



## What is scientific art?

When creating art to illustrate scientific phenomena the end purpose is a visual construction that fuses emotional experience with well-defined scientific concepts. These works often have an awe factor to encourage the viewer to engage with the research and experimentation that led to the piece's conception. But what exactly defines good art-science?

Good art-science should provide an equally pleasant experience when viewed from an artistic or scientific perspective and allow the observer to easily travel between these two perspectives. From the point of view of looking at "art", the image draws out an emotional response from the viewer and inspires exploration and interpretation. When looking instead from the point of view of "science," the image offers meaningful answers to well-defined questions and logical reasoning.



## Art-Science Competition Rules

The following are the rules for entering the 1<sup>st</sup> Art-Science Competition. It is important to read the rules and procedures before submitting your work to us.

### 1. Theme of the competition

It is mandatory to follow the theme of the competition. This is critical. Eligible work must "translate" the following scientific abstract into an illustration:

*"Recent experimental advances in perovskite solar cell (PSC) technology marked a new era for low-cost, flexible and high efficiency photovoltaics (PV). In this work, the authors propose a novel industrially-attractive PSC structure where light trapping is obtained by conformably depositing the solar cell materials onto previously-patterned photonic substrates (please see the figure below for a schematic of the structure in question). Particular attention is given to an ultrathin (300 nm) perovskite absorbing layer so that the PSC can retain its flexible properties. The light-trapping effects provided by the micro-structuring allows the PSC to maximize its conversion of light into electricity and for the proposed structure here presented, the efficiency attained was above 22%. This work constitutes an important step towards high performance devices geared for the consumer, such as portable and self-powered smart electronics, light-harvesting semi-*

transparent windows, wearable PV and solar-powered vehicles. Additional advantages to ultra-thin devices are the reduction of consumable hazardous/toxic compounds (e.g., Pb) during fabrication and the overall manufacturing costs.”

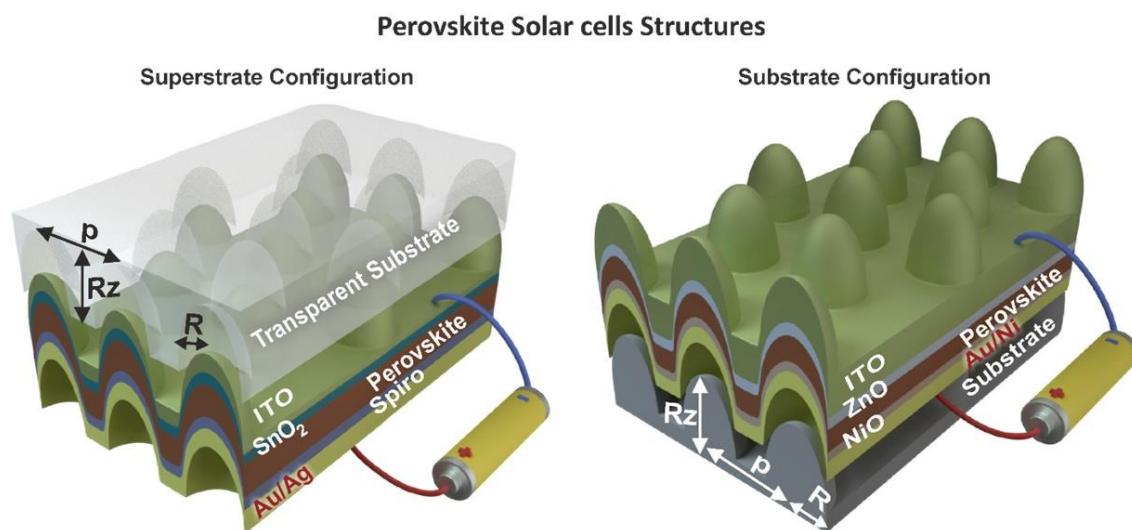


Figure 1. Schematic of the PSC structure developed by the researchers.

If you have questions regarding the theme and its interpretation, contact us at [art.sci.competition@gmail.com](mailto:art.sci.competition@gmail.com). And if you need inspiration, you can always visit the websites of scientific journals to see examples of all their covers from previous issues.

## 2. Eligibility

Please read and be sure you understand all the requirements to participate in our competition:

- Artists can apply individually or as a team.
- All entries must follow the competition theme.
- Applications can be submitted to [art.sci.competition@gmail.com](mailto:art.sci.competition@gmail.com) or by [Google Form](#).
- Registration is free.
- Competition is open to all 2 and 3-dimensional images.
- White backgrounds should be avoided and structural representations should not be labeled.
- The minimum size of the work is A4 (210 × 297 mm, portrait).
- Files must be in high resolution JPG, TIFF, or PNG format, with minimum 200 dpi resolution.
- Files may not exceed 25MB.
- Photography & Digital Arts are accepted but video is excluded.
- Photographs with people are NOT accepted.

