

**PQx**

PLANIFICACIONQUIRURGICA.COM

# I TRAUMATOLOGY BIOENGINEERING 4.0 COMPETITION

Implementation of Bioengineering 4.0  
technologies in the resolution of  
complex surgeries

PQx PlanificacionQuirurgica.com

## Objective

The objective of this competition is to stimulate the collaboration between Biomedical Engineering and Traumatology in order to promote scientific progress within the **PQx PlanificacionQuirurgica.com** community.

The objective of the Award is to encourage the use of new technologies in the resolution of complex trauma surgeries. The aim is to promote the use of surgical planning and navigation systems with the use of personalized anatomical biomodels, custom-made navigable cutting guides and custom-made implants, with navigation systems that minimize the use of conventional radiology, reduce surgical times and increase health productivity with increased ergonomics of the operating room staff.

The aim is for the surgeon to perform complex surgeries offering the patient **SURGICAL EXCELLENCE** with an improvement in the surgeon's satisfaction and ergonomics.

On the other hand, it is intended to stimulate the training of traumatology residents and scientific dissemination with the development of publications and quality scientific dissemination.

## Modality and Endowment

The 1st edition of the **TRAUMATOLOGY BIOENGINEERING 4.0 COMPETITION** consists of a main prize of four thousand euros (4,000€) and an extra bonus of one thousand euros (1,000€), if published in a journal included in JCR (Journal Citation Reports).

## Requirements

1. Traumatologists and traumatology residents practicing in centers in Spain and Portugal may participate.
2. The project should be between a resident of any year of traumatology and an attending physician.
3. Only **COMPLEX SURGERY PROJECTS** will be accepted with the use of new **BIOINGENIERIA 4.0** technologies, such as:
  - Surgical planning.
  - Surgical navigation (optional)
  - Custom instrumentation.
  - Customized implants.
4. The Organic Law on Data Protection 3/2018 LOPDGDD must be respected.
5. Applicants must register on the Competition platform by filling out the form available at [available at this web address https://planificacionquirurgica.com/concurso-bioingenieria-traumatologica/](https://planificacionquirurgica.com/concurso-bioingenieria-traumatologica/)



## Material to be send for evaluation

The entrant(s) should submit a **PDF DOCUMENT** that includes at least the following information:

1. **Contestant(s) data:** Name and surname(s), Email, Contact telephone number, Hospital or Clinic.
2. **Previous study of the patient's pathology** with surgical planning of the case and bibliography that supports the resolution of the case.
3. **Documentation of the navigation system** used in the surgery (optional).
4. **Surgical technique of the surgery**, implants used and the appropriateness of the use of a custom-made implant (if necessary).
5. **Post-surgical monitoring of the patient** and recording of patient satisfaction.
6. Study of the **benefit of the use of new Bioengineering 4.0 technologies** in the surgical procedure with estimated differences in surgical time, surgeon ergonomics, health productivity, surgeon satisfaction and measurement of **SURGICAL EXCELLENCE**.
7. **OPTIONALLY**, a **DEMO VIDEO** of the technique and/or the intervention may be included, indicating a **URL address** (youtube, vimeo,...) for its access.

## Deadline for Submission

The deadline for receipt of entries is **December 5, 2021** at 11:00 pm. PQx PlanificacionQuirurgica.com reserves the right to extend the deadline for submission, giving in such case, publicity to the adopted agreement.

Projects must be submitted on the PQx platform created for the competition located at <https://planificacionquirurgica.com/en/i-traumatology-bioengineering-4-0-competition/>

If you have any questions, please send us your inquiry to the following e-mail address: [concurso@planificacionquirurgica.com](mailto:concurso@planificacionquirurgica.com).

## Selection

From PQx PlanificacionQuirurgica.com, and the committee of experts designated for this purpose (experts in Orthopedic Surgery and Traumatology), a selection will be made based on the following aspects:

1. **Quality of the studies:** it will be verified that the projects received meet the requested validity requirements. Those that do not comply with the competition rules will be discarded.
2. **Resolution of complex cases.** The resolution of clinical cases in which conventional measures could not have guaranteed the postoperative result with the precision provided by biomedical engineering will be assessed.
3. **Contribution of new ideas.** The contribution of ideas or tools that can be used in routine clinical practice, improving the resolution of problems or providing solutions to as yet unsolved problems will be valued.

