



IDRC | CRDI

International Development Research Centre
Centre de recherches pour le développement international

Canada



Knowledge. Innovation. Solutions.

Savoir. Innovation. Solutions.



IDRC | CRDI

International Development Research Centre
Centre de recherches pour le développement international

EU-SPRI 2018 — Governance and relevance: towards a new generation of research and innovation policies

Students and postdoctoral fellows in North-South research collaborations: mobilisation of social capital and contributions to knowledge production

*Daniel Cortes-Vargas
Matthew Wallace*

ESIEE, Paris, June 6th 2018

Canada 



Contents

1. **IDRC context**
 2. **Approach**
 3. **Methodology**
 4. **Maps: North-South Chairs**
 5. **Maps: Consortia**
 6. **Social Capital Factors and Network Centrality Measures**
 7. **Preliminary results**
-



Context

- IDRC
- Building on various strands of literature
 - Role of graduate students in knowledge production → research teams North–South
 - Research and capacity-building for development → institutional collaboration
 - Dynamics of international research collaborations → bibliometrics
 - Social capital in defining the work of students → connections -networks



Approach

- Types of collaborations used as case studies:
 - 1. Bilateral or Trilateral North-South Chairs :
 - International Research Chairs Initiative (IRCI, CA\$8M for 8 teams over 5 years).
 - 2. Consortia:
 - International Research Initiative on Adaptation to Climate Change (IRIACC, CA \$12,5M for 5 teams over 5 years).
 - Canadian International Food Security Research Fund (CIFSRF, CA\$124 for 39 teams over 4-6 years).

