

## Chi Ho YUEN

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CONTACT INFORMATION	Niels Henrik Abels hus, Room 1107 University of Oslo, Moltke Moes vei 35 0851 Oslo, Norway	chihy@math.uio.no <a href="https://yuenchiho.github.io/">https://yuenchiho.github.io/</a>
EMPLOYMENT	2021 – current <b>University of Oslo</b> Postdoctoral Fellow 2019 – 2021 <b>Brown University</b> Croucher Postdoctoral Fellow 2018 – 2019 <b>University of Bern</b> Postdoctoral Researcher	
EDUCATION	2012 – 2018 <b>Georgia Institute of Technology</b> Ph.D. in Algorithms, Combinatorics, and Optimization Advisor: Matthew Baker Thesis: Geometric Bijections of Graphs and Regular Matroids Minor: Algorithms with Randomness 2008 – 2012 <b>The Chinese University of Hong Kong</b> B.Sc. in Mathematics (First Class Honor) B.Eng. in Information Engineering (First Class Honor)	
PUBLICATIONS	Filtrations of the Tope Space of an Oriented Matroid. With Kris Shaw. In preparation.  Critical Groups of Adinkras up to 2-Rank of Cayley Graphs. Submitted. Preprint available at <a href="https://arxiv.org/abs/2301.02517">https://arxiv.org/abs/2301.02517</a> .  Eigenvalues and Critical Groups of Adinkras. With Kevin Iga, Caroline Klivans, and Jordan Kostiuk. <i>Advances in Applied Mathematics</i> <b>143</b> , Paper No. 102450, 2023.  Sandpile Groups of Cayley Graphs of $\mathbb{F}_2^r$ . With Jiyang Gao, Jared Marx-Kuo, and Vaughan McDonald. Submitted. Preprint available at <a href="https://arxiv.org/abs/1912.06919/">https://arxiv.org/abs/1912.06919/</a> .  Critical Groups of Strongly Regular Graphs and Their Generalizations. With Kenneth Hung. <i>Innovations in Incidence Geometry: Algebraic, Topological and Combinatorial</i> <b>19</b> , 95–109, 2022.  Oriented Matroids from Triangulations of Products of Simplices. With Marcel Celaya and Georg Loho. Submitted. Preprint available at <a href="https://arxiv.org/abs/2005.01787/">https://arxiv.org/abs/2005.01787/</a> .  Patchworking Oriented Matroids. With Marcel Celaya and Georg Loho. <i>Journal of the London Mathematical Society</i> <b>106</b> , 3545–3576, 2022.  The Dimension of an Amoeba. With Jan Draisma and Johannes Rau. <i>Bulletin of the London Mathematical Society</i> <b>52</b> , 16–23, 2020.  Topological Bijections for Oriented Matroids. With Spencer Backman and Francisco Santos. <i>Séminaire Lotharingien de Combinatoire</i> <b>82B</b> , Art. 39, 12 pp, 2020.	

On the Number of Circuit-cocircuit Reversal Classes of an Oriented Matroid.  
With Emeric Gioan.

*Discrete Mathematics* **342**, 1056–1059, 2019.

Geometric Bijections for Regular Matroids, Zonotopes, and Ehrhart Theory.  
With Spencer Backman and Matthew Baker.

*Forum of Mathematics, Sigma* **7**, e45, 37pp, 2019.

Geometric Bijections Between Spanning Trees and Break Divisors.

*Journal of Combinatorial Theory, Series A* **152**, 159–189, 2017.

SELECTED HONORS,	2019 – 2021	Croucher Fellowship for Postdoctoral Research
AWARDS AND	2018 – 2019	Georgia Tech School of Mathematics Best PhD Thesis Award
SCHOLARSHIPS	Spring 2018	Institut Mittag-Leffler Fellowship
	Summer 2011	Caltech – Hong Kong Undergraduate Research Fellowship

#### SELECTED TALKS **Filtrations of Tope Spaces of Oriented Matroids**

QMUL Workshop on Matroids and Tropical Combinatorics. (January 2023)

KTH Combinatorics Seminar. (November 2022)

#### **The Critical Groups of Adinkras**

Brandeis Combinatorics Seminar. (November 2021)

#### **Oriented Matroids from Triangulations of Products of Simplices**

CAS Workshop on Real Structures in Geometry. (August 2021)

AMS Fall Central Sectional Meeting, Special Session on Algebraic, Geometric & Topological Combinatorics. (September 2020)

InterCity (Neuchâtel–Fribourg–Bern) Seminar. (February 2020)

#### **The Dimension of an Amoeba**

Scandinavian Gathering Around Remarkable Discrete Mathematics. (May 2019)

Georgia Tech Algebra Seminar. (January 2019)

#### **Geometric Bijections of Graphs and Regular Matroids**

CIRM Workshop on Combinatorial Geometries. (September 2018)

Institut Mittag-Leffler Seminar. (February 2018)

MIT Combinatorics Seminar. (October 2017)

Atlanta Lecture Series in Combinatorics and Graph Theory. (September 2017)

Brown University Discrete Math Seminar. (May 2017)

BIRS–CMO Workshop on Sandpile Groups. (November 2015)

Cornell Combinatorics and Discrete Geomtry Seminar. (April 2015)

#### MENTORING EXPERIENCES

##### **At University of Oslo**

Spring 23 Undergraduate Project (MAT2000) of Trond Skaret Johansen

##### **At Brown University**

2020–2021 Senior Honor Thesis of Nathan Zelesko (Co-advising with Melody Chan)

#### TEACHING EXPERIENCES

##### **Lecturer at University of Oslo**

Spring 22 Groups, Rings and Fields (Co-lecturing with Kris Shaw)

##### **Assistant at University of Bern**

Spring 19 Algorithms in Algebra

Fall 18 Mathematik I für Naturwissenschaften

Fall 18 Seminar: Tensors, Geometry and Applications

##### **Instructor at Georgia Tech**

Summer 18 Introduction to Discrete Mathematics

Fall 16 Grad Level Graph Theory (Co-lecturing with Robin Thomas)

**Teaching Assistant at Georgia Tech**

Fall 17      Introduction to Discrete Mathematics  
Fall 16      Linear Algebra with Abstract Vector Spaces  
Fall 15      Introduction to Discrete Mathematics  
Fall 14      Honors Calculus II  
Fall 13      Calculus II  
Fall 12      Calculus III

**Other Teaching**

Summer 14   Towards Diff. Geometry (Head Tutor of EPYMT at CUHK)

OTHER SERVICES   Referee for *PNAS*, *Forum of Mathematics*, *Sigma*, *SIAM Journal on Applied Algebra and Geometry*, *Combinatorial Theory*, *Combinatorica*, *Algebraic Combinatorics*, *European Journal of Combinatorics*, *Electronic Journal of Combinatorics*, *Discrete Mathematics*, *Discrete Applied Mathematics*, and *FPSAC International Conference*.

Committee Member of the Major Exam of Changxin Ding (Brandeis, 2021).

Co-organizer of the minisymposium *Chip-firing and Tropical Curves* at the SIAM Conference on Applied Algebraic Geometry 2019.

Coordinator of the 57th International Mathematical Olympiad.