## Assessment Criteria

The level of complexity of the clinical case will be weighted with the best clinical resolution, linked to the use of new Bioengineering 4.0 technology tools, such as:

- Surgical planning.
- Surgical navigation with Virtual Reality, Augmented Reality and Mixed Reality software tools.
- Augmented Reality navigation helmet.
- Custom-made instruments.
- Custom-made implants.
- Surgery navigation.
- Use of the rest of 4.0 technologies, such as performing the surgery with live connection through the Internet.

Those works that do not meet any of the specific requirements or fail to comply with any of the rules of the call will be **declared ineligible**, being communicated by PQx to their owners.



## Award decision

All the works submitted will be evaluated by an Expert Committee formed by biomedical engineers from PQx PlanificacionQuirurgica.com and the group of experts (Experts in Orthopedic Surgery and Traumatology). The project with the best evaluation will be the winner of the **I Prize of the COMPETITION OF TRAUMATOLOGY BIOENGINEERING 4.0.**

The resolution of the COMPETITION will take place between **JANUARY 2022.**

## Payment of the award-grant

The amount of the award will be paid by bank transfer upon delivery of the award. PQx PlanificacionQuirurgica.com will contact the winners to manage the payment.

In addition, PQx PlanificacionQuirurgica.com is committed to provide logistical support to the 3 finalists of the Award in the exploitation of the projects presented in case the participants need it for a possible publication in congresses and specialized journals.

## Other rights and obligations

The distinguished participants or winners will assume the obligations established for awards of this nature by the Spanish tax legislation in force.

PQx PlanificacionQuirurgica.com reserves the right to interpret, in case of conflict, both the call and these rules.

All participants, awarded or not awarded, by the mere fact of their participation, grant PQx PlanificacionQuirurgica.com the preference in the right of use and commercial exploitation of the contents presented (awarded or not awarded), exclusively, indefinitely transferable and for any type of exploitation existing at the time of holding this competition.

Once the competition is over, the participants in the I TRAUMATOLOGY BIOENGINEERING 4.0 COMPETITION will grant PQx PlanificacionQuirurgica.com the following uses of the projects submitted:

- For winning projects, the winner grants the exploitation rights of the results directly to PQx PlanificacionQuirurgica.com.
- For non-winning projects, the mode of exploitation of the non-winning results will be formalized by signing a PQx PlanificacionQuirurgica.com exploitation agreement with the participants involved.

In both cases PQx PlanificacionQuirurgica.com will offer to the participants the development of the know-how in common, promoting the evolution of the surgical techniques between PQx and the contestants.



## Legal Conditions

It will be an unavoidable premise that, prior to the delivery of the information to PQx PlanificacionQuirurgica.com, participants have complied with all health, clinical and personal data protection regulations, both in the process of processing personal data to carry out the projects and surgical planning, and in the subsequent process of processing the information.

In particular, the material and content of the competition must not contain personal data, but only anonymous information, so that all data and information submitted to PQx PlanificacionQuirurgica.com for the competition must have undergone a previous process of anonymization, completely eliminating any risk of re-identification of the anonymized data but maintaining the veracity of the results of the treatment of the same, so that, in addition to avoiding the identification of persons, the anonymized data guarantee that any operation or treatment that may be carried out after the anonymization does not entail a distortion of the real data.

Likewise, it will be an unavoidable premise that participants have all property rights, both with respect to the media and the materials and content submitted, including any rights of exploitation of the databases, in order to deliver to PQx PlanificacionQuirurgica.com the data for subsequent exploitation in accordance with the provisions of these Rules.

Participants will indemnify PQx PlanificacionQuirurgica.com and will be responsible in any case, for any infringement of intellectual property laws in relation to the exploitation of data as well as data protection and health law, in relation to information and consent regarding the collection, processing and anonymization of data of interested parties, as well as the consequences of a possible re-identification of persons that could generate a damage or impairment of their rights, and must communicate to PQx PlanificacionQuirurgica.com together with the anonymized information, any necessary instructions for the treatment of information aimed at eliminating any possible re-identification of the interested parties, as well as, if necessary, to minimize the damages if this were to occur.