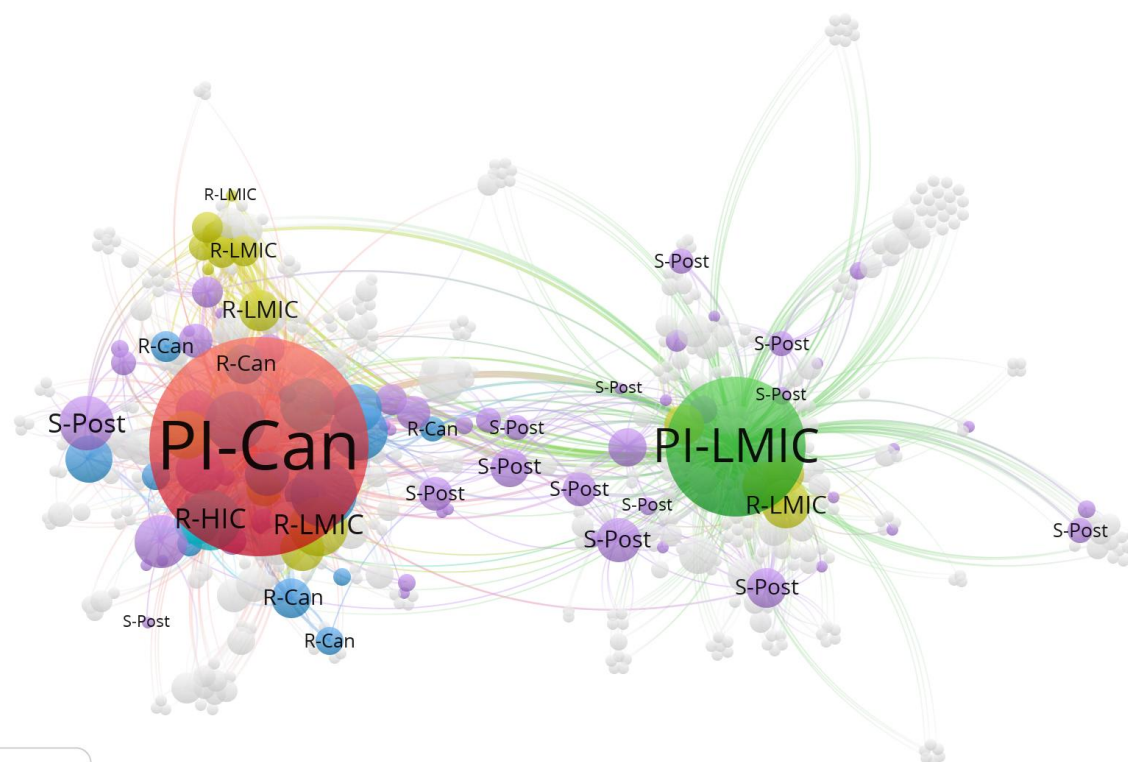


Methodology

- Constructing publication database
 - SCOPUS
 - All publications of key researchers in given IDRC project during time period
 - Final Technical Reports to tag authors (researchers and students) with links to the project, validate list of publications then anonymize data
- Visualization
 - VOSviewer
- Network analysis
 - UCINET

Maps: North-South Chairs

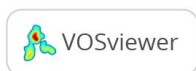
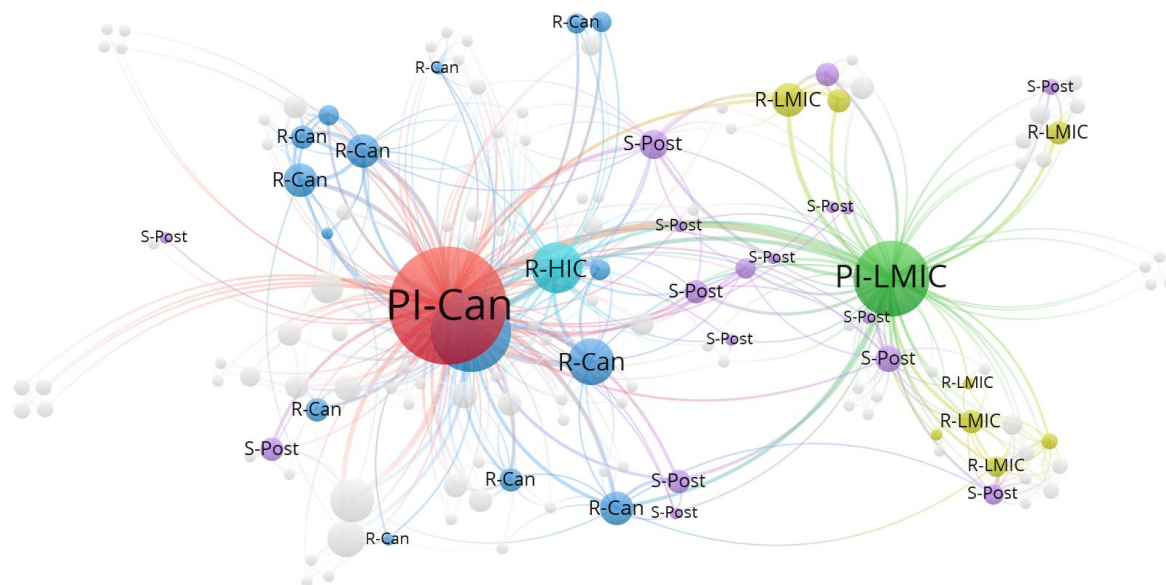
1



