Mathematicians I have known

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The Michael and Lily Atiyah Portrait Gallery
James Clerk Maxwell Building, University of Edinburgh

The portraits of mathematicians displayed in this collection have been personally selected by us.

They have been chosen for many different reasons, but all have been involved in our mathematical lives in one way or another; many of the individual texts to the gallery portraits explain how they are related to us.

First, there are famous names from the past – starting with Archimedes – who have built the great edifice of mathematics which we inhabit. This early list could have been more numerous, but it has been restricted to those whose style is most appealing to us.

Next there are the many teachers, both in Edinburgh and in Cambridge, who taught us at various stages, and who directly influenced our careers.

The bulk of the portraits are those of our contemporaries, including some close collaborators and many Fields Medallists.

Lily has a special interest in women mathematicians: they are well represented, both past and present.
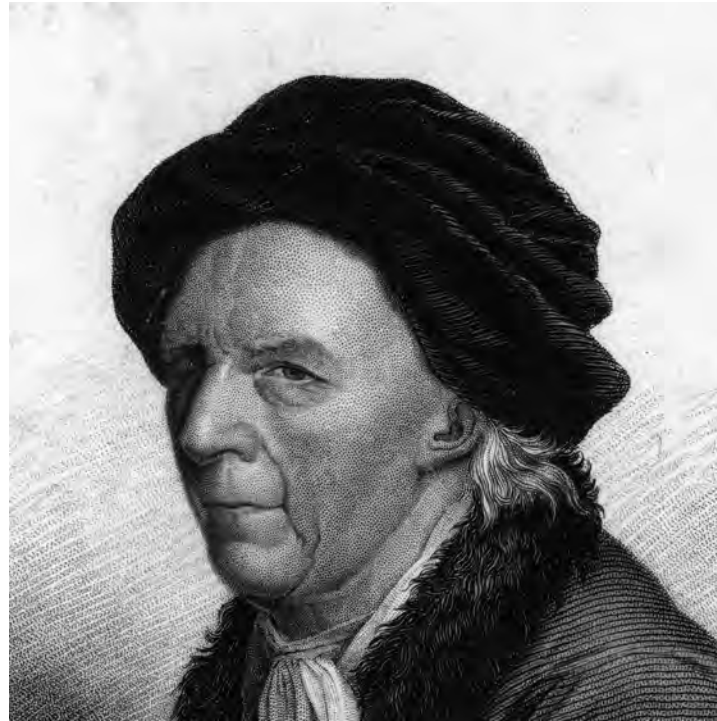
Finally we come to the next generation: our students. Of course, many of the categories overlap, with students later becoming collaborators and friends.

It was hardest to keep the overall number down to seventy, to fit the gallery constraints!

1) Classical

Leonhard Euler

Basel 1707 – St. Petersburg 1783

The most prolific mathematician of any period. His collected works in more than 73 volumes are still in the course of publication.

Niels Henrik Abel

Frindoe 1802 – Froland 1829

Abel was the first great figure to emerge in the new Norway when it freed itself from Denmark.
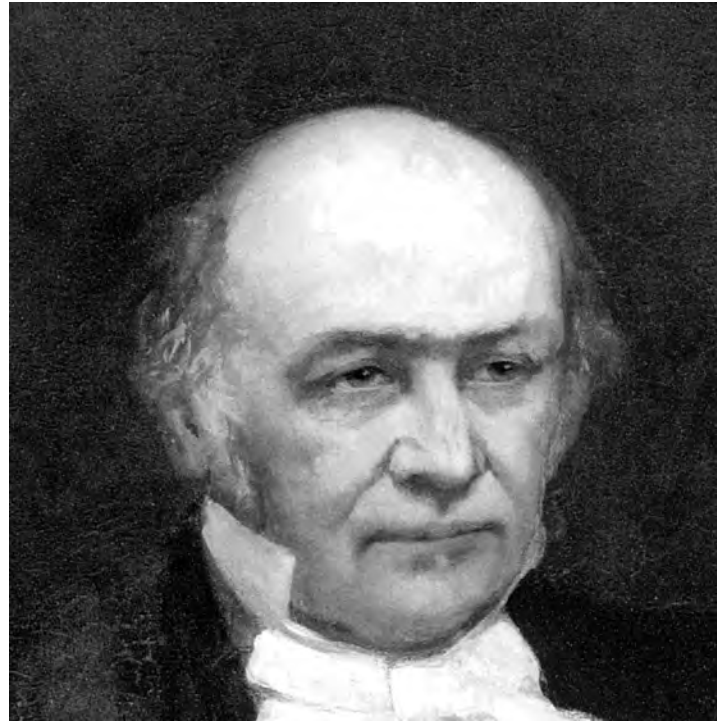
Bernhard Riemann

Breselenz, Hanover 1826 – Selasca, Italy 1866

Riemann's name is attached to many fundamental ideas of our time.
