



Rio Workshop on
Extremal and Structural Combinatorics

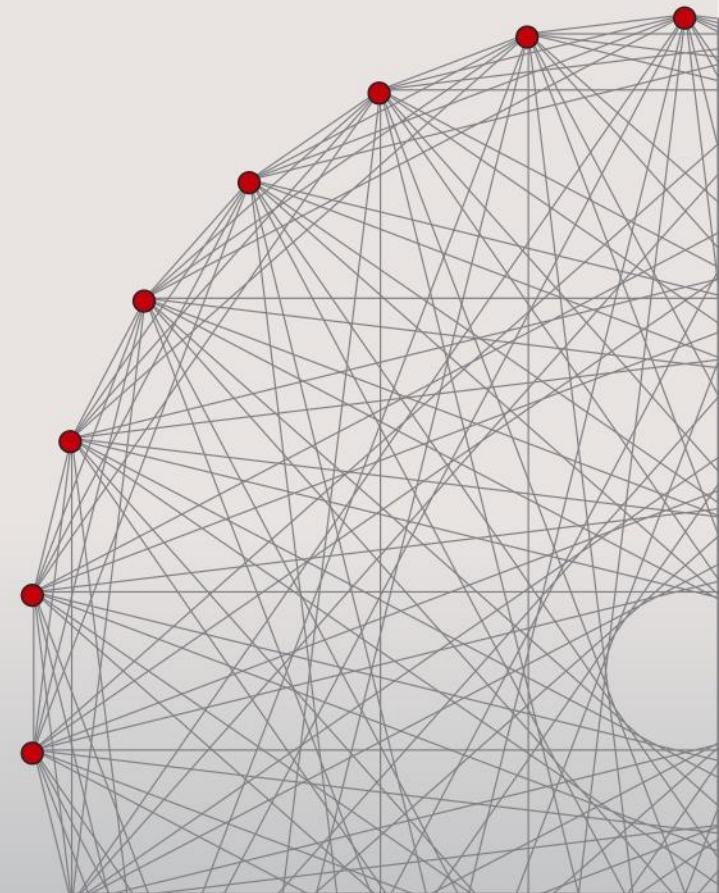
IMPA, Rio de Janeiro, Brazil
Jan 7 - 21, 2018

CERTIFICATE

We hereby certify that, **Andrew Treglown, University of Birmingham**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Tilings in graphs and directed graphs**”.

Rio de Janeiro, January 22nd, 2018.

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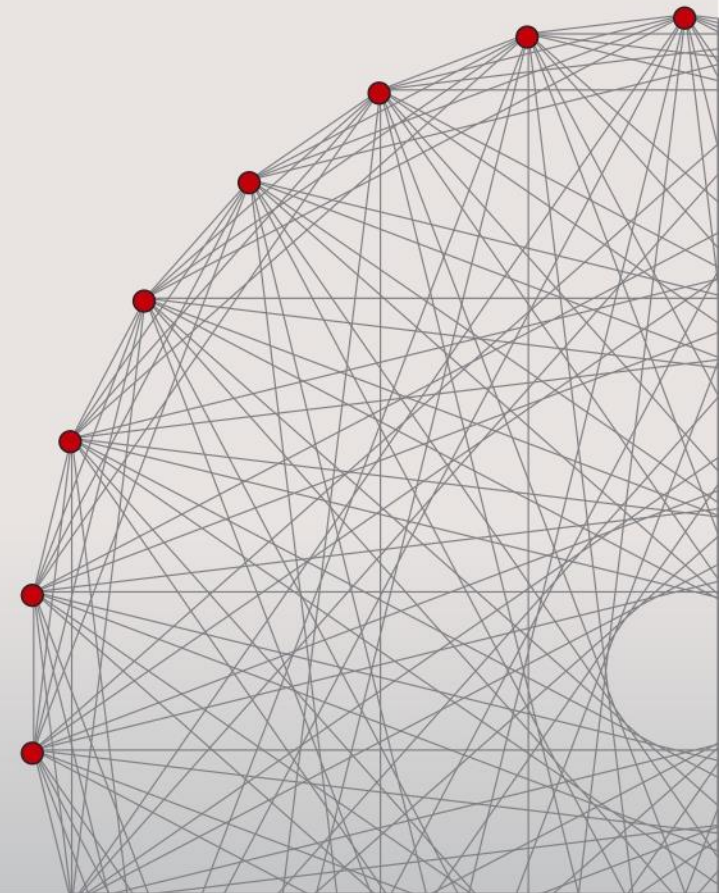
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CERTIFICATE

We hereby certify that, **Alexander Scott, Oxford University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“**Graphs of large chromatic number**”.

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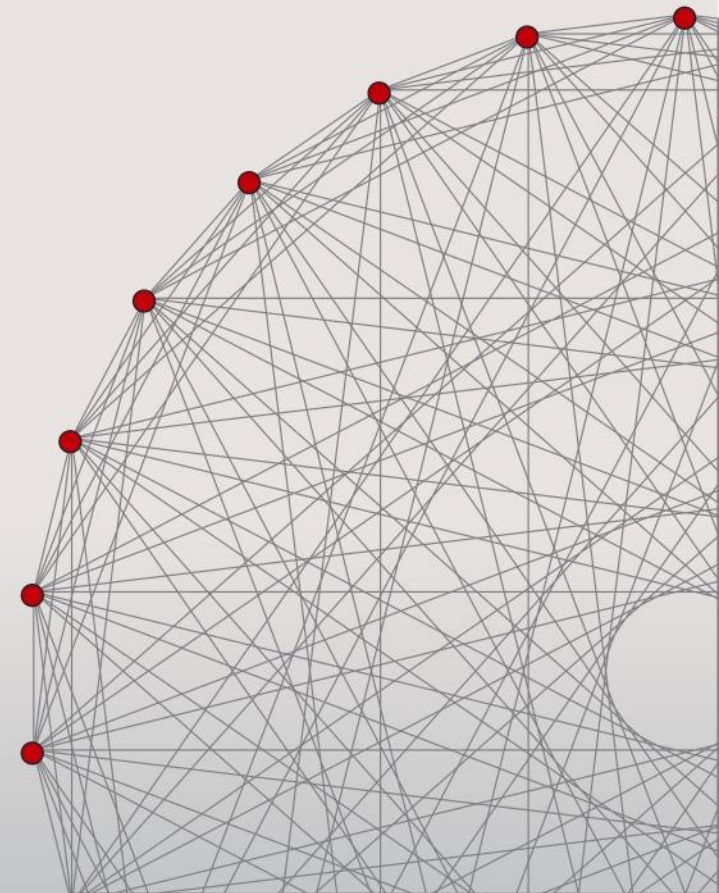
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We hereby certify that, **Andrew Thomason, Clare College Cambridge**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Containers – an overview**”.

