



Comisión Nacional de Investigación
Científica y Tecnológica - CONICYT

FONDAP CENTERS OF EXCELLENCE IN RESEARCH PROGRAM

EVALUATION REPORT

I. PROJECT INFORMATION

NAME OF THE CENTER Center for Genome Regulation (CGR)	CODE 15 09 0007
DIRECTOR OF THE CENTER Miguel L. Allende	
SPONSORING INSTITUTION Universidad de Chile	
PERIOD REPORTED From: December 2017 To: December 2018	

II. EVALUATION PANEL

REVIEWER'S NAME	ORGANIZATION/ INSTITUTION	E-MAIL	SIGNATURE
Reviewer 1			



III. ANNUAL PROGRESS EVALUATION REPORT

A. RESULTS ATTAINED RELATED TO CENTER AIMS OR GOALS

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Development and strengthening of international networks.		X				
Outreach to society.	X					
Dissemination and exploitation of results.	X					
Contribution to policy makers and other targeted groups.	X					
Responsiveness to or incorporation of suggestions by the advisory committee.	X					

B. RESULTS ATTAINED PER RESEARCH LINES (Please fill up as many forms as programs exist within the Center).

<p>Research Line: A phylogenomic and systems biology approach to identify genes underlying plant survival in marginal soils.</p>
<p>Principal Investigator: Rodrigo Gutiérrez</p>

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Dissemination and exploitation of results.	X					



Research Line: Metagenome of the altiplano soils: plant-microbiome interaction
Principal Investigator: Mauricio González

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Dissemination and exploitation of results.	X					

Research Line: Regulatory landscape plasticity as an evolutionary driver in the genomes of Cyprinidontiform fish.
Principal Investigator: Martín Montecino, Miguel Allende

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Dissemination and exploitation of results.	X					



Research Line: Identification of genome signatures defining metabolic networks that provide unique features to cope with environmental stresses in plants.

Principal Investigator: Ariel Orellana

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Dissemination and exploitation of results.	X					

Research Line: Gene expression control and regulatory networking.

Principal Investigator: Alejandro Maass

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	X					
Outcomes achieved in relation to the proposal objectives and goals.	X					
Quality of achieved outcomes in relation to the proposal objectives and goals.	X					
Integration between research lines of the Center.	X					
Dissemination and exploitation of results.	X					



C. GENERAL COMMENTS

1. The centre is a success. The director, the coordinators and the responsible scientists are to be applauded for their achievements. Given the resources allocated, the results of the centre are outstanding.
2. The CGR has very well defined and developed its scientific niche. It is nicely oriented on needs to Chilean society while also taking into account the worldwide ongoing activities. This clever choice of research lines makes CGR distinct to the other activities in the world. However, it is simultaneously demonstrating to the international scientific peers the commitment, expertise and excellence of CGR. The centre is recognised and respected in the international scientific community and accepted as a leader in certain scientific areas.
3. The sensible expansion of the scientific objectives, e.g. by performing similar studies in Antarctica, is a clever strategic move. Thereby, a part of the world is studied that is of immediate relevance to Chile. At the same time, the approach defines new research objectives that are of interest and being worked at internationally, thus demonstrating further the leading role of CGR in such research areas.
4. The increase in really collaborative work is a very positive aspect. This kind of close and sensible collaboration can actually not really be established by merely providing money. If based on money only, it would hold as long as the resources are available but break up thereafter, which cannot be the objective of Chile as a nation. Such structures of trust need to grow, and they usually grow slowly. Creating CGR has established such a structure from which it expands further into the Chilean scientific community. This is meant to be a basic and central task of a centre like CGR beyond the mere scientific results, and CGR has succeeded very well indeed. Cooperation between CGR partners has grown and become very meaningful; cooperation between excellence centres has been established; and the integration into the wider scientific community does work, as does the dissemination and communication with the public.
4. Scientific impact of CGR is consistently high. This is the direct result of (i) continuous financial support, (ii) the establishment of a structure that fosters collaboration while keeping up a healthy degree of competition, (iii) promoting the establishment of scientific objectives that are distinctly Chilean but nevertheless of interest and competitive at an international level and (iv) aiming at international collaboration and leadership in particular scientific areas.
5. The CGR's efforts to get into the top journals has to be applauded, although not yet being successful with respect to "purely Chilean" papers. As I had pointed out in last year's review, this is to be expected, unfortunately. Still, it is worth trying.
6. The strong outreach and dissemination activities of CGR are very laudable! They are crucial to meet the centre's objective of providing a core structure to establish and promote high-level science within the Chilean society.
7. It can be expected that the impact of CGR and thus the competitiveness of Chile as a nation will increase further, if the CGR will stay in place. Given the gains, the required financial investment for achieving this is actually rather small.



D. BENCHMARKING

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Performance of the Center in relation to internationally recognized centers in the field.	X					

Please elaborate:

The work done at CGR is of very high quality indeed. Its international impact is level to research done in eminent institutes worldwide, although funding is substantially less than what international competitors are able to spend. Having picked the topics wisely, the center defined a niche for itself, in which it is at the forefront of science and based on which it can enter other fields close to its core competences in an internationally competitive manner. This reviewer is encouraging the CGR to keep trying to publish showcase publications in top-level journals, although this is a frustrating business for various reasons, and even more so for researchers from Southern America due to biases in the reviewing system. Such publications do not necessarily add to quality and impact but they create attention.

E. COMMENTS TO THE CENTER DIRECTOR

Nothing beyond the statements in the GENERAL COMMENTS.

F. RECOMMENDATIONS TO THE FONDAP PROGRAM DIRECTOR

As pointed out last year already, permanent funding of the center beyond 10 years will be required so as to avoid wasting all the money that went into establishing it and making it work. Only then, Chile as a nation will be able to take advantage of its financial investment and the achievements of CGR. As a matter of course, any continuous funding must be based on evaluating performance. Also, changes in structure and personnel may be considered, although the performance is indeed outstanding at current.

Permanent funding should be the goal. It would serve Chile very well !

The funding may be modelled on national structures established elsewhere. An overarching organization could be established that is made up by a group of national centres. Each centre pursues particular objectives of national interest, but they nevertheless collaborate. The overarching structure should **NOT** be in charge of directing the centres. Each centre should be independent and scientifically directed by a director and a small group of principle investigators. However, the centres' directors should make up a scientific directorate of the overarching structure, which would



serve the centres so as to foster collaboration between them as well as with other academic and industrial entities as well as the public. Also, it should define an overall strategy for developing science.

Funding to the centres should be allocated on the basis of international evaluations and should get adapted every three years. Outstanding centres will get more, while ill performing centres will get less and may drop out altogether after a period of 9 years. This would also provide a chance of getting new national centres added and established as part of the overarching organisational structure that represent novel research areas and concepts.

G. ADDITIONAL INFORMATION REQUIRED FOR THE EVALUATION OF THE ANNUAL PROGRESS REPORT

If you decide to leave the evaluation pending and require additional information form the Center, please indicate the documentation or explanations required to complete your evaluation. In case there are additional requirements that the Center’s director has to fulfill, please explain them as clearly as possible so s/he can address them.

If you decide to reject this report (or significant portions of it) please indicate as clearly as possible the requirements that should be conveyed to the Center’s director.

IV. EVALUATION CONCEPTS

- 1. Approved:** *The objectives and goals are fully accomplished and all the relevant issues are properly covered in the report.*
- 2. Approved with minor observations:** *The objectives and goals are accomplished, however, some comments and suggestions need to be addressed.*
- 3. Pending:** *Additional information is required to fully evaluate the report.*
- 4. Rejected:** *The objectives and goals have not been accomplished and/or the outcomes are deficient.*

V. RECOMMENDATION

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APPROVED	APPROVED WITH MINOR OBSERVATIONS	PENDING	REJECTED

REVIEWER’S NAME: Reviewer 1

DATE: February 2019



III. ANNUAL PROGRESS EVALUATION REPORT

A. RESULTS ATTAINED RELATED TO CENTER AIMS OR GOALS

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Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	x					
Outcomes achieved in relation to the proposal objectives and goals.		x				
Quality of achieved outcomes in relation to the proposal objectives and goals.	x					
Integration between research lines of the Center.	x					
Development and strengthening of international networks.	x					
Outreach to society	x					
Dissemination and exploitation of results.	x					
Contribution to policy makers and other targeted groups.	x					
Responsiveness to or incorporation of suggestions by the advisory committee.		x				

B. RESULTS ATTAINED PER RESEARCH LINES (Please fill up as many forms as programs exist within the Center).

Research Line: A phylogenomic and systems biology approach to identify genes underlying plant survival in marginal soils.
Principal Investigator:

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	Not applicable					
Outcomes achieved in relation to the proposal objectives and goals.		x				
Quality of achieved outcomes in relation to the proposal objectives and goals.		x				
Integration between research lines of the Center.	x					
Dissemination and exploitation of results.	x					



Research Line: Metagenome of the altiplano soils: plant-microbiome interaction
Principal Investigator:

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	Not applicable					
Outcomes achieved in relation to the proposal objectives and goals.		x				
Quality of achieved outcomes in relation to the proposal objectives and goals.		x				
Integration between research lines of the Center.	x					
Dissemination and exploitation of results.	x					

Research Line: Regulatory landscape plasticity as an evolutionary driver in the genomes of Cyprinodontiform fish
Principal Investigator:

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Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	Not applicable					
Outcomes achieved in relation to the proposal objectives and goals.		x				
Quality of achieved outcomes in relation to the proposal objectives and goals.		x				
Integration between research lines of the Center.	x					
Dissemination and exploitation of results.	x					



Research Line: Identification of genomic signatures defining metabolic networks that provide unique features to cope with environmental stresses in plants
Principal Investigator:

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Responsiveness to or incorporation of suggestions from last evaluation report (If applicable).	Not applicable					
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Quality of achieved outcomes in relation to the proposal objectives and goals.	x					
Integration between research lines of the Center.	x					
Dissemination and exploitation of results.	x					

Research Line: Gene expression control and regulatory networking
Principal Investigator:

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Quality of achieved outcomes in relation to the proposal objectives and goals.	x					
Integration between research lines of the Center.	x					
Dissemination and exploitation of results.	x					

C. GENERAL COMMENTS

Please provide an overall qualitative review of the Annual Progress of the Center goals and outcomes. Include any comments that you consider significant, highlighting the main strengths and/or weaknesses.

Eight years after its official start, the CRG continues to do great work, having a very important impact, by all measurable standards, on both Chilean and Latin



American science in general. I'm very happy to see such tremendous progress on all fronts achieved by the CRG and its scientists.

I'm also pleased to read that during the past 12 months numerous CRG PIs and scientists have shown a sustained level of productivity by publishing several high-profile papers in journals with an average impact factor 5, an outstanding achievement more than commensurate with the amount of funding CRG is receiving from the Chilean government.

In addition, the opportunities for international exchanges and networking for over 80 young scientists from the CRG have continued to grow strongly, allowing for numerous new interactions with the wider community. The CRG management has also established strong links with diverse partners in the private sector, increasing the role of the CRG in commercial applications derived from their research. Furthermore, I was truly impressed to read about the explosive growth in CRG's outreach and dissemination to Chilean society with over 30 media appearances. This is further proof the CRG is seriously working on strengthening its interactions with Chilean society.

However, I am greatly concerned that the Chilean government hasn't yet decided whether they will extend their support for the CRG after the current 10 year period. Given that the CRG is doing such a phenomenal job and is a clear Chilean success story, I think it is absolutely critical that the Chilean Ministry of Science communicate, as quickly as possible, their decision regarding funding renewal for the CRG beyond the initial 10 year support period. I therefore urge the Ministry of Science to keep supporting the CRG, as it is not only one of the top scientific institutions in Chile but in Latin America as a whole.

D. BENCHMARKING

Item	Outstanding	Very Good	Good	Regular	Poor	Not Qualify
Performance of the Center in relation to internationally recognized centers in the field.	x					

Please elaborate:

CRG continues to do a great job in terms of benchmarking, both nationally and internationally.



E. COMMENTS TO THE CENTER DIRECTOR

I'd like to congratulate the Institute Director for the many achievements over the past 8 years, in particular for the high-profile papers published last year in PLoS Computational Biology and Scientific Reports. I completely understand his concern about the future of the CRG since he hasn't yet heard whether the Chilean Government will continue their support of the institution. This is a serious issue since it prevents the CRG from hiring top tier scientists due to insecurity regarding their future after 2021.

Since the most collaborative and impactful research that is currently being performed at the CRG is still unpublished, I suggest that the CRG aim high and strive for publication in landmark journals with an impact factor of 10 or greater. I think it is only a matter of time until the CRG reaches the stage where their work will be published in one of the world's leading scientific journals.

F. RECOMMENDATIONS TO THE FONDAP PROGRAM DIRECTOR

I'd like to stress one more time that FONDAP's idea to fund and support the CRG was probably one of the best investments in Chilean science to date, and I would therefore again like to use this opportunity to urge the Chilean Government to keep funding this highly productive scientific institution. With high research productivity, funding and collaboration, the CRG has been incredibly successful, only beginning to realize its full potential and making it the crown jewel of not only the Chilean scientific community but Latin American science in general.

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V. RECOMMENDATION

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
APPROVED	APPROVED WITH MINOR OBSERVATIONS	PENDING	REJECTED

REVIEWER'S NAME: Reviewer 2

DATE: April, 2019

