

José Fuentes Sepúlveda

PERSONAL DATA

PLACE AND DATE OF BIRTH: Chile | 19 August 1986
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EDUCATION

- 2011–2016 **Doctor in Computer Science**, University of Concepción, Concepción. Chile
Thesis: Parallel Construction of Succinct Data Structures
Advisors: Leo FERRES, PhD and Meng HE, PhD
- 2014 **Visiting Graduate Student**, Dalhousie University, Halifax. Canada
Local advisor: Meng HE, PhD
- 2005–2010 **Computer Engineering**, University of Concepción, Concepción. Chile
Thesis: Accessibility to mathematical expressions
Advisor: Leo FERRES, PhD
- 2005–2008 **Bachelor of Engineering**, University of Concepción, Concepción. Chile

RESEARCH ACTIVITIES

3.1 Research Stays

- 10/2016 (3 years) **Postdoctoral stay**, Centre for Biotechnology and Bioengineering, University of Chile, Santiago. Chile
Area: Parallel algorithms for compressed indexes and networks
Inviting professor: Gonzalo NAVARRO, PhD
Funding: Postdoctoral funding No. 3170534, FONDECYT.
- 05/2018 (1 month) **Invited researcher**, University of A Coruña, A Coruña. Spain
Area: Data structures and algorithms for network analysis
Inviting professor: Susana LADRA, PhD
Funding: EU grant H2020-MSCA-RISE-2015 BIRDS No. 690941
- 09/2017 (1 month) **Invited researcher**, University of Helsinki, Helsinki. Finland
Area: Data structures and algorithms for network analysis
Inviting professor: Simon PUGLISI, PhD
Funding: EU grant H2020-MSCA-RISE-2015 BIRDS No. 690941
- 07/2016 (1 month) **Invited researcher**, University of Helsinki, Helsinki. Finland
Area: Data structures and algorithms for network analysis
Inviting professor: Travis GAGIE, PhD
Funding: EU grant H2020-MSCA-RISE-2015 BIRDS No. 690941

3.2 Workshop Organization

- 2018 **Co-chair**, Workshop on Compression, Text and Algorithms (WCTA). Lima, Perú.

3.3 Editorial Boards

2019–present **Information Director**, ACM Journal of Experimental Algorithmics.

3.4 Refereeing and Program Committees

Program Committee	2019 International Symposium on String Processing and Information Retrieval (SPIRE) 2019 International Conference of the Chilean Computer Science Society (SCCC)
Journal Reviewer	2019 Information and Computation Journal 2018 Journal of Discrete Algorithms 2017 Journal of Computational Methods in Sciences and Engineering 2017 Theory of Computing Systems Journal
Auxiliar Conference Reviewer	2020 Symposium on Algorithm Engineering and Experiments (ALENEX) 2020 Conference and Workshops on Algorithms and Computation (WALCOM) 2019 Symposium on Combinatorial Pattern Matching (CPM) 2017–2019 Data Compression Conference (DCC) 2017 Symposium on Discrete Algorithms (SODA) 2017 Symposium on Experimental Algorithms (SEA) 2016 European Symposia on Algorithms (ESA) 2016 International Conference on Data Science, Technology and Applications (DATA)
External Reviewer	2019 Teaching innovation projects call. University of Santiago

WORK EXPERIENCE

4.1 Academic

- 2020–PRESENT **Assistant professor** at UNIVERSITY OF CONCEPCIÓN, Concepción
- 2017 **Part-Time Lecturer** at UNIVERSITY OF CHILE, Santiago
Lecturer of the class *Parallel Programming*
- 2016 **Part-Time Lecturer** at UNIVERSITY OF CONCEPCIÓN, Concepción
Lecturer of the class *Information Technologies*
- 2014–2015 **Part-Time Lecturer** at UNIVERSITY OF CONCEPCIÓN, Concepción
Lecturer of the class *Systems Development*
- 2014 **Part-Time Lecturer** at UNIVERSIDAD DEL BÍO-BÍO, Concepción
Lecturer of the class *Programming Language*
- 2013 **Part-Time Lecturer** at UNIVERSIDAD CATÓLICA DE LA SANTÍSIMA CONCEPCIÓN, Concepción
Lecturer of the class *Computer Architecture*
- 2011–2013 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Data Structures*
- 2012 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Systems Development*
- 2011 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Parallel Programming in Multicore Systems*
- 2010–2011 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Data Base*
- 2009 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Formal Languages and Introduction to Compilers Theory*
- 2008 **Assistant student** at UNIVERSITY OF CONCEPCIÓN, Concepción
Assistant student to the class *Programming Language*

