



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

I. PROJECT INFORMATION	
CENTER'S NAME: Center for Genome Regulation (CGR)	
DIRECTOR: Miguel L. Allende	

II. EVALUATION PANEL			
REFEREE NAME	ORGANIZATION/ INSTITUTION	E - MAIL	SIGNATURE
Reviewer 1			

III. CENTER ACHIEVEMENTS

1.- Scientific achievements and their impacts to local, national and international community.

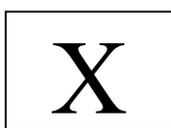
i.- Comments

The center is clearly a success story. While genomics had been around in bits and pieces before, it was dependent entirely on the ability and connections of individual scientists. Internationally, Chile was not recognized in this crucial field of life science, although few scientists were known individually. Generation of a body that combined the various activities led to more coordination and initiated interesting scientific projects, which would not have been possible otherwise, increasing the impetus and impact of genomic science in Chile substantially. This is essential in a time when genomics and related scientific areas are basic to very many life science aspects and medicine as a whole.

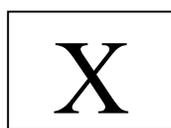
The center started off from a wide field of interesting topics. This was important since otherwise the few leading scientists with their personal interests could not have been integrated very well, which was essential, however, for the center's success. Fortunately, the center's activities did not disintegrate into small independent pieces. Instead, a good balance was found between pursuing different interests and identifying unifying activities. This was helped by a focus on projects, which are unique to Chile, for reasons such as sample availability or particular (commercial) interests in the country. It always takes some time for researchers to come together, in particular if not located at a single site. The center succeeded in making this merger happen.

Scientific success is measured worldwide by the overall publication record. With 155 publications, the CGR record is very good, particularly when taking into account that actual work did not start immediately for organizational and other reasons. Also, some projects are not finished as yet or at least not published. This is probably especially true for some of the best ones, since special care is needed to publish them in high-ranking journals, where to they belong. Also, it is common that particularly such papers have to undergo repeated revisions or are even rejected by one journal and need to go through the entire reviewing process more than once. Such processing can easily take a year. The CGR researchers are right that a national center of this type has to aim at at least few showpiece publications in highly ranked journals so as to document its impact. This reviewer supports this view and would therefore expect more publications in journals with an impact factor of >10 in a second funding period. This would also reflect and thus be a measure of the increasing focus on fewer, highly relevant projects and the continuous integration of the teams involved in CGR.

ii.- Evaluation: 4.5



Outstanding



Very Good



Good



Regular



Poor



Not Qualify



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2.- Educational achievements and impact. Pay attention to integration of research and educational activities, and also in training advanced human resources, participation in PhD Programs.

i.- Comments

The impact on teaching is clearly a strong aspect of CGR. The number of master and PhD students as well as postdocs that were trained has increased a lot as compared to the situation before. It has even surpassed the anticipated results as suggested in the initial CGR proposal. The center also proved that junior scientists from its rank could move into tenure track positions successfully. In addition, the center was instrumental in bringing back to Chile some junior scientists. The existence of such still junior but nevertheless independent scientists is crucial for a continuous success of the center and life science research in Chile overall.

ii.- Evaluation: 5

X					
Outstanding	Very Good	Good	Regular	Poor	Not Qualify



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3.- National and international collaboration achievements. Pay attention to activities that contributed to national and international networking

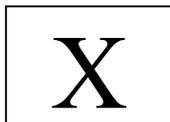
i.- Comments

International networking and collaboration is developing fine. A focus on regions and countries, which are further advanced in life sciences, is good so as to learn from them while simultaneously collaborating with them and making the capabilities of CGR known worldwide. In a second funding period, however, one would expect a stronger reach-out to colleagues from particularly South America and Asia. These regions are the natural partners of Chile and CGR (while keeping alive and improving the ties to Europe and the USA). Given the expertise meanwhile established at CGR, it could function as a leader in such South American and/or Asian collaborations. Keeping again a focus on well-selected projects that are unique to the partners, it would provide ample opportunity of high impact, at the same time advancing the international influence of CGR (and Chile).

ii.- Evaluation: 4



Outstanding



Very Good



Good



Regular



Poor



Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

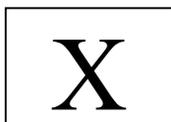
4.- Outreach Achievements. Pay special attention to those activities that tied the Center with the external community such as elementary or high schools, institutions, companies, among others.

i.- Comments

This part is difficult to evaluate from abroad as the evaluation is based purely on the description of the activities but cannot assess the actual impact that the activities have had. From the information provided, however, and comparing it to the situation as the one of my own institute, the CGR seems to do very well in terms of outreach. The activities described look very good and promising to me, in particular the idea of bringing a portable laboratory (and scientists, I guess) to schools. Also, informing the public about the progress made overall but in particular in projects that are of national interest, such as the origin of indigenous people or diseases that are especially relevant to Chile and therefore much in the mind of the Chilean public, will strengthen the scientific basis of Chile overall. For once, science becomes accepted as an activity that works for the good of the people, instead of merely using the peoples' money for the researcher's fun. Second, such "story telling" excites young people to pursue a scientific career.