# Acceptance of the terms and conditions

Participation in this competition implies the express acceptance of all the points included in these rules in their entirety.

## Information on protection of personal data of entries, participants and winners

PQx PlanificacionQuirurgica.com informs interested parties of the following points in relation to the processing of personal data:

**Responsible for the treatment:** PQx PlanificacionQuirurgica.com with fiscal address at Calle Valle 2, La Alberca, Murcia 30150. Telephone 699 408 884, and contact email: [concurso@planificacionquirurgica.com](mailto:concurso@planificacionquirurgica.com), is responsible for the treatment of the data of the participants, their interlocutors and contact persons (hereinafter Stakeholders) collected for the registration and management of the competition as well as for the dissemination of the winning projects.

**Legal basis and purposes of processing:** Based on the contractual conditions of the competition (bases) personal data will be processed for registration, collection of materials, management of participation, verify actions contrary to the rules and eliminate participation, communicate the status of winner, deliver the prize and disclose both information about the competition and its participants, results and winners through videos and / or photographs or written information in internal and external media and through commercial advertising communications issued by PQx PlanificacionQuirurgica.com electronically.

**Data recipients:** Based legally on the contractual conditions of the competition (bases) will be recipients of the personal data of the data subjects any third parties worldwide, users of internal and external media where information about the development and outcome of the competition will be published such as users of internal media of PQx PlanificacionQuirurgica. com (intranet and other platforms) external (PQx PlanificacionQuirurgica.com websites, social media platforms, press) and in commercial advertising communications issued by PQx PlanificacionQuirurgica.com electronically to third parties (about products and services of PQx PlanificacionQuirurgica.com, news, support, success stories or other content related to PQx PlanificacionQuirurgica.com).

With legal basis in compliance with the legal obligations of PQx PlanificacionQuirurgica.com, the data may also be communicated to judicial bodies and competent authorities by reason of the matter, such as the Tax Agency.

Third party companies external to PQx PlanificacionQuirurgica.com will have access to the data in order to provide services necessary for the activity and treatments indicated in this authorization, following the instructions of PQx PlanificacionQuirurgica.com, and with the appropriate security and confidentiality measures, being prohibited the processing of data for own purposes of those in charge of the treatment.

**International transfers:** PQx PlanificacionQuirurgica.com will not carry out international transfer of data, although the publication of information related to the development and outcome of the competition in the media is a universal mass processing.


**Data retention period:** The personal data of the Interested Party will be processed by PQx PlanificacionQuirurgica.com for the time necessary to complete the statute of limitations for possible claims or liabilities arising from the applicable legal regulations.

**Rights:** Interested parties may exercise their rights of access, rectification, deletion, opposition, limitation of treatment and portability by written communication addressed to PQx PlanificacionQuirurgica.com indicating the right exercised by providing a copy of your ID card on both sides and if necessary, if necessary, an updated image of you, to the following address:

- Postal: Calle Valle 2, La Alberca, Murcia. 30150.
- Electronic: [concurso@planificacionquirurgica.com](mailto:concurso@planificacionquirurgica.com)

**Other rights:** The Interested Party is informed of his/her right to file a complaint with the Spanish Data Protection Agency (AEPD) through [www.agpd.es](http://www.agpd.es) or c/ Jorge Juan, 6. 28001 - Madrid, and/or contact telephone number 912 663 517 and to request its guardianship in relation to the exercise of his/her rights. Previously and voluntarily to file the claim, the Interested Party may contact the PQx PlanificacionQuirurgica.com through [concurso@planificacionquirurgica.com](mailto:concurso@planificacionquirurgica.com)





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Request for Information and Registration

<https://planificacionquirurgica.com/concurso-bioingenieria-traumatologica/>

COMPETITION TECHNICAL OFFICE

Tel: 699 408 884

[concurso@planificacionquirurgica.com](mailto:concurso@planificacionquirurgica.com)

PQx PlanificacionQuirurgica.com

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[WWW.PLANIFICACIONQUIRURGICA.COM](http://WWW.PLANIFICACIONQUIRURGICA.COM)

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