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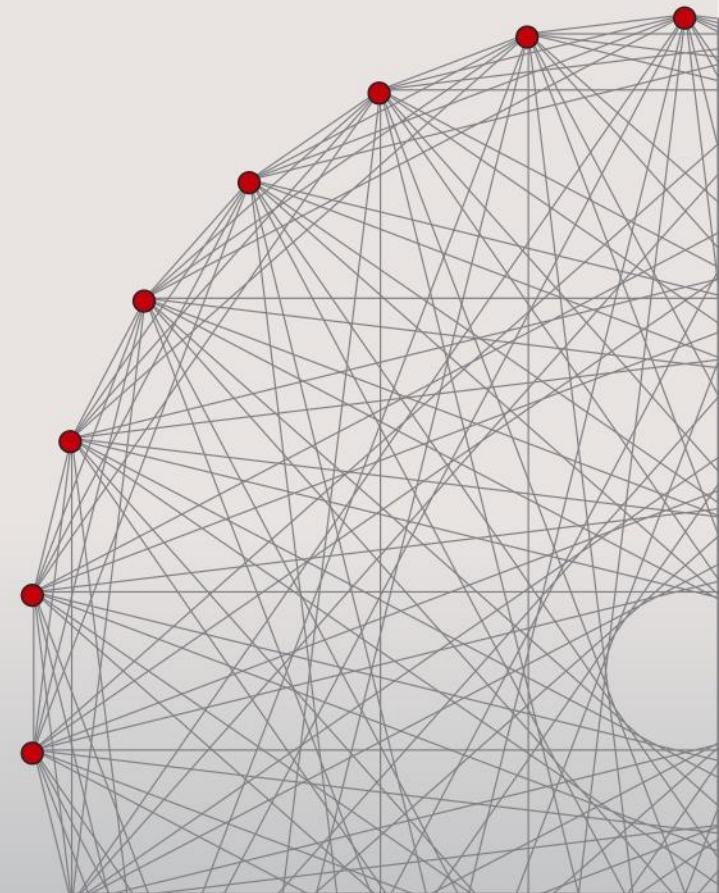
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We hereby certify that, **Chinh Hoang, Wilfrid Laurier University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**The coloring problem for restricted graph classes**”.

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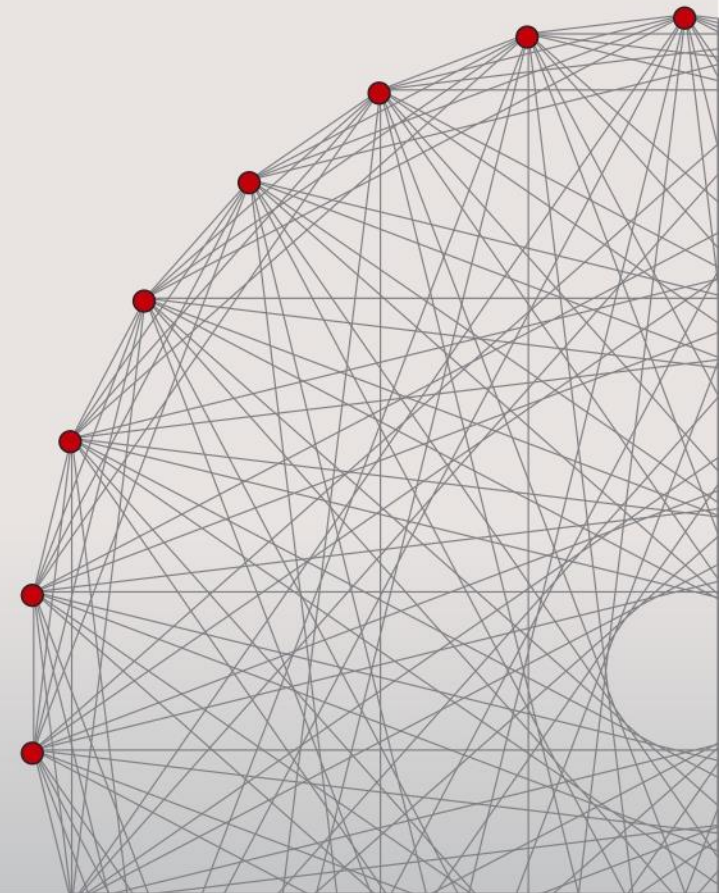
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We hereby certify that, **Chun-Hung Liu, Princeton University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Clustered coloring and conjectures of Hajos, Gerards and Seymour**”.

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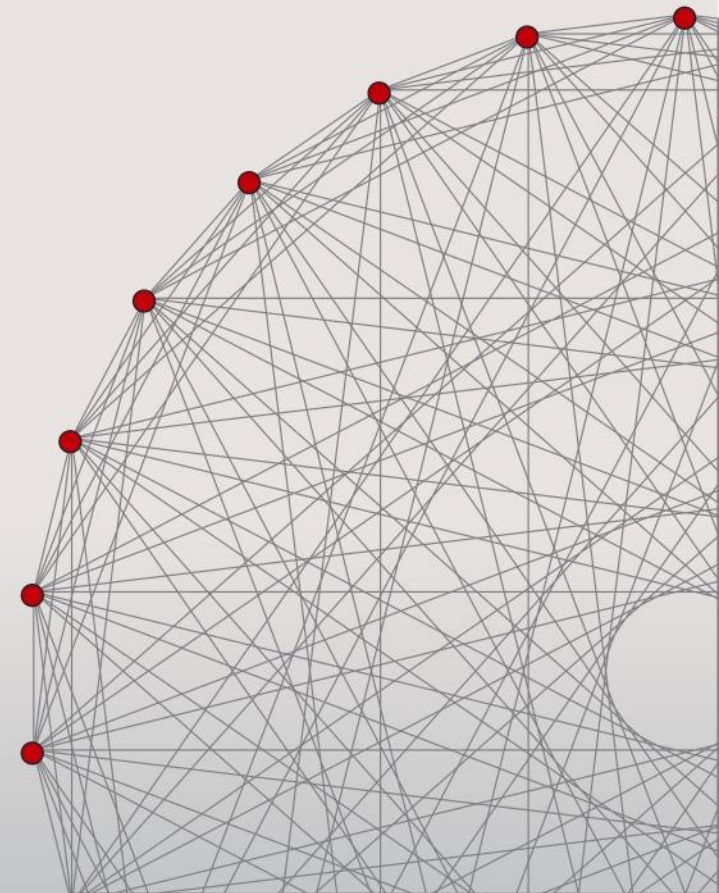
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We hereby certify that, **Daniel Quiroz**, **Center for Mathematical Modeling - Chile**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Generalised colouring numbers of minor closed classes**”.

