

# Dr. Christian Barrientos

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## Education

- ^ Universitat Politècnica de Catalunya  
Ph. D. Applied Mathematics  
Barcelona, España  
2004
- ^ University of Puerto Rico  
Master of Sciences - Mathematics  
San Juan, Puerto Rico  
1997
- ^ Universidad Católica de Valparaíso  
Bachelor - Mathematics  
Valparaíso, Chile  
1990

## Academic Experience

- University of South Florida  
Assistant Professor of Instruction  
Tampa, Florida, USA  
August 2023 - Present
- Valencia College  
Orlando, Florida, USA  
August 2018 - July 2023
- Clayton State University, Department of Mathematics  
Morrow, Georgia, USA  
August 2006 - May 2017
- University of Central Florida, Department of Mathematics  
Orlando, Florida, USA  
August 2003 - May 2006

## Publications

### Published Articles

On the number of caterpillars,

The graceful coalescence of alpha cycles, **Communications in Advanced Mathematical Sciences**2(2) (2019), 114{120. (with S. Minion).

New  $r$ -trees and graceful unions of  $r$ -graphs and linear forests, **J. Combin. Math. Combin. Comput.**, 108 (2019), 205{220 (with S. Minion).

Series-parallel operations with  $r$ -graphs, **Theory and Applications of Graphs** 6(1) (2019), Article 4. (with S. Minion).

Special graceful labelings of irregular fences and lobsters, **Universal Journal of Mathematics and Applications** 2(1) (2019), 1{10.

Snakes and caterpillars in graceful graphs, **J. Algorithms Comput.**, 50(2) (2018), 37{47. (with S. Minion).

The number of snakes in a box, **Fundamental Journal of Mathematics and Applications** 1(2) (2018), 145{156 (with S. Minion).

On the number of  $r$ -labeled graphs, **Discuss. Math. Graph Theory**, 38 (2018), 177{188 (with S. Minion).

On the graceful Cartesian product of  $r$ -trees, **Theory and Applications of Graphs** 4(1) (2017), Article 3. (with S. Minion).

Snakes: from graceful to harmonious, **Bull. Inst. Combin. Appl.**, 79 (2017), 95{107. (with S. Minion).

Improved bounds for relaxed graceful trees, **Graphs and Combin.**, 33(2) (2017), 287{305. (with E. Krop).

Constructing graceful graphs with caterpillars, **J. Algorithms Comput.**, 48(1) (2016), 117{125. (with S. Minion).

A new attack on Kotzig's conjecture, **Electron. J. Graph Theory Appl.**, 4(2) (2016), 119{131. (with S. Minion).

Mean trees, **Bul. Inst. Combin. Appl.**, 75 (2015), 8{18.

Alpha labelings of snake polyominoes and hexagonal chains, **Bul. Inst. Combin. Appl.**, 74 (2015), 73{83. (with S. Minion).

Enumerating families of labeled graphs, **Journal of Integer Sequences**18 (2015), Article 15.1.7 (with S. Minion).

The mean labeling of some crowns, **J. Algorithms Comput.**, 45 (2014), 43{54. (with M.E. Abdel-Aal, S. Minion, and D. Williams).

Three graceful operations, **J. Algorithms Comput.**, 45 (2014), 13{24. (with S. Minion).

On graceful supersubdivisions of graphs, **Bul. Inst. Combin. Appl.**, 70 (2014), 77{85. (with S. Barrientos).

Mean graphs, **AKCE J. Graphs Comb.**, 11 (2014), No. 1, 13{26. (with E. Krop).

Operations with mean graphs, **Congr. Numer.**, 217 (2013), 5{19. (with S. Bailey).

Some theorems on the  $q$ -analogue of the generalized Stirling numbers and the combinatorics of the 0-1 tableaux. **Bull. Malays. Math. Sci. Soc.** (2) 34(3) (2011), 1{15.(with R. Corcino).

Graceful and edge-antimagic labelings. **Ars Combin.**, 96 (2010), 505{513. (with M. Baca).

On graceful chain graphs. **Util. Math.**, 78 (2009), 55{64.

Odd-graceful labelings of trees of diameter 5. **AKCE J. Graphs Comb.**, 6 (2009), 307{313.

Irregular colorings of some graph classes. **Bul. Inst. Combin. Appl.**, 55 (2009), 105{119. (with M. Anderson,

- Invariants of Fibonacci graphs. *J. Combin. Math. Combin. Comput.*, **68** (2008), 273{ 285. (with M. Anderson, R.C. Brigham, J.R. Carrington, R.P. Vitray, and J. Yellen).
- Maximum demand graphs for eternal security. *J. Combin. Math. Combin. Comput.*, **61** (2007), 111{127. (with M. Anderson, R.C. Brigham, J.R. Carrington, R.P. Vitray, and J. Yellen.)
- Graceful arbitrary super-subdivisions of graphs. *Indian J. Pure Appl. Math.* , **38** (2007), 445{450.
- Graceful graphs with pendant edges. *Australas. J. Combin.*, **33** (2005), 99{107.
- The gracefulfulness of unions of cycles and complete bipartite graphs. *J. Combin. Math. Combin. Comput.*, **52**(2005), 69{78.
- Graceful labeling of chain and corona graphs. *Bul. Inst. Combin. Appl.* , **34** (2002), 17{26.
- Equitable labelings of corona graphs. *J. Combin. Math. Combin. Comput.*, **41** (2002), 139{149.
- Graceful labelings of cyclic snakes. *Ars Combin.*, **60** (2001), 85{96.
- New families of equitable graphs. *Util. Math.* , **60** (2001), 123-1-37.
- On 2-equitable labelings of graphs. *Notas Soc. Mat. Chile (N.S.)*, **15** (1996) No. 1, 97{110. (with H. Hevia).
- Equitable labelings of forest. *Combinatorics and Graph Theory '95* (ed. Y. Alavi). World Scientific, Singapore 1 (1995), 1{26. (with I.J. Dejter and H. Hevia).
- Randomly star-decomposable graphs. *Congr. Numer.*, **64** (1988), 193{195. (with A. Bernasconi, E. Jeltch, C. Troncoso, and S. Ruiz).

