

## Chi Ho YUEN

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CONTACT INFORMATION	Dept. of Applied Mathematics, Office 341 Science Bld. 1, NYCU 1001 Daxue Rd., East District Hsinchu 30009, Taiwan	chyuen@math.nctu.edu.tw <a href="https://yuenchiho.github.io/">https://yuenchiho.github.io/</a>
EMPLOYMENT	2024 – current	<b>National Yang Ming Chiao Tung University</b> Assistant Professor (Tenure-track)
	11/23 – 01/24	<b>University of Copenhagen</b> Postdoctoral Researcher
	2021 – 2023	<b>University of Oslo</b> Postdoctoral Researcher
	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 Tope Spaces of Oriented Matroids. With Kris Shaw. Preprint available at <a href="https://arxiv.org/abs/2501.11295">arXiv:2501.11295</a> .  A Consistent Sandpile Torsor Algorithm for Regular Matroids. With Changxin Ding, Alex McDonough, and Lilla Tóthmérész. Submitted. Preprint available at <a href="https://arxiv.org/abs/2407.03999">arXiv:2407.03999</a> .  Oriented Matroids from Triangulations of Products of Simplices. With Marcel Celaya and Georg Loho. <i>Selecta Mathematica, New Series</i> <b>30</b> , Art. 47, 32pp, 2024.  The Amoeba Dimension of a Linear Space. With Jan Draisma, Sarah Eggleston, Rudi Pendavingh, and Johannes Rau. <i>Proceedings of the American Mathematical Society</i> <b>152</b> , 2385–2401, 2024.  Critical Groups of Adinkras up to 2-Rank of Cayley Graphs. <i>Electronic Journal of Combinatorics</i> <b>31</b> , Paper No. 1.38, 9pp, 2024.  Sandpile Groups of Cayley Graphs of $\mathbb{F}_2^r$ . With Jiyang Gao, Jared Marx-Kuo, and Vaughan McDonald. <i>Communications in Algebra</i> <b>52</b> , 4459–4479, 2024.  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, 45pp, 2023.  Patchworking Oriented Matroids. With Marcel Celaya and Georg Loho. <i>Journal of the London Mathematical Society</i> <b>106</b> , 3545–3576, 2022.	

Critical Groups of Strongly Regular Graphs and Their Generalizations.  
 With Kenneth Hung.  
*Innovations in Incidence Geometry: Algebraic, Topological and Combinatorial* **19**, 95–109, 2022.

The Dimension of an Amoeba.  
 With Jan Draisma and Johannes Rau.  
*Bulletin of the London Mathematical Society* **52**, 16–23, 2020.

Extension-lifting Bijections for Oriented Matroids.  
 With Spencer Backman and Francisco Santos.  
 Submitted. Preprint available at arXiv:1904.03562.

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 TALKS

##### **Filtrations of Topes Spaces of Oriented Matroids**

MIT-Harvard Combinatorics Seminar. (September 2023)

KTH Combinatorics Seminar. (November 2022)

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

TMS Annual Meeting. (January 2025)

Brandeis Combinatorics Seminar. (November 2021)

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

BIRS Workshop on Algebraic Aspects of Matroid Theory. (March 2023)

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

AMS Sectional Meeting, Special Session on Algebraic, Geometric & Topological Combinatorics. (September 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 Geometry Seminar. (April 2015)

#### SELECTED

#### TEACHING

#### EXPERIENCES

##### **Lecturer at NYCU**

Spring 25 Calculus A (II)

Spring 25 Introduction to Combinatorics

Fall 24 Calculus A (I)

Spring 24 Calculus A (II)

Spring 24 Discrete Mathematics

**Lecturer at University of Copenhagen**

Block 2 23-24 Invitation to Combinatorics

**Lead Instructor at Georgia Tech**

Summer 18 Introduction to Discrete Mathematics

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

**Assistant at University of Bern**

Mathematik I für Naturwissenschaften, Algorithms in Algebra, Seminar: Tensors, Geometry and Applications

**Teaching Assistant at Georgia Tech**

Calculus II, Calculus III, Honors Calculus II/Linear Algebra with Abstract Vector Spaces, Introduction to Discrete Mathematics

**GRADUATE  
STUDENTS****At NYCU**

2024 – Y.C. Yu (master student)

**OTHER MENTORING  
EXPERIENCES****At NYCU**

Summer 24 Summer Research Internship of P.H. Chen and W.S. Wu

**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)

**RESEARCH GRANT**

2024 – 2025

NSTC Grant MOST 113-2115-M-A49-004-MY2

**SELECTED HONORS,  
AWARDS AND  
SCHOLARSHIPS**

2019 – 2021

Croucher Fellowship for Postdoctoral Research

2018 – 2019

Georgia Tech School of Mathematics Best PhD Thesis Award

Spring 2018

Institut Mittag-Leffler Fellowship

Summer 2011

Caltech – Hong Kong Undergraduate Research Fellowship

**ORGANIZED  
EVENTS**Co-organizer of the first *MaP-Trop* seminar series at KTH and UiO (Jan 2024).Co-organizer of the minisymposium *Chip-firing and Tropical Curves* at SIAMAG 19.**REFeree DUTIES**

PNAS, Forum of Mathematics, Sigma, Journal of the LMS, Research in the Mathematical Sciences, SIAM Journal on Applied Algebra and Geometry, Combinatorial Theory, Combinatorica, Algebraic Combinatorics, SIAM Journal on Discrete Mathematics, European Journal of Combinatorics, Electronic Journal of Combinatorics, Annals of Combinatorics, Discrete Mathematics, Discrete Applied Mathematics, FPSAC International Conference, and American Mathematical Monthly.

**OTHER SERVICES**

Coordinator of the 57th International Mathematical Olympiad.