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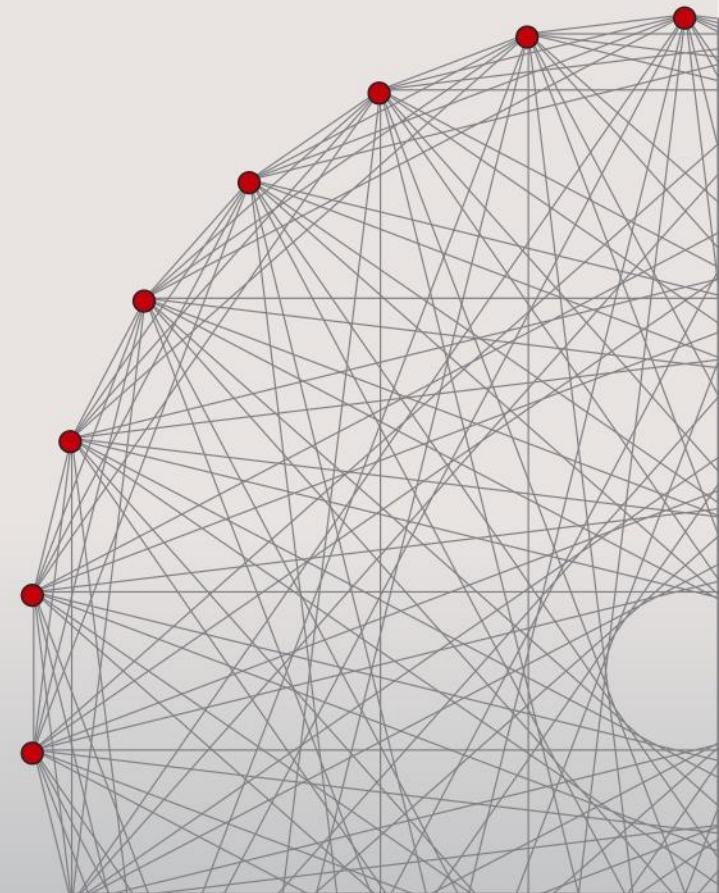
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We hereby certify that, **Dhruv Mubayi, University of Illinois**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**New Developments in Hypergraph Ramsey Theory**”.

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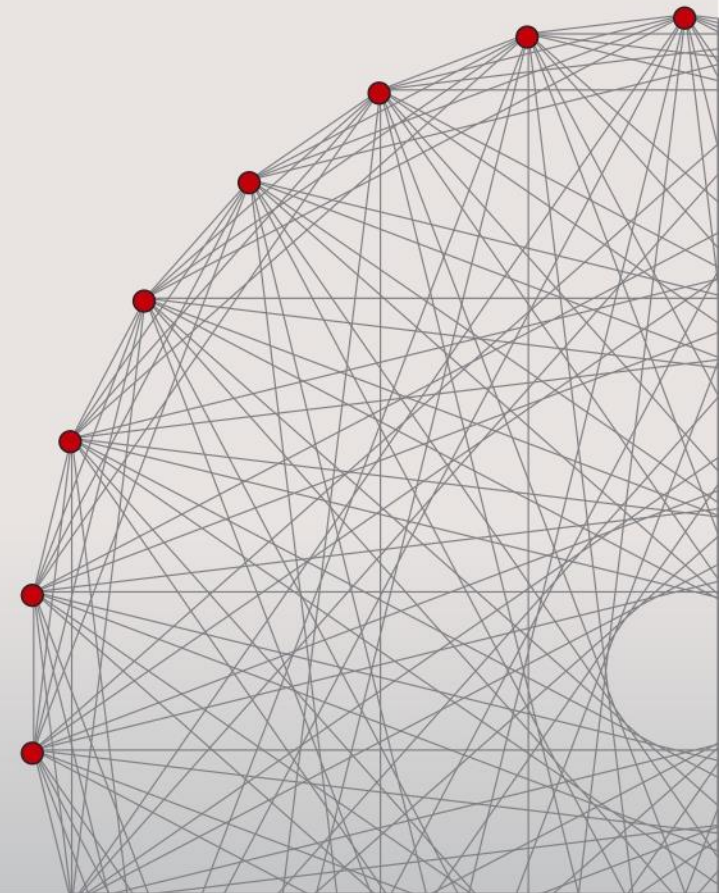
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We hereby certify that, **Eoin Long, University of Oxford**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“Isoperimetric stability for the cube”.

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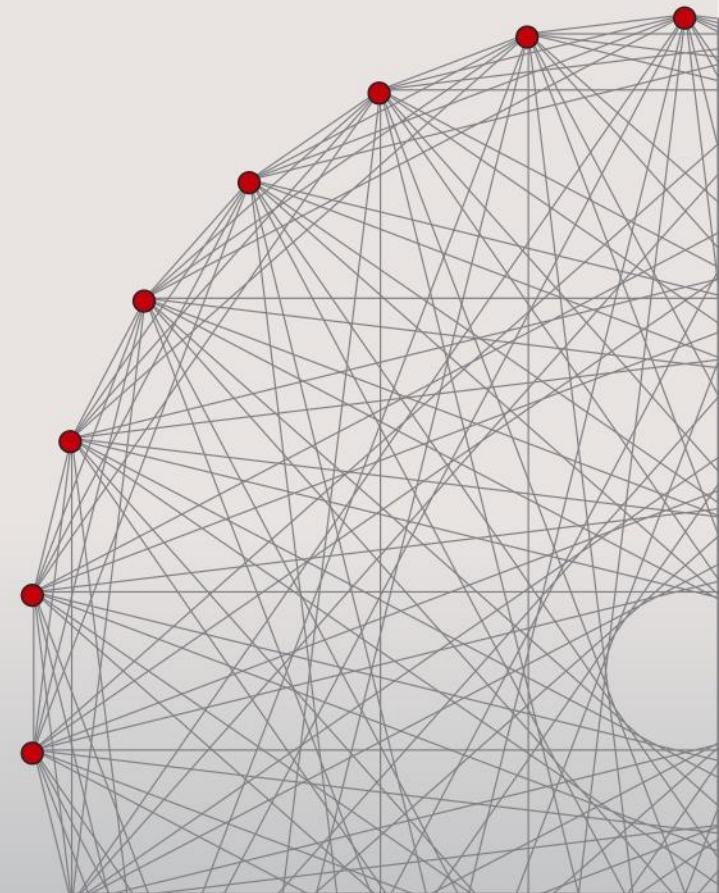
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We hereby certify that, **Guilherme Oliveira Mota**, **Universidade Federal do ABC**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Monochromatic trees in random graphs**”.

