

## THE SENIOR COLLEGE MESSENGER

Issue 20: June, 2023

*This is an organ for members of Senior College to submit short articles that share news, letters to the editor, reactions to the program and anything that they feel will be of general interest. Its regular appearance will allow for an exchange of opinion of topics of interest to the members. In particular, it would be interesting to record reactions to the talks, colloquium topics and books discussed.*

*Please submit contributions to the editor, Ed Barbeau at [barbeau@math.utoronto.ca](mailto:barbeau@math.utoronto.ca)*

### SYMPOSIUM LINKS

In case you missed the annual symposium in April or wish to have a record of the proceedings, here are a couple of links. The first directs you to the abstracts.

The second will take you to four recorded talks, by Jim Balsillie, Avi Goldfarb, Jon Penney and Laura Rosella.

### IN MEMORIAM

Derek P. H. Allen (1947 - April 27, 2023)

Professor of Philosophy and Honorary Fellow, Trinity College

Ian Hacking (February 18, 1936 - May 10, 2023)

Professor of Philosophy

Rudolf Anton Mathon (July 4, 1940 - May 17, 2022)

Professor of Computer Science, UTM

### CALENDAR OF COMING EVENTS

Events marked with **F** are for fellows and external fellows. Registration a few days ahead is necessary for each event. This can be done in response to a weekly email from Senior College to its members that describes the events or by going on line at [www.seniorcollege.utoronto.ca](http://www.seniorcollege.utoronto.ca) .

*Talks: Wednesdays 2-4 pm*

June 7: Katherine Corcoran, *A murder and a cover-up: the cost of silencing the press* (Zoom)

June 14: Ella Striem-Amit, *Brain plasticity and function from people born without hands* (Zoom)

June 21: Daniel Lang, *The Carnegie Foundation and U of T faculty pensions* (Zoom)

*Book Club: Mondays 2-4 pm (Zoom only) (F)*

June 5: Steven Johnson, *The ghost map: the story of London's most terrifying epidemic – and how it changed science, cities and the modern world* (Leader: William Logan)

July 3: Niccolo Machiavelli, *The Prince (1532)* (Leader: David Milne)

*Meet your colleagues: Thursday, 2-4 pm (Zoom only)*

June 15: Carl Baar

June 22: Peter Alberti

June 29: Deanne Bogdan

July 6: Cynthia Smith

July 13: Ed Barbeau

July 20: Suzanne Hidi

July 27: Hugh Gunz

**Aftermath**

An ancient and enduring branch of mathematics is the geometry that explores relationships involving circles, triangles, quadrilaterals and other plane figures. Most of you will be familiar with the Euclidean geometry that was part of the secondary syllabus, but such topics were explored in Antiquity, not only in Greece, but also in China, India, Egypt and Babylon. In medieval times, the Middle East and India were significant regions of development. During the Edo period in Japan (1603-1867), geometric results were painted on wooden tablets that were hung as objects of devotion in Shinto and Buddhist shrines; this was known as Sangaku.

Despite the simplicity of polygons and circles, new results are continually being discovered. Geometry is an attractive area for amateurs since its study does not require a deep background and there is the chance that someone may hit on a novel theorem. Some of the greatest mathematicians, such as Isaac Newton (1642-1727), Leonard Euler (1707-1783), David Hilbert (1862-1943) and John H. Conway (1937-2020) have also made interesting contributions. Currently, the many mathematical competitions open to both school students and undergraduates have an insatiable appetite for challenges and Euclidean geometry is a prolific source of new material.

A recent result is Conway's Circle Theorem. The setting is a garden-variety triangle. In the diagram below, each side of the triangle that passes through a given vertex has its length extended by the length of the side opposite that vertex. The six endpoints of these extensions all lie on a common circle whose centre is the same as the centre of the circle that lies inside the triangle and is tangent to its three sides (the incircle). Another way of framing the result is that the circle determined by any three of the six points must go through the rest of them.