#### Other Publications

- Sequence A079273: Wiener index of the caterpillar of diameter 3 where each internal vertex has attached  $n - 2$  pendant vertices. The On-Line Encyclopedia of Integer Sequences. March 31 2023.
- Sequence A115514: Number of 2-element subsets of  $\{1; 2; \dots; n + 2g\}$  such that the absolute difference of the elements is  $k + 1$ , where  $1 \leq k \leq n$ . The On-Line Encyclopedia of Integer Sequences. June 27 2022.
- Sequence A008805: Number of connected bipartite graphs with  $n + 1$  edges and a stable set of cardinality 2. The On-Line Encyclopedia of Integer Sequences. June 15 2022.
- Sequence A000096: Number of bipartite graphs with  $2n$  or  $2n + 1$  edges, no isolated vertices, and a stable set of cardinality 2. The On-Line Encyclopedia of Integer Sequences. June 13 2022.
- Sequence A008611: Number of multiples of 3 between  $n$  and  $2n$ . The On-Line Encyclopedia of Integer Sequences. December 20 2021.
- Sequence A001900: Number of 0-1 square matrices of order  $n + 1$  with exactly  $2n + 1$  nonzero entries where the cell  $(i; j)$  is 1 for all  $i + j = n + 2$  and every descending diagonal has exactly one 1. The On-Line Encyclopedia of Integer Sequences. July 17 2021.
- Sequence A061925: Number of square polyominoes with at least  $2n - 2$  cells whose bounding box has order  $2 \leq n$ . The On-Line Encyclopedia of Integer Sequences. January 1 2021.
- Sequence A102526: Number of homeomorphically irreducible caterpillars with  $n + 3$  edges. The On-Line Encyclopedia of Integer Sequences. September 12 2020.
- Sequence A102541: Number of irreducible caterpillars with  $n + 3$  edges and diameter  $k + 2$ . The On-Line Encyclopedia of Integer Sequences. April 5 2020.
- Sequence A329910: Number of harmoniously labeled graphs with  $n$  edges and at most  $n$  vertices. The On-Line Encyclopedia of Integer Sequences. November 23 2019.

Sequence A308203: Number of non-isomorphic  $kC_n$ -snakes for  $n \geq 3$  and  $k \geq 2$ . The On-Line Encyclopedia of Integer Sequences. May 15 2019.

Sequence A071232: Number of non-isomorphic  $8C_m$ -snakes. The On-Line Encyclopedia of Integer Sequences. May 16 2019.

- Sequence A057979: Number of non-isomorphic outerplanar graphs of order  $n \geq 3$ , maximum degree 3, and largest possible size. The On-Line Encyclopedia of Integer Sequences (with S. Minion). February 27 2018.
- Sequence A003453: Number of non-isomorphic outerplanar graphs of order  $n \geq 3$  and size  $n + 2$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). February 27 2018.
- Sequence A194005: Number of symmetric binary strings of odd length  $n$  with Hamming weight  $k > 0$  and no consecutive 1's. The On-Line Encyclopedia of Integer Sequences (with S. Minion). February 27 2018.
- Sequence A016777: The size of any snake polyomino with  $n$  cells. The On-Line Encyclopedia of Integer Sequences (with S. Minion). February 27 2018.
- Sequence A255908: Number of  $\{0, 1\}$ -labeled graphs with  $n$  edges whose labeling is bipartite with boundary value  $0$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). March 10 2015.
- Sequence A085527: Number of  $\{0, 1\}$ -labeled graphs with  $n$  vertices. The On-Line Encyclopedia of Integer Sequences (with S. Minion). February 20 2015
- Sequence A241094: Number of  $\{0, 1\}$ -labeled graphs that do not use the label  $i$ , where  $1 \leq i \leq n - 1$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). April 15 2014
- Sequence A245517: Number of  $\{0, 1\}$ -labeled graphs with  $n$  edges and boundary value  $0$  that do not use one number from  $\{1; 2; \dots; n - 1\}$  as a label,  $n \geq 4, 1 \leq i \leq n - 2$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). July 24 2014.
- Sequence A245518: Number of  $\{0, 1\}$ -labeled graphs with  $n$  edges that do not use the label  $i$  for  $1 \leq i \leq n - 1$  and  $n \geq 4$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). July 24 2014.
- Sequence A245519: Number of  $\{0, 1\}$ -labeled graphs with  $n$  edges and at most  $n$  vertices,  $n \geq 1$ . The On-Line Encyclopedia of Integer Sequences (with S. Minion). July 24 2014.