implementata?**
3. **Conosce come Citizen Science è diventata uno degli obiettivi strategici del SNPA?**
4. **Come la Citizen Science può contribuire al raggiungimento degli obiettivi di ARPA Sicilia?**
5. **Quali sono i potenziali benefici per l'Agenzia e per i cittadini?**
6. **Quali sono, secondo lei, gli step per un piano strategico che Arpa potrebbe attivare per mettere in atto attività di Citizen Science affinchè possa creare i presupposti per sviluppare iniziative e rafforzare le capacità in Arpa di fare Citizen Science.**
7. **Come può l'Agenzia coinvolgere i cittadini in attività Citizen Science?**



Citizen(s') Science

A Response to "The Future of Citizen Science"

Angela M. Calabrese Barton

ABSTRACT

Citizen science is fundamentally about participation within and for communities. Attempts to merge citizen science with schooling must call not only for a democratization of schooling and science but also for the democratization of the ways in which science is taken up by, with, and for citizen participants. Using this stance, along with critical studies of place, I build on the criticisms of citizen science outlined in "The Future of Citizen Science" to argue for the centrality of place. Using a case of urban youths working toward transparency and cross-cultural dialogue regarding energy production in their community, I complicate the proposed immersion model to suggest a further reconstruction of citizen science in ways that account for youths' deep and critical connections to the geohistorical and sociocultural dimensions of place.

This article is a response to:

Mueller, M.P., Tippins, D., & Bryan, L.A. (2012). The future of citizen science. *Democracy & Education, 20*(1). Article 2. Available online at http://democracyeducationjournal.org/home/vol20/iss1/2/.

IN MY RESPONSE to "The Future of Citizen Science" (Mueller, Tippens, & Bryan, 2012), I first point out two crucial lessons to be learned from the critical analysis of citizen science proffered in that article. I then use these lessons to push the authors on their proposed future directions for citizen science by suggesting that they overlooked a fundamental question of citizen science: that of place. I argue that citizen science is fundamentally about participation within and for communities and that attempts to merge citizen science with schooling must not call only for a democratization of schooling and science but also for the ways in which science is taken up by, with, and for citizen participants.

Repurposing Citizen Science

In their essay, Mueller, Tippins, and Bryan take on the history and practice of citizen science in order to build a case for a redirection in efforts. At issue in their framing is that the purposes for and the scope of participation in citizen science require radical redefinition if citizen science is to "democratize" science. Democratizing science, according to the authors, involves "include[ing] others who are marginalized in the community in more meaningful ways" (p. 7), such as through "fully explor[ing] multidimensional uncertainties that are implicit within science" (p. 8). Reminding readers that the history of science is replete with "androcentric philosophical science perspectives" (p.3) that have homogenized best practices in science while simultaneously shifting the locus of control to men, the authors call attention to how citizen science is, ideally, a multiperspectived and dialogic process for doing science.

In making their case, the authors use the example of teachers in the Philippines who fashion school science around community concerns. These teachers, acting as "teacher culturalists" and "teacher naturalists" (p. 10) by monitoring the health of a community and taking its pulse in relation to the environment play central roles in democratizing science by helping to create space for the authentic uptake of community knowledge in solving socioscientific issues. At the same time, teacher culturalists open up learning by expanding outcomes of learning through action-taking in their communities. This reflects an image of school science that stands in stark contrast to current practice, worldwide.

The authors powerfully laminate this empowering narrative of citizen participation reimagining science on top of the historical construction of citizen science; this illustrates how the traditional practice has fashioned citizens as mere laboratory grunts rather

ANGELA CALABRESE BARTON is a professor of teacher education and science education at Michigan State University. This material is based upon work supported by the National Science Foundation under Grant No. HRD #0936692. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation.

than as coconstructors. Citizen science, as a form of participation in science, has been conducted on scientists' terms. Citizen scientists are technicians rather than equals who "collaborate with scientists" (p. 3), disallowing opportunities for the democratization of scientific knowledge, tools, and resources. Such coexistence might indeed help to transform the scientists and their research. Even when citizens do the work of scientists, in ways prescribed by scientists, the outcomes are not always taken seriously within the worlds of science. Data are perceived of as less rigorous and margins of error as higher than that produced by or expected of those granted a science degree.