4.2 Occupational

- 2014–2016 **Co-founder & Chief operations officer** at AZU LABS, Concepción
- 2011 **System developer** at COMERCIAL SISTEMAS INTELIGENTES PARA LA PRODUCCIÓN, Concepción
Development of project *SGI EDENORTE RD*
- 2009–2011 **System developer** at CEFOP - UNIVERSITY OF CONCEPCIÓN, Concepción
Development of project *CEFOP FB0824*

4.3 Voluntary

- 2013–2014 **Volunteer teacher** at INFOCAP, Concepción
- 2019 **Volunteer teacher** to teach a profession to workers with social vulnerability

SCHOLARSHIPS AND AWARDS

- 2017–2019 Postdoctoral funding, No. 3170534. National fund for scientific and technological development (FONDECYT). Chile
Project: Efficient compressed indexes construction for multicore architectures
- 2014 ELAP Democracy Study Tour. Canadian Bureau for International Education (CBIE). Canada
- 2014 Emerging Leaders in the Americas Program (ELAP) scholarship. Department of Foreign Affairs, Trade and Development (DFATD). Canada
- 2012–2015 Doctoral scholarship. National commission for scientific and technological research (CONICYT). Chile
- 2011 University of Concepción award. University of Concepción. Chile
- 2011 Faculty of engineering award. University of Concepción. Chile
- 2010 Funding for undergraduate and graduate thesis. Innova Bío-Bío. Chile

LANGUAGES

ENGLISH: Upper intermediate

SPANISH: Mothertongue

PUBLICATIONS

- JOURNALS (ISI-JCR)
1. **J. Fuentes-Sepúlveda**, G. Navarro, and Y. Nekrich. Parallel computation of the Burrows-Wheeler Transform in compact space. *Theoretical Computer Science*, 812:123 – 136, 2020. In memoriam Danny Breslauer (1968-2017)
 2. L. Ferres, **J. Fuentes-Sepúlveda**, T. Gagie, M. He, and G. Navarro. Fast and compact planar embeddings. *Computational Geometry: Theory and Applications*, page 101630, 2020
 3. **J. Fuentes-Sepúlveda** and S. Ladra. Energy consumption in compact integer vectors: A study case. *IEEE Access*, 7:155625–155636, 2019
 4. **J. Fuentes-Sepúlveda**, L. Ferres, M. He, and N. Zeh. Parallel construction of succinct trees. *Theoretical Computer Science*, 700:1 – 22, 2017
 5. **J. Fuentes-Sepúlveda**, E. Elejalde, L. Ferres, and D. Seco. Parallel construction of wavelet trees on multicore architectures. *Knowledge and Information Systems*, 51(3):1043–1066, 2017
 6. **J. Fuentes-Sepúlveda** and L. Ferres. Improving accessibility to mathematical formulas: the Wikipedia math accessor. *New Review of Hypermedia and Multimedia*, 18(3):183–204, 2012

- CONFERENCES
1. **J. Fuentes-Sepúlveda**, G. Navarro, and D. Seco. Implementing the topological model succinctly. In *SPIRE*, 2019
 2. **J. Fuentes-Sepúlveda**, G. Navarro, and Y. Nekrich. Space-efficient computation of the Burrows-Wheeler Transform. In *DCC*, pages 132–141, 2019
 3. **J. Fuentes-Sepúlveda**, J. Kärkkäinen, D. Kosolobov, and S. Puglisi. Run compressed rank/select for large alphabets. In *DCC*, pages 315–324, 2018
 4. L. Ferres, **J. Fuentes-Sepúlveda**, T. Gagie, M. He, and G. Navarro. Fast and compact planar embeddings. In *WADS*, pages 385–396, 2017
 5. L. Ferres, **J. Fuentes-Sepúlveda**, M. He, and N. Zeh. Parallel construction of succinct trees. In *SEA*, pages 3–14, 2015
 6. **J. Fuentes-Sepúlveda**, E. Elejalde, L. Ferres, and D. Seco. Efficient wavelet tree construction and querying for multicore architectures. In *SEA*, pages 150–161, 2014
 7. L. Ferres and **J. Fuentes-Sepúlveda**. Improving accessibility to mathematical formulas: The Wikipedia math accessor. In *W4A*, pages 25:1–25:9, 2011
- WORKSHOPS
1. **J. Fuentes-Sepúlveda** and G. Navarro. Space-efficient parallel construction of the Burrows-Wheeler Transform. In *WCTA*, 2017
 2. **J. Fuentes-Sepúlveda**. Parallel construction of succinct trees. In *Encuentro de Tesistas, JCC*, 2015
 3. **J. Fuentes-Sepúlveda**, E. Elejalde, D. Caro, L. Ferres, D. Seco, and M. A. Rodríguez. Efficient wavelet tree construction and querying for multicore architectures. In *MASSIVE*, 2013
 4. **J. Fuentes-Sepúlveda**. Improving accessibility to mathematical formulas: the Wikipedia math accessor. In *Encuentro de Tesistas, JCC*, 2012