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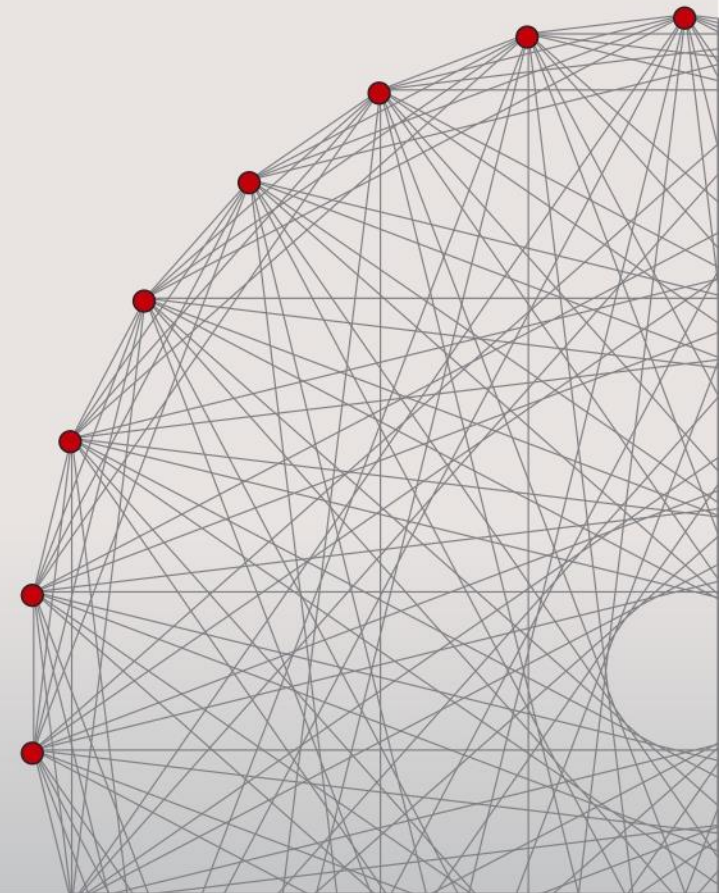
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We hereby certify that, **Gweneth McKinley**, **Massachusetts Institute of Technology**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Counting H-free graphs for bipartite H**”.

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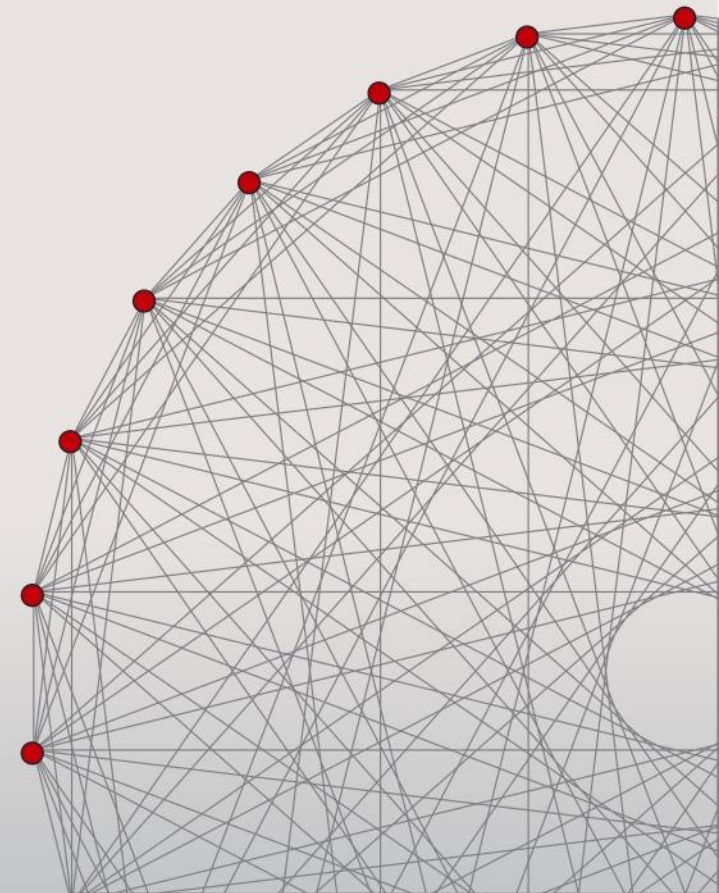
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We hereby certify that, **Jacques Verstraete**, **University of California at San Diego**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Clique and biclique covering problems**”.

