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Report on CBIOS (Research center in Biosciences and health technologies)

CBIOS, created in 2011, is a research center that belongs to the private Portuguese university *Universidade de Lusófona*, located in Lisbon. This center is recognized and funded by the national agency for R&D which ranked it as “Good”. This recognition awarded the center with the highest funding / researcher / year in the country, a significant achievement for a private university. At this stage, the center foresees to achieve the rank of “Excellent” and in this context has arranged an external scientific advisory board (SAB) to advise them to achieve this goal in their next evaluation..

As member of such SAB, and after visiting CBIOS, I have been requested to write this report.

One of the initial concerns of the senior members of CBIOS was to determine a “**Mission**” that could integrate the research that is being developed in their center. They are aware that they are a multidisciplinary group with 3 main areas; (1) *Pharmacology and therapeutics*, (2) *Phytochemistry and food sciences* and (3) *Development of delivery systems*, basically devoted to oncology and dermatology (skin care, cosmetics), but it is important to be recognized externally (by local and international agencies) as a unique center focused on a common objective. Analyzing their research and collaborations, there was consensus on determining that their mission could be encompassed as “**Integrated Health Strategies**”. This term reflects, in a realistic way, the research that is being developed at CBIOS and by which they could be externally recognized.

Next, I will put forward, to my understanding, which are the strong points of CBIOS and which are those that need to be strengthened, together with some suggestions to improve them:

Strong Points:

- Research members:

- There is a good number of *integrated PhD members*- twenty- there is also a good equilibrium among senior and younger members which favors the future generational change. This group, is potentially entitled to apply and obtain

funding from national, European and international institutions which will help increase and boost the mission of CBIOS.

- There is a positive increasing trend in number of *PhD students* that join CBIOS during the past years. The improvement in the number of PhD students can be interpreted as that the integrated PhD members are consolidating their positions and are obtaining funding to improve their laboratories and incorporate new members to their teams.
- It should also be noted that there is a *good gender balance* among the researchers at CBIOS, which is in line with the standards of the UE and puts forward the interest of CBIOS in incorporating women in their institution.

- **Multidisciplinary and integrative research:** CBIOS develops a multidisciplinary (pharmacology, therapeutics, phytochemistry, food sciences, drug development, drug delivery...) integrative research which is supported by the background of its members and joint research projects and publications.

- **Internationalization:** The research team of CBIOS is represented in a wide range of international programs and networks (COST, Red CYTED, EEMCO group, EIA...) and they also actively participate in organizing activities within these networks. All these activities give visibility to CBIOS internationally and also provides the culture media necessary to achieve scientific collaborations and apply for international joint programs.

- **Dissemination:**

- It is noteworthy that the activities that CBIOS is carrying out to reach the society, not only to let them know what research they are doing but also to instruct them on how to proceed in certain health issues such as nutrition and skin care. This is an important issue because the scientific community is commonly accused of being away from society.
- CBIOS Newsletter: with this initiative CBIOS community and associated members are aware of the activities that are being developed, which improves visibility and awareness among the different representatives of CBIOS.

- **Publications:**

It is noticeable the increase in number and quality (Q1) of publications produced by CBIOS researches; from 2013 to 2018, this number has been over-duplicated which indicates the consolidation and improvement of the research carried out at CBIOS. The multidisciplinary nature of CBIOS is also reflected in the different areas to which the journals (JCI) in which they publish their results (pharmacology, physiology, medicinal chemistry, biochemistry dermatology, toxicology...). The increase in publications in concordance with the increase in number of citations and, thereby, with CBIOS's international visibility.

Points that need to be strengthen and suggestions for improvement:

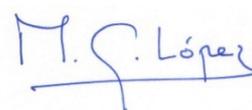
-Dissemination and communication: Letting others know what CBIOS does is important to have others recognition and find collaborative partners. The strong issues about this point have been stated in the above section; however, it can be further strengthened by carrying out certain initiatives such as:

- **Promotional video:** taking advantage that one of the best cinema grades of the country is in Universidad de Lusófona, making a promotional video putting forward all the activities that are being done at CBIOS can be a positive initiative.
- **Social media:** young people are especially informed through social media. If CBIOS wants to reach this community (futures PhD students, future postdocs, future young researchers...) it is important to “professionalize” this activity and having someone in charge of social media (Twitter, LinkedIn, Facebook, Instagram...)

- Improve human and material resources. To grow as Institution it is important to be able to achieve funding to incorporate to CBIOS highly qualified personnel, state of the art equipment and develop innovative projects. There are many calls prom private (Foundations and pharmaceutical companies) and public (National, European and international) organizations that can provide interesting opportunities for funding. To be updated with this information, to find partners and to fulfil all the requirements of these projects there is need for a **project manager on a full-time basis**. Hiring a person with experience as project manager is cost-effective as has already been proven in other institutions. Furthermore, if external resources are increased, the budget balance for financial viability would be more equilibrated in favor of the university (COFAC).

The project manager could also improve the transference of knowledge by helping with the licensing of patents derived from CBIOS research.

In order to gain knowledge on the mission, tasks and potential achievements of a project manager, I would recommend CBIOS senior members to invite the project manager of “Instituto Gulbenkian de Ciência (IGC)”, an international acknowledged institution, to exchange ideas on how to develop this profile at CBIOS. It would also be interesting that members from the Administration of Universidad de Lusófona could assist this meeting. It would help them better understand the need to hire a qualified person in project management and to determine the cost-effectiveness of that investment.



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