The inclusion of commercial activities looks good, also. As above, the actual impact is difficult to assess, since contacts are only a first step toward close and continuous interaction. However, the number of filed patent applications indicates that the CGR scientists are aware of the needs of commercial partners and are pursuing this route appropriately.

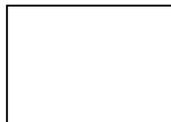
ii.- Evaluation: 5



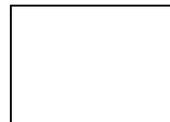
Outstanding



Very Good



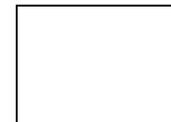
Good



Regular



Poor



Not Qualify



Comisión Nacional de Investigación
Científica y Tecnológica - CONICYT

IV. OTHER RELEVANT ASPECTS

If the Center report does not contain information on other relevant aspects, please indicate so in your evaluation.

i.- Comments

All aspects that this reviewer could think of, and which were not explicitly covered in the sections above or below, such as the progress in actual integration of the CGR groups, have been dealt with in the progress report.



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V. CENTER PROJECTIONS

Please comment about the center projections after the 5 - year FONDAP grant. If the Center report does not contain information on the Center projections, please indicate so in your evaluation.

i.- Comments

The information provided in the "Center Projection" section of the report looks at the further development of CGR in a very similar way as this reviewer does. The important steps are recognized and outlined toward making CGR even more successful in continuation of the achievements as of today.

This reviewer did not yet look at the continuity proposal, which will contain much more detailed information about the plans for the next five-year period.



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VI. INSTITUTIONAL COMMITMENTS

Please comment about the facilities available to the Center, the commitment of the administration of the leading and partner institutions to the Center, and the commitment of the partner institutions to achieve the Center goals.

i.- Comments

This part is only touched upon very briefly in the report. In accordance to the agreements at the start of the project, the participating institutions seem to have made their contributions as expected. No extra efforts are reported but cannot be ruled out.

ii.- Evaluation: 4

Outstanding

Very Good

Good

Regular

Poor

Not Qualify

VI. ADVISORY COMMITTEE

Please comment about the commitment of the advisory committee, and its contribution to the Center development.

i.- Comments

According to the report, the advisory committee has had substantial impact by advising the CGR scientists about their ideas. The extent of this cannot be evaluated externally. This reviewer would suggest to expand the committee by another two members, who should represent research areas not yet well represented in the committee, such as proteomics, for example, and simultaneously being eminent scientists from Europe and Asia, respectively. The aspect of networking should not be underestimated. Therefore, having scientists on board, who cover additional areas both scientifically as well as geographically, is very likely to be worth the extra expense of inviting another two advisory board members.

ii.- Evaluation: 4

Outstanding

Very Good

Good

Regular

Poor

Not Qualify

VI. FINAL OVERALL COMMENTS AND RECOMMENDATIONS

Please provide a final overall and recommendations for the Center. Include here aspects that were not covered in the previous sections, which you consider significant for the Center.

i.- Comments

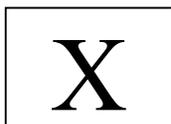
The center is clearly a success story. The CGR puts Chile on the map of genomics and related biomedical research. The projects yielded results of national and international interest and impact, and the integration of the groups toward an actual center is progressing well. The center is overall well on track. Therefore, one would expect more publications in journals with an impact factor of >10 in a second funding period. This does not imply that the number of papers needs to increase necessarily. A publication in a high-ranking journal is worth quite a few publications of lower impact. The increase in the impact of the individual papers and thereby the increase in reputation of CGR is the important aspect and would also reflect and thus be a measure of the increasing focus on fewer, highly relevant projects and the continuous integration of the teams involved in CGR.

The educational aspect should be kept at the currently high level or even improved further, if physically possible (laboratory space could be limiting).