The authors implicitly acknowledge that the image of the laboratory grunt may be an unfair caricature of the citizen scientist across the entire historical domain of citizen science. As they note, one of the oldest ongoing citizen science projects, the Audubon's Christmas Bird Count, has for over a century involved the layperson in surveying birds, allowing for a rich repository of information on bird species worldwide. The project involves people from all walks of life and geographic locations and with a wide diversity of reasons for engaging in the survey of birds. In so doing, it has allowed a broad spectrum of questions to be asked about bird populations.

I see two crucial lessons to be learned from this critique and redirection. One of the lessons to be drawn from the authors' careful critique regards the purpose of citizen science. Citizen science, as a tool, historically has not been about democratizing science—about offering multiple perspectives or transforming a knowledge base or a set of tools or resources—but rather has been about getting more work done. I cannot help but think about this in light of the neoliberal agenda of corporate expansion. For example, the carefully constructed guidelines for participation in the Galaxy project, an open platform on which anyone can perform, reproduce, and share biomedical analyses, show clearly that the emphasis is on "getting it right" rather than on figuring out what multiple perspectives might yield or how to "do science better." The careful trading of "getting it better" for "getting it right" cements the capitalistic goals of the scientific enterprise rather than any sort of democratic goals.

A second lesson to be learned has to do with the philosophical bases of citizen science itself. To whom does citizen science belong? This question harkens back to feminist concerns regarding by whom science and knowledge are controlled and for whom they benefit (Harding, 1991). The models of citizen science outlined in the article to which I'm responding, in particular the stories of honeybee colony collapse, suggest that despite citizens' intentions for participation (i.e., caring for a community), citizen science in both scope and function is tightly mediated by those already with authority—those who set up the questions, the tools, and the resources for participation.

Citizens' Science with and of the Community

These two concerns regarding purpose and authority challenge the reader to think differently about citizen science and its relationship to community. In the community immersion model, the community matters as both a context for and a subject of investigation, accounting for both the physical spaces of the community (i.e., places where science can be done) and the interactions among people and place (e.g., why building a bridge might be an important topic). There are few examples in the science-education literature where local knowledge and practice are taken as a fundamental dimensions to doing science—not mere motivations for learning. However, in the spirit of working toward a more just world, I would like to push the article's authors further in their reconceptualization of citizen science. Drawing from critical studies of place, I wonder how the intersections among and the relationships within communities and the geohistorical and sociocultural dimensions of place (Gruenewald & Smith, 2008) might further redirect citizen science.

In the community immersion model, teachers travel to their host communities and interpret culture, using their content expertise to mediate dialogic interaction between local and scientific knowledge, such as when "physics majors designed a bamboo bridge to minimize the effects of the erosion" (p. 10). To what extent is the science work in the community immersion model with and of the community? If teachers name and lead community science efforts with their outside knowledge and expertise, then whose science is this?

Take, for example, the science work of youths in the community-based green energy program GET City around whether Lansing, Michigan, should build a new power plant (for a lengthier discussion, see Kissling & Calabrese Barton, 2012). In early January 2009, the city's electric company informed its customers (everyone in Lansing with a permanent address) that the city power plant, which provided the city with 69% of its electricity, was aging and that the cost to operate it would increase alongside the environmental challenges it posed. One plan to address this involved building a new hybrid power plant that would generate electricity from 70% coal and 30% biomass sources. A different plan was to buy electricity on the volatile open market. While both of these choices would mean increased electric bills in the future, the envisioned hike associated with the greener plant would cost one third that of the hike from the volatile open market.

Lansing's need for a new plant coincided with intensely challenging economic times, with unemployment rates at a historical high in the city and with a state economy ranked last in the nation. Many of the youths in GET City had families and friends who had faced foreclosure on their homes and lost jobs or endured budget cuts at work. It was not surprising that their responses to the plant were multifaceted, laden with economic as well as scientific concerns. As some of the youths stated (unpublished youth survey, April 16, 2009):

> *My mom doesn't really care about green power plants and global warming but she always says every dollar counts.*
>
> *[If costs go up] how are people going to feed their families because if they have no power, all their food will go bad. How they are going to work . . . . in the dark?*
>
> *It could still pollute the air because it would rely primarily on coal. Why you guys want to burn more coal than biomass? How come we can't just burn biomass instead of coal?*

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PROVA ORALE – LUNEDI' 29 MARZO 2021

numero	Cognome	Nome	Data di nascita	Documento Identità	Firma per esteso	attestazione
1.	AGNELLO	GAIA	12.07.86	PASSAPORTO N YA3311832	Gaia Agnello	g
2.						
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