- Experimental and mixed techniques are welcome.
- Competition is open to all non-professional artists affiliated with a university.
- Competition is international.
- Artists must be 18 or older, to apply and be eligible for awards.
- There is no limit to the number of images that an artist can submit.
- The submitted entry must be original. Do NOT use copyrighted material in your image.
- The organizers have the sole right to refuse submissions based on quality of the image, failure to meet requirements, poor quality, inappropriateness of content, and/or concerns regarding copyright infringement in the original work.

If you have questions regarding the competition rules, please contact us at [art.sci.competition@gmail.com](mailto:art.sci.competition@gmail.com). We will help you with the application process.

### 3. Submission deadline and requirements

Works can be submitted until 23:59, April 25<sup>th</sup> to [art.sci.competition@gmail.com](mailto:art.sci.competition@gmail.com) or by [Google Form](#).

When submitting, please provide the following elements:

- Name [Mandatory]
- Phone [Optional]
- Affiliation (University/Faculty) [Mandatory]
- Course [Mandatory]
- Position. One of the following: [Mandatory]
  - Bachelor student
  - Master student
  - PhD student
  - Researcher
  - Professor
  - Alumni
  - Other

- Your image: [Mandatory]

As stated in the eligibility section: figure size: A4; format: JPG, TIFF, or PNG; min resolution: 200 dpi; max size: 25 Mb.

- Description: [Optional]

You can describe of your image, the creative process you went through, or the tools you used.

- Links: [Optional]

You can also add links for your social media, website or portfolio.

[Optional]

#### 4. Organizers and sponsorship

The organizers of the Art-Science Competition are researchers at CENIMAT i3N and CEMOP, from NOVA Faculty of Sciences and Technology. The prize award is sponsored by CENIMAT i3N and CEMOP.

#### 5. Criteria for judging

The artwork submitted to our competition will be judged based on the following elements of artistic expression:

- Interpretation and clarity of the theme to the viewer. Does the artwork convey the intended scientific message?
- Creativity, uniqueness, and originality of the depicted theme.
- Quality of the artistic composition and overall design based on the theme proposed.
- Color and tone. Balance of image within its space.
- Overall impression of the art. What is the effect of the artwork in general and as a whole?

Please see the next table for the scoring system of the competition.

**NOTE:** The organization reserves the right not to award the prize if none of the works reach a minimum of 75/100 points.

Items to be scored	Points allowed	Points awarded
Interpretation and clarity of the theme	50 pts.	
Creativity, uniqueness, and originality of the depicted theme	20 pts.	
Quality of the artistic composition and overall design based on the theme proposed	15 pts.	
Color, tone and balance	5 pts.	
Overall impression of the art	10 pts.	
<b>TOTAL</b>		100 pts.

#### 6. Jurors

The Jurors of the art-science competition are the authors of the article behind the proposed theme, affiliated with NOVA Faculty of Sciences and Technology, CENIMAT i3N and CEMOP. Among them are several authors who have seen their work featured on the cover of major scientific journals. Other judges may be appointed by the organizers in such numbers and of such qualification as it sees fit at its sole discretion.

#### 7. Winner notification

On or about the 14th day, following the close of the competition, the organizers will announce the winners along with all eligible entries received.

The winning artist will be contacted directly by email and/or telephone. All other participants will receive an email notifying them that their artwork was not selected, along with the results of the competition. Depending on the availability and the constraints at that time, an award ceremony and exhibition might be organized to formally announce the winner.

## **8. Prize**

- The winner of the selected artwork will receive a 300€ award, to be transferred to the bank account indicated by the winning artist.
- The winning image will be included in the scientific article that spawned this art-science competition and the artist acknowledged in the same. The work will be on display for an international audience of top-level scientists and will have the chance to be featured on the cover of the scientific journal selected for the publication of the article.
- CENIMAT i3N and CEMOP will also promote the winning artist through their media channels, namely email, online press releases and social media marketing to the scientific community.
- Depending on the number and quality of the entries, there may also be an Honorable Mention award.

## **9. Use rights**

The images submitted to this competition are the property of the artist and the artist retains the sole copyright and all applicable rights to said images, apart from the winner that agrees to grant the organizers perpetual usage of the chosen artwork, for display, marketing, promotional and scientific outreach purposes. No resale or exchange of images will occur by the organizers.

The organizers will credit each image, with their Artist Name, Artist Website and Image Name (if given).

By entering the Art-Science Competition, the artist is agreeing to the Terms and Conditions, Privacy Policy and the Rules.

## **10. Privacy**

Information collected from entrants will not be shared with any third-party and its sole purpose is to identify the artworks and contact the participants regarding the results of the competition.

## **11. Changes in Rules**

All provisions, including requirements and rules, may change without notice.