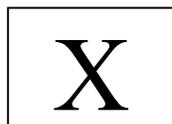
The networking of the CGR teams develops fine and successfully and should be kept up toward an even more center-like structure in the daily practice.

National and international collaboration should be pursued further. A bit more focus on South America and Asia could actually lead to new unique projects that could not be done by Chilean groups alone, at the same time bringing CGR in a leading position, which will be more difficult to get in collaborations with US and European partners.

ii.- Overall Evaluation: 4.5



Outstanding



Very Good



Good



Regular



Poor



Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

I. PROJECT INFORMATION
CENTER'S NAME: Center of Genome regulation
DIRECTOR: Dr. Miguel Allende

II. EVALUATION PANEL			
REFEREE NAME	ORGANIZATION/ INSTITUTION	E - MAIL	SIGNATURE
Reviewer 2			



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

III. CENTER ACHIEVEMENTS

1.- Scientific achievements and their impacts to local, national and international community.

i.- Comments

The CGR submitted its final report for the funding period 2011-2015. I am deeply impressed by the scientific output of the center. On numerical parameters, the center published close to 170 papers in scientifically peer reviewed journals with an average impact factor of close to 5 which is very good. This includes really outstanding publications in Nature, Science, Nature Genetics, Nature Communications, PNAS or Development. Based on the citations of these papers, they are very well received by the Scientific community. Most importantly, many publications of the first five year funding period are yet to be submitted and published indicating an even higher output. In addition, there are app. 600 congress presentation indicating a very active community at the CGR. This is also supported by the organization of roughly 40 conferences and courses.

The CGR identified three different scientific foci. In all areas the involved persons were able to generate significant new insights into genome evolution and regulation. In particular I am impressed by the very carefully done characterization of species living in the Atacama dessert, including plants and microbes. I think this is very strong research area and a unique selling point for the center as this is not done in any other center world wide. Of national interest is also the characterization of native South Americans. The sequencing of species relevant for agriculture provides another important national aspect of the Center. I am really looking forward to see this exciting work published (if not yet) in the future.

ii.- Evaluation

5

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

2.- Educational achievements and impact. Pay attention to integration of research and educational activities, and also in training advanced human resources, participation in PhD Programs.

i.- Comments

The CGR has developed significant training of young scientists. The number of postdocs who became professors during the first funding period is 9, which is quite impressive. 7 of them now have a permanent position in Chile. In addition, 3 Chilean scientist have been recruited back to Chile from abroad. This clearly indicates that the Center is a cristallization point for development of human resources in this field in Chile. It thus clearly has an important position in developing the next generation of scientists in Chile. It also serves to increase the critical mass of scientists working in the field of the Center. In addition, a platform for Interaction at the postdoc level was initiated in 2015. I consider this as an important addition to the training program.

The CGR has trained a remarkable number of PhD students and master students. This is now further developed by applying for a Joint PhD training program with Heidelberg University. This will provide already PhD students with the possibility to develop personal international networks. A certain amount of money will be required to develop mobility programs. The Center should also think of developing additional institutional co-operations on an international level tha could eventually also lead to joint PhD degrees.

In addition, a remarkable High number of courses and workshops for young scientist have been organized.

Training of young scientists as well as development of human resources in this field clearly is an asset of the CGR.

ii.- Evaluation

5

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

3.- National and international collaboration achievements. Pay attention to activities that contributed to national and international networking

i.- Comments

The CGR has setup strong international co-operations that are either on an institutional level including signed agreements (e.g. with Montevideo/Uruguay) or even joint applications for funding (e.g. Heidelberg, Germany). This also includes a strong tie to INRIA, France, with the CGR being part of INRIA Chile. A clear asset is also the fact that the chair of the center, M. Allende, is assigned to be a adjunct professor at Monash University, Australia. In addition, there are individual but also significant collaborations with individual scientists in the Netherlands as well as USA. International networking is also clearly visible by the organization of joint conferences with international partners abroad, e.g. 2013 activities with Tokyo, Heidelberg, and Santander.

The issue of international networking could be improved in the next funding period by clarifying which partners might be called strategic partners with respect to the three identified research areas and consolidation of these partnerships.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

4.- Outreach Achievements. Pay special attention to those activities that tied the Center with the external community such as elementary or high schools, institutions, companies, among others.

i.- Comments

The center has a strong track record regarding outreach activities which includes different channels of dissemination of results to the public including newspaper and TV reports, training of young pupils at school. Of particular interest is also the developed mobile lab that allows young children to develop interests in science and gaining first "hands on" experiences. These activities should be kept at this high level during the next 5 years of funding if granted.

ii.- Evaluation

5

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

IV. OTHER RELEVANT ASPECTS

If the Center report does not contain information on other relevant aspects, please indicate so in your evaluation.

i.- Comments

I did not find any information regarding gender balance of young scientists at the CGR and regarding any support for scientist with children. It will be interesting to learn about this during the onsite visit and any plans by center with respect to these issues.

It is also not clear for me, how many students coming from abroad (not from Chile) could be recruited to the center. This would also be an issue to learn of during the onsite visit.

The set up of PhD training should be described during the onsite visit, e.g. whether there are thesis committees, how often they meet, whether there are compulsory additional activities etc. It is my understanding that PhD programs are run by the participating universities. What is the impact of the CGR within these programs.



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V. CENTER PROJECTIONS

Please comment about the center projections after the 5 - year FONDAP grant. If the Center report does not contain information on the Center projections, please indicate so in your evaluation.

i.- Comments

The Center clearly has met the criteria of success they defined in the beginning and even succeeded in some aspects. I anticipate that this very positive development can be continued in an additional 5 years funding period if granted.



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

VI. INSTITUTIONAL COMMITMENTS

Please comment about the facilities available to the Center, the commitment of the administration of the leading and partner institutions to the Center, and the commitment of the partner institutions to achieve the Center goals.

i.- Comments

The CGR does not have a common building and it would clearly be beneficial if this could be achieved in the future. I am aware of all the administrative, financial and possibly political issues regarding such decision, but I think for a long term development in this field (beyond the 10 years funding period and even independent of the current persons involved), this would strongly support science in Chile. Otherwise it seems to me that all three participating Universities strongly support the CGR (including rental of common space and establishment of relevant animal housing facilities and research options).

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

VI. ADVISORY COMMITTEE

Please comment about the commitment of the advisory committee, and its contribution to the Center development.

i.- Comments

The advisory board met every year. Based on the report it is not clear for me whether all members were present at each meeting. As this likely has happened I think that the number of three members of the board might be a bit low and should be increased in the future although I am aware of the fact that financial resources might limit the number. As one of the members of board seems to cooperate with the center, an increase in member should also overcome any criticism on the decision of the board regarding independence.

The advisory board had strong impact on identifying projects performed in common at the Center. This was a very good idea indicating the value of the Advisory Board.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify

VI. FINAL OVERALL COMMENTS AND RECOMMENDATIONS

Please provide a final overall and recommendations for the Center. Include here aspects that were not covered in the previous sections, which you consider significant for the Center.

i.- Comments

I think that the CGR has developed extremely well during the first 5 years of funding providing a good starting platform for the next 5 years. The impact on training of young scientists, development of human resources in Chile, and a potential impact on industry is already clearly visible. I am also positively impressed by the outreach activities of the Center, in particular with respect to train young pupils. The center is clearly visible in the scientific community on a national and international level.

Minor (!) issues that might be further developed in the future is an increased networking for PhD students (e.g. development of joint PhD programs) and support for scientist with children and family. This would help to strengthen the career options for young scientists in a changing world. I would also try to increase the number of incoming students from abroad.

In summary, I think this is an outstanding project and I would like to congratulate the persons in charge for this center. I would like to emphasis, however, that the given grade 4,5 (very good to outstanding) is meant with respect to the yet achieved scientific results and structures upon 5 years of funding and is not meant under any conditions to indicate that the mission of the Center is completed. There is still some way to go to be recognized as a leading Center on an international level.

ii.- Evaluation

4,5

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

I. PROJECT INFORMATION
CENTER'S NAME: Center for Genome Regulation (CRG)
DIRECTOR: Miguel Allende

II. EVALUATION PANEL			
REFEREE NAME	ORGANIZATION/ INSTITUTION	E - MAIL	SIGNATURE
Reviewer 3			

III. CENTER ACHIEVEMENTS

1.- Scientific achievements and their impacts to local, national and international community.

i.- Comments

I'm very happy to see that Center for Genome Regulation (CRG) is showing continuous success in the field of biomedicine. As a person with a pretty good overview of the science in North and Latin America, I feel that CRG already has a dominating role in biological science in Chile, and is on a good path to become one of the most productive research centers in Latin America. The scientific topics, especially the genome sequencing and transcriptome projects, are a very well balanced blend of questions that are directly relevant for Chile, and also international science, and that the selection of unique questions related to the extreme climates and flora and fauna of Chile will generate new insights that will be of major importance and interest at an international level.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

2.- Educational achievements and impact. Pay attention to integration of research and educational activities, and also in training advanced human resources, participation in PhD Programs.

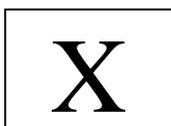
i.- Comments

Briefly, the educational achievements in the last three years have been very good to excellent. The integration of current projects and the scientists working on them is managed efficiently, and has resulted in well-organized training at the MSc and PhD student level.

My only suggestion in this paragraph is to invest in the education and training of computational biologists, since there is a lack of knowledge in bioinformatics. This can be solved by organizing international workshops in the field of bioinformatics as well as by inviting guest professors to FONDAF to teach bioinformatics courses.

In the next 12 months, the main task for the Center remains publication of all the accumulated results, in journals of the highest impact factor, which will have an important role for promoting science in Chile and internationally.

ii.- Evaluation



Outstanding



Very Good



Good



Regular



Poor



Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

3.- National and international collaboration achievements. Pay attention to activities that contributed to national and international networking

i.- Comments

The CGR was able to establish successful international collaborations with other Centers, and to attract scientists both locally and internationally. At the national level, CRG established strong interactions with centers and universities all over the country. Internationally, CRG established collaboration agreements with institutions such as the Australian Regenerative Medicine Institute at Monash University and the Center for Organismal Studies at the University of Heidelberg.

In addition, the CRG hosted several visiting scholars for short or long stays at the CGR and a large fraction of their postdoctoral fellows are foreigners. This is a very positive development for CRG.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



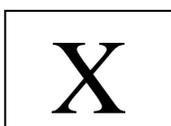
Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

4.- Outreach Achievements. Pay special attention to those activities that tied the Center with the external community such as elementary or high schools, institutions, companies, among others.

i.- Comments

It is my opinion that the members of the CRG were successful in receiving funding from diverse outreach initiatives and thus showed the ability to establish a positive communication strategy. The CRG scientists and their published research have appeared prominently in national media. Lastly, the CRG organized several workshops and symposia, which turned out to be successful.

ii.- Evaluation



Outstanding



Very Good



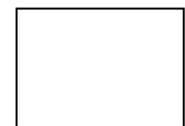
Good



Regular



Poor



Not Qualify



Comisión Nacional de Investigación
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IV. OTHER RELEVANT ASPECTS

If the Center report does not contain information on other relevant aspects, please indicate so in your evaluation.

i.- Comments

Not applicable.



Comisión Nacional de Investigación
Científica y Tecnológica - CONICYT

V. CENTER PROJECTIONS

Please comment about the center projections after the 5 - year FONDAP grant. If the Center report does not contain information on the Center projections, please indicate so in your evaluation.

i.- Comments

As mentioned previously, I think the CRG achieved remarkable results in the past five years and set the stage for many follow up projects. In addition, the most important publications still have to be written and published. It is thus my opinion that the Center projections for the next 5 years are all valuable and I strongly support the investment of the Chilean Government in the CGR project for the next 5 years.



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

VI. INSTITUTIONAL COMMITMENTS

Please comment about the facilities available to the Center, the commitment of the administration of the leading and partner institutions to the Center, and the commitment of the partner institutions to achieve the Center goals.

i.- Comments

The original idea of the CRG was to coalesce into a physical building that would house all the labs and facilities. Unfortunately, CRG did not obtain funds to make this possible, although the CRG Director met with authorities from the Chilean Government, CONICYT and Universities. I think it is EXTREMELY important that the Government invests funds into a building that would house CRG and all major labs from partner institutions.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

VI. ADVISORY COMMITTEE

Please comment about the commitment of the advisory committee, and its contribution to the Center development.

i.- Comments

I think the advisory committee is doing a very good job thus far.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify



Comisión Nacional de Investigación Científica y Tecnológica - CONICYT

VI. FINAL OVERALL COMMENTS AND RECOMMENDATIONS

Please provide a final overall and recommendations for the Center. Include here aspects that were not covered in the previous sections, which you consider significant for the Center.

i.- Comments

In conclusion, I'd like to stress once again that the Chilean Ministry of Science's funding and support of CRG was a very good idea, not only for the benefit of Chilean science, but also for Chilean society in general. With remarkable records of research productivity, funding and collaboration, the Center has realized amazing potential, and is surely the jewel in the crown of the Chilean Scientific Community. I therefore highly recommend the extension of funding for a time period of five years.

ii.- Evaluation

Outstanding

Very Good

Good

Regular

Poor

Not Qualify