VOSviewer

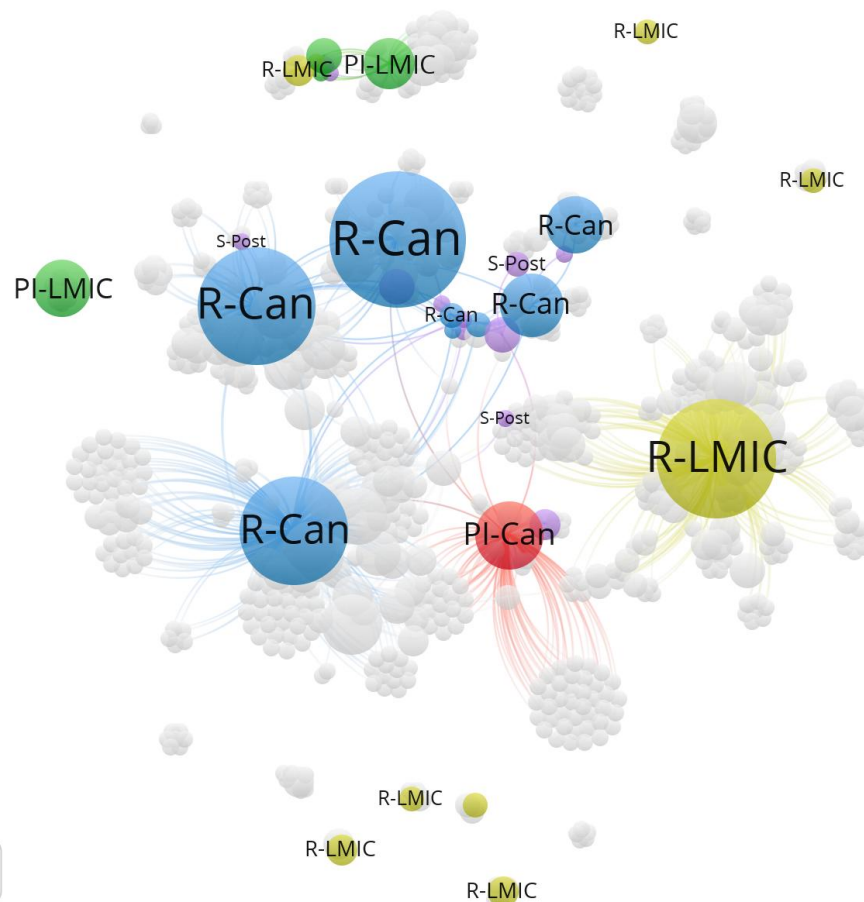
Maps: North-South Chairs

2

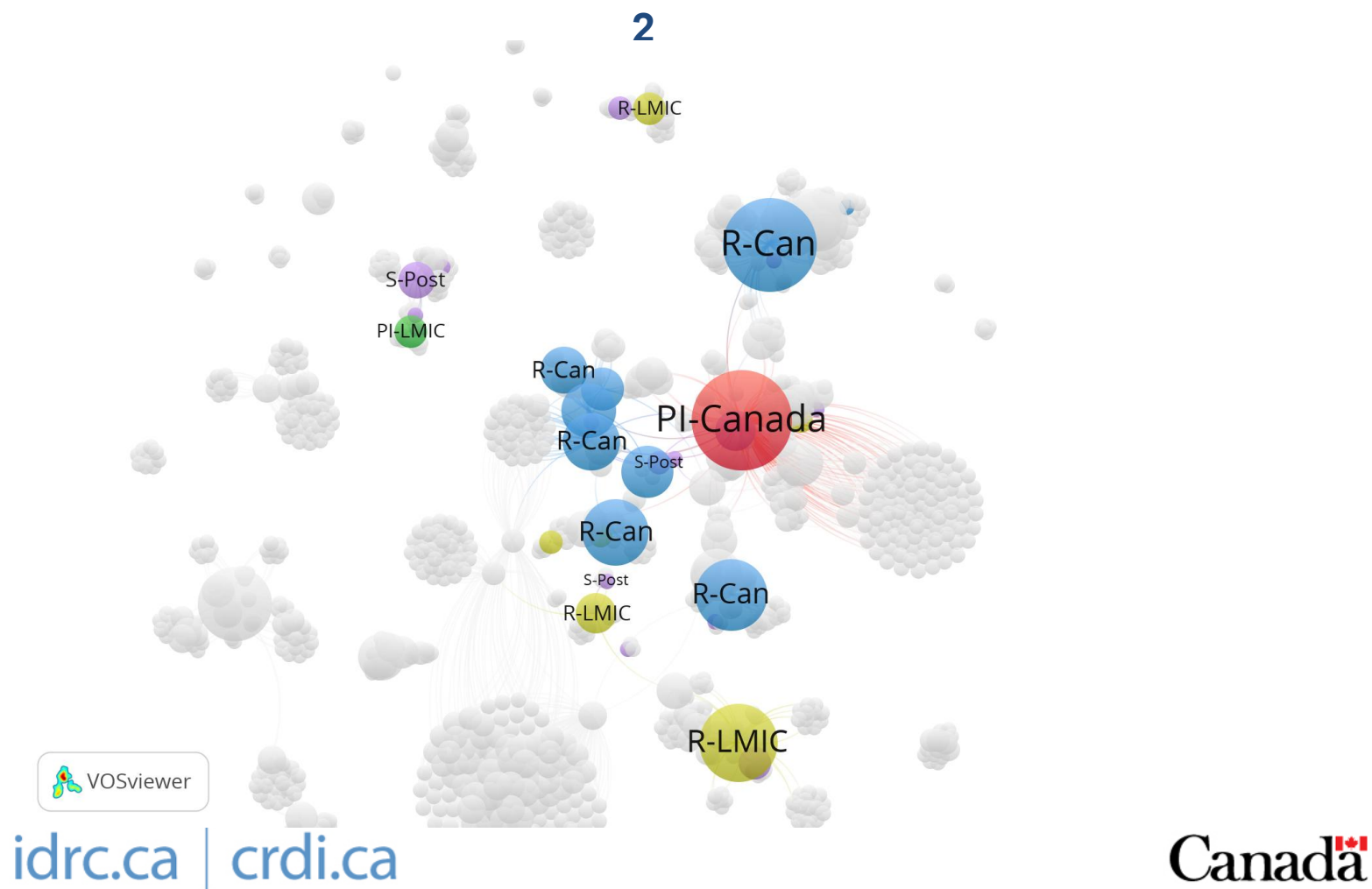


Maps: Consortia

1



Maps: Consortia



Social Capital Factors and Network Centrality Measures (IRCI e.g. 2)

Social Capital Factors	INFLUENCE		RECOGNITION		COMUNICATION	
	Ranking	(nBetweenness)	Ranking	(nEigenvector)	Ranking	(NrmOutDeg %)
		(n=180)		(n=180)		(n=180)
PI-Canada	1	64.578	1	88.027	1	5.096
PI-LMIC	2	41.172	3	40.929	2	2.371
RC	3	7.192	2	65.973	3	2.030
R-HIC	4	4.269	4	33.330	4	1.145
S-Post	5	2.744	31	5.927	18	0.313
S-Post	6	1.560	14	10.956	14	0.382
R-LMIC	7	1.554	13	12.726	6	0.559
RC	8	1.479	10	16.236	11	0.422
RC	9	1.290	5	28.398	5	0.681
S-Post	10	0.658	11	15.671	10	0.477
R-LMIC	11	0.352	51	3.018	15	0.354
RC	12	0.234	12	15.033	7	0.559
OC	13	0.203	6	21.764	9	0.518
OC	14	0.194	25	7.159	77	0.259
OC	15	0.162	46	3.582	25	0.123
OC	16	0.135	20	9.540	17	0.327
ROC	17	0.130	22	8.530	24	0.286
S-Post	18	0.129	83	2.048	25	0.273
R-LMIC	19	0.129	82	2.048	26	0.273
RC	20	0.123	9	16.721	8	0.531
OC	21	0.101	86	1.948	20	0.300
R-HIC	22	0.074	19	10.008	16	0.341
R-HIC	23	0.068	21	8.589	22	0.286
RC	24	0.053	17	10.317	27	0.273
OC	25	0.040	7	17.474	12	0.395
S-Post	26	0.039	45	3.937	19	0.313
OC	27	0.038	8	17.209	13	0.382
OC	28	0.037	39	4.545	149	0.068
OC	29	0.025	101	1.690	106	0.109
R-LMIC	30	0.023	118	1.309	33	0.232



Preliminary results

- Our conceptual framework can account for the impact of students on the research, and the impact of grants on the students, in terms of their integration in international research teams, the advancement of their careers, and their roles in developing new knowledge.
- The analysis of co-authored papers allows us to highlight the connections between researchers and students.
- Using network analysis, we show that the connections between the members of research teams represent a resource of social capital.
- Bibliometric analysis help characterize North-South research collaborations.
- The students have a important position within these collaborations.
- The students contribute to the production for knowledge and achieving development outcomes



IDRC | CRDI

Thank You

idrc.ca | crdi.ca

Canada 