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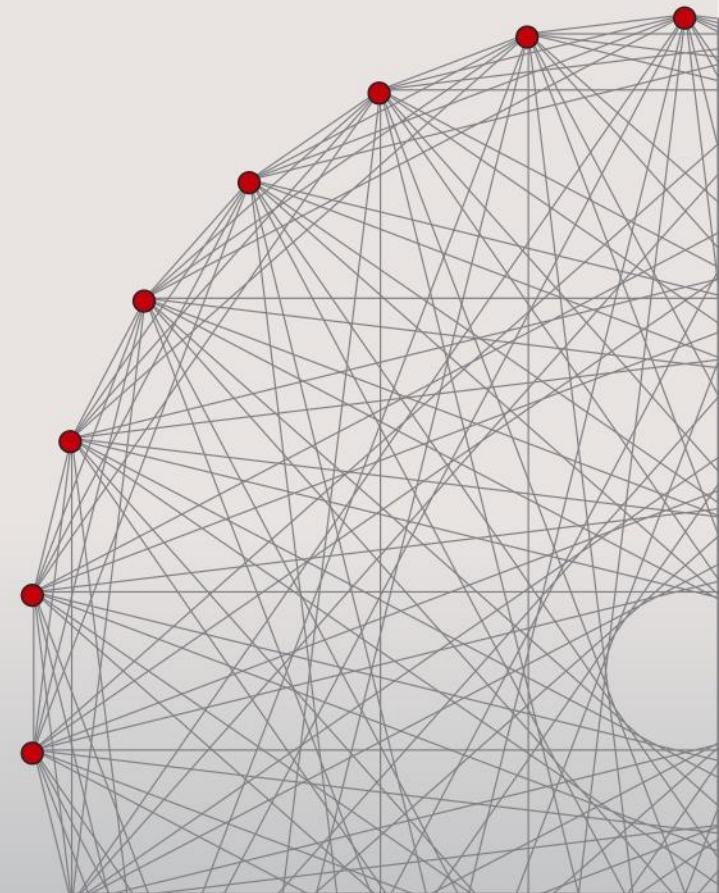
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We hereby certify that, **Jie Han**, **Inst. de Matemática, Est. e Ciência da Computação**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**The complexity of perfect matchings and packings in dense hypergraphs**”.

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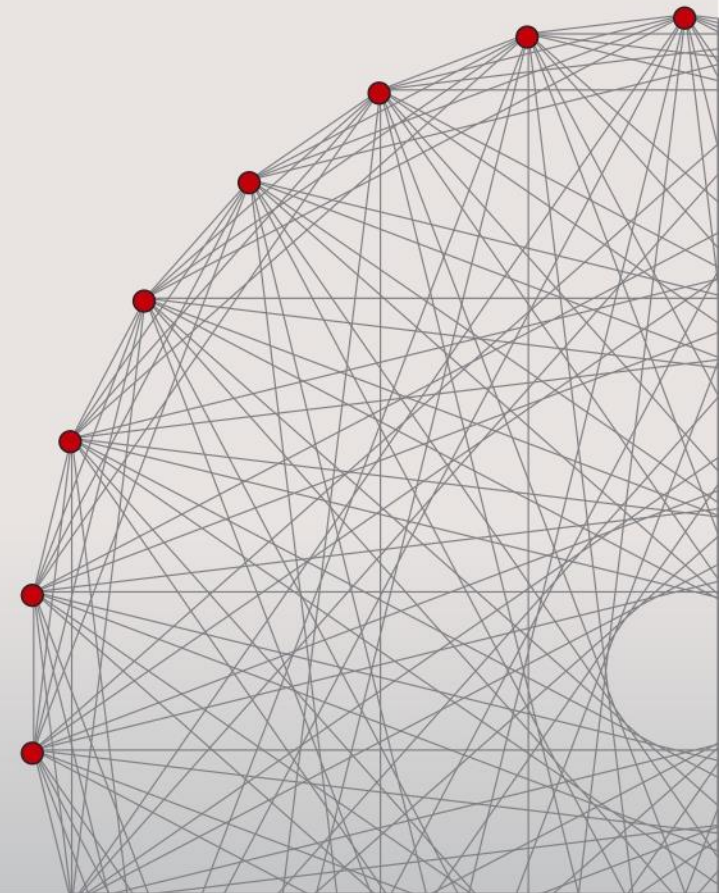
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We hereby certify that, **Jozef Skokan**, **London School of Economics and Political Science**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Cycle Partitioning in Hypergraphs**”.

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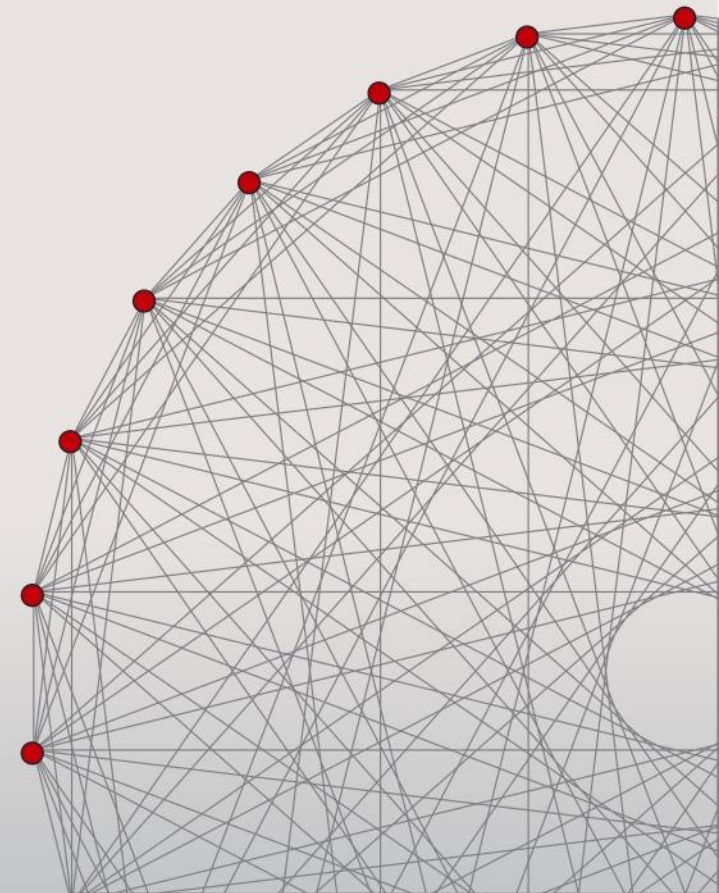
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We hereby certify that, **Liana Yepremyan, Oxford University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Large independent sets in triangle-free graphs avoiding a clique-minor**”.

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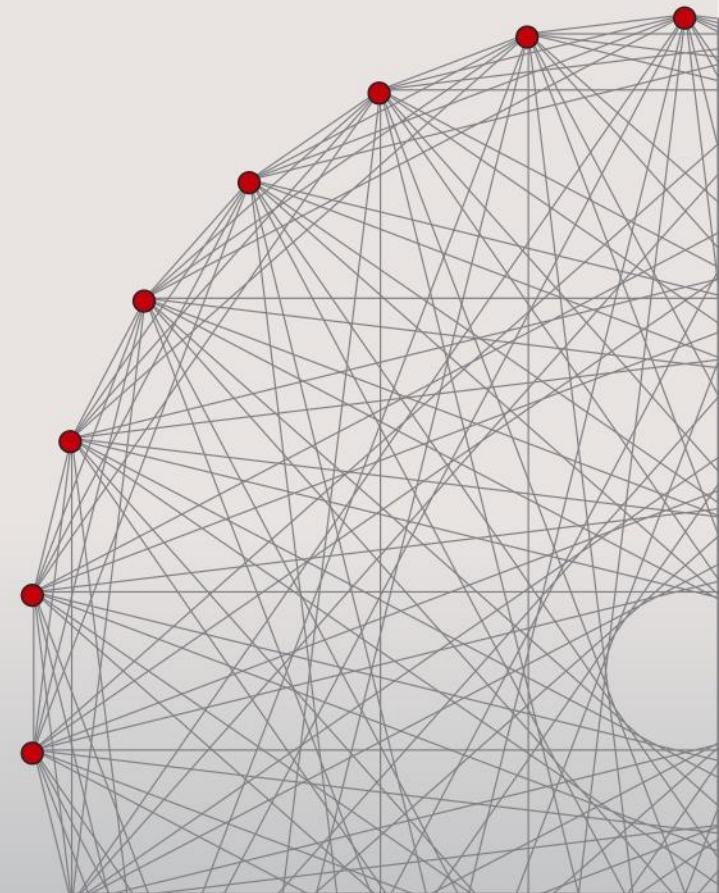
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We hereby certify that, **Louis DeBiasio, Miami University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“Spanning trees with few branch vertices”.

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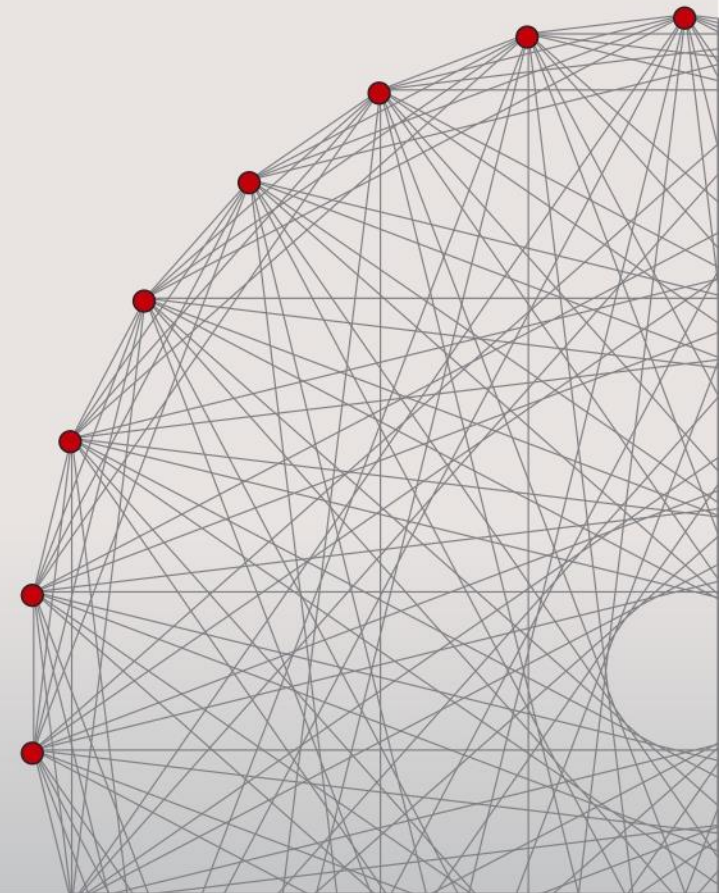
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We hereby certify that, **Maria Chudnovsky, Princeton University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**4-coloring graphs with no induced 6-vertex path**”.

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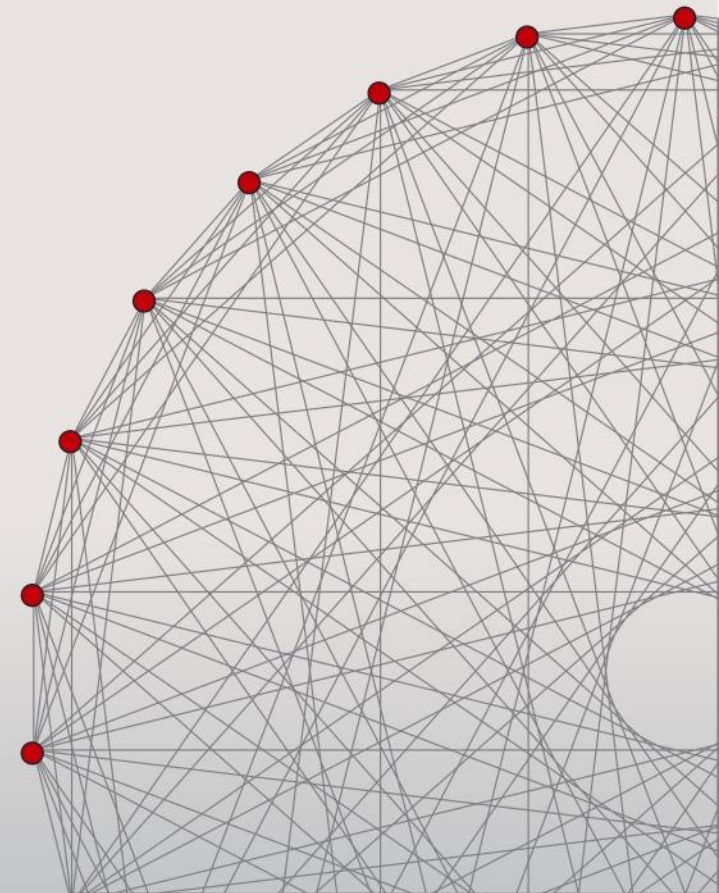
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We hereby certify that, **Matias Pavez Signe**, **Universidad de Chile**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Embedding of trees with bounded maximum degree in dense graphs**”.

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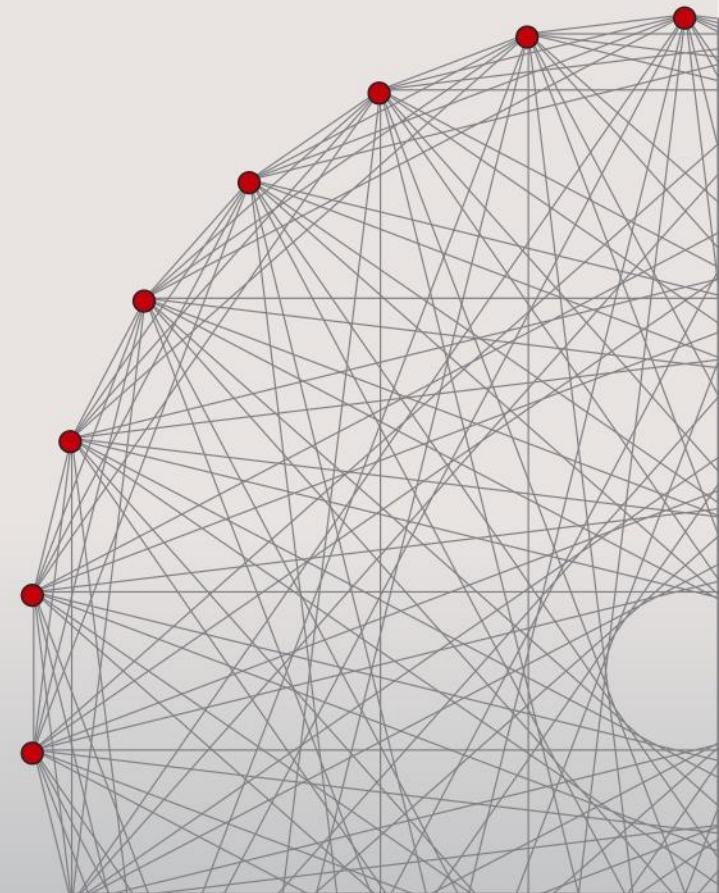
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We hereby certify that, **Maya Stein, Universidad de Chile**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“Degree conditions for tree containment and Ramsey numbers of trees”.

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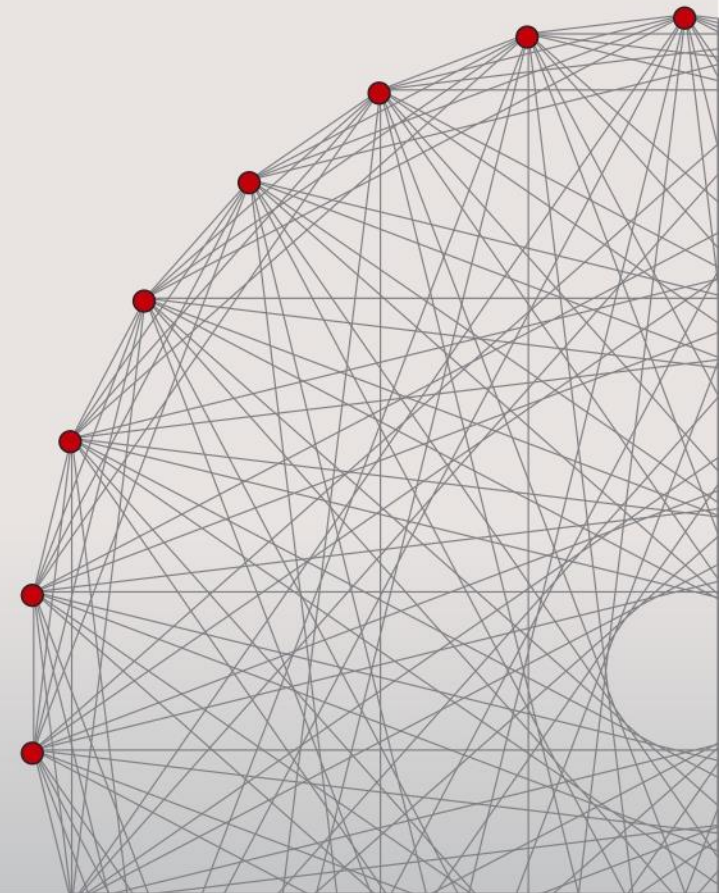
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We hereby certify that, **Paul Seymour, Princeton University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“Gyarfas-Sumner meets Erdos-Hajnal”.

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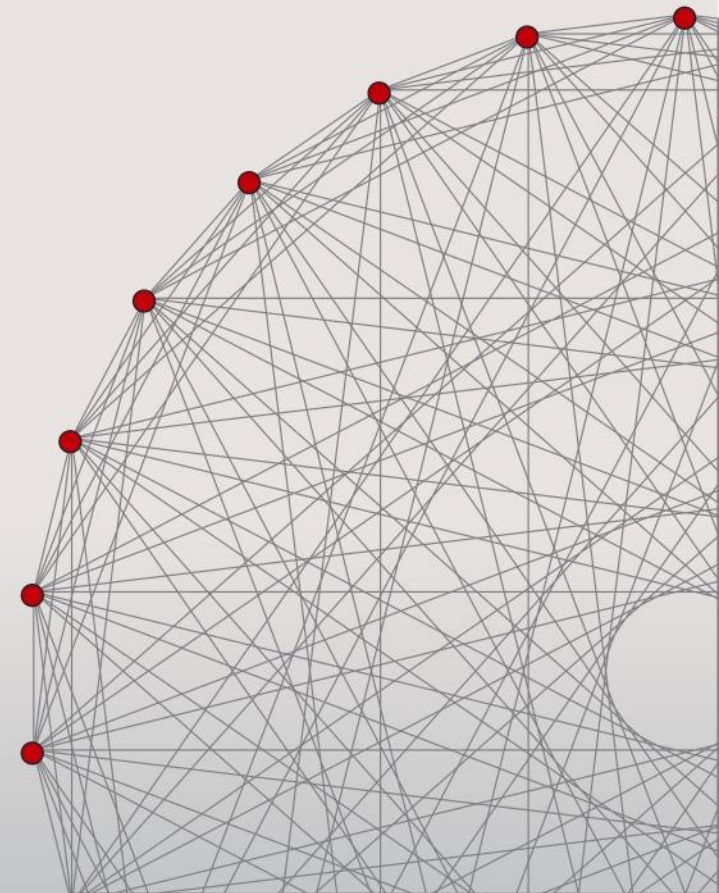
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We hereby certify that, **Penny Haxell, University of Waterloo**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Chromatic index of random multigraphs**”.

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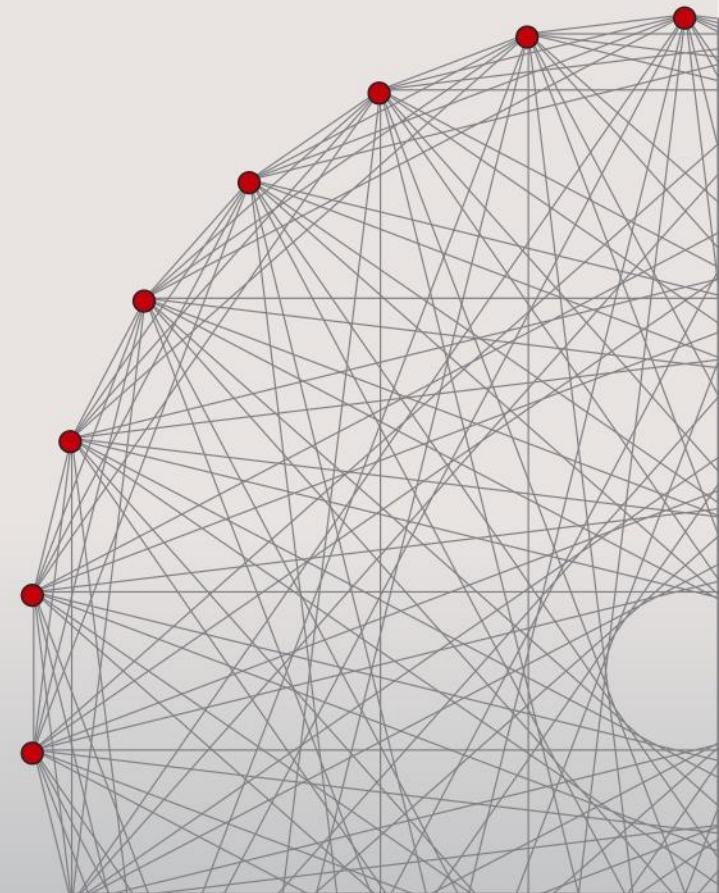
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We hereby certify that, **Peter Keevash, Oxford University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work:
“More designs”.

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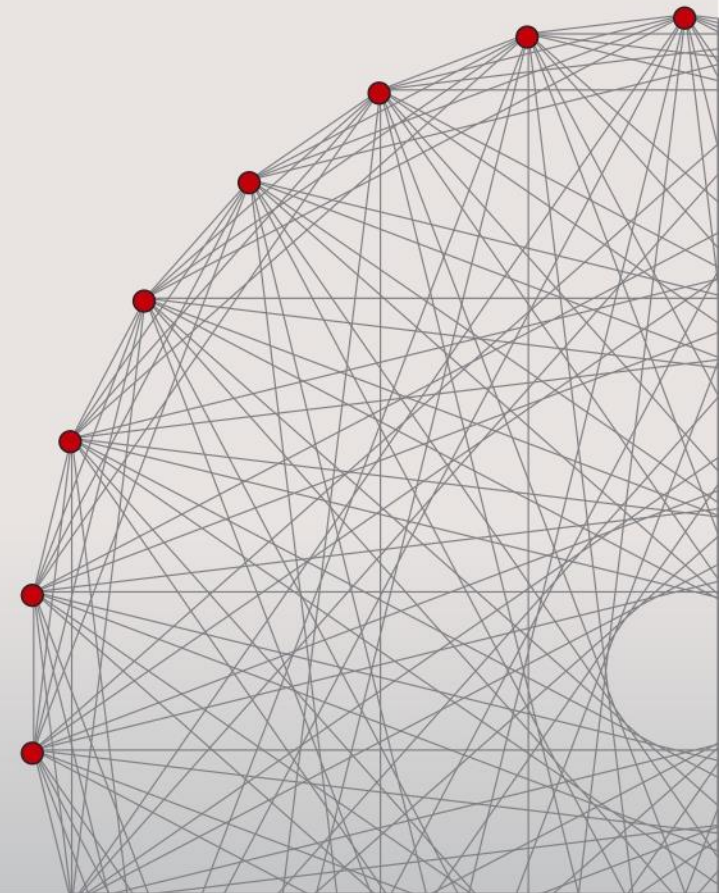
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We hereby certify that, **Richard Lang, University of Birmingham**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**Partitioning non-complete graphs into monochromatic cycles**”.

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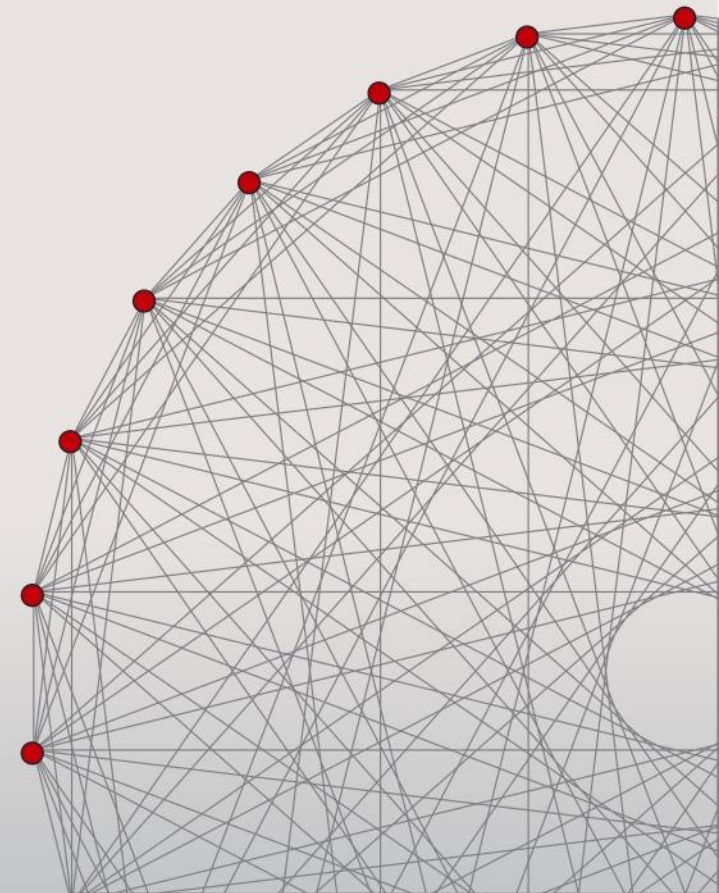
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We hereby certify that, **Yelena Yuditsky, McGill University**, participated in the Rio Workshop on Extremal and Structural Combinatorics, held at Instituto Nacional de Matemática Pura e Aplicada - IMPA - Rio de Janeiro, January 7 – 21, 2018 and presented the following work: “**The structure of almost all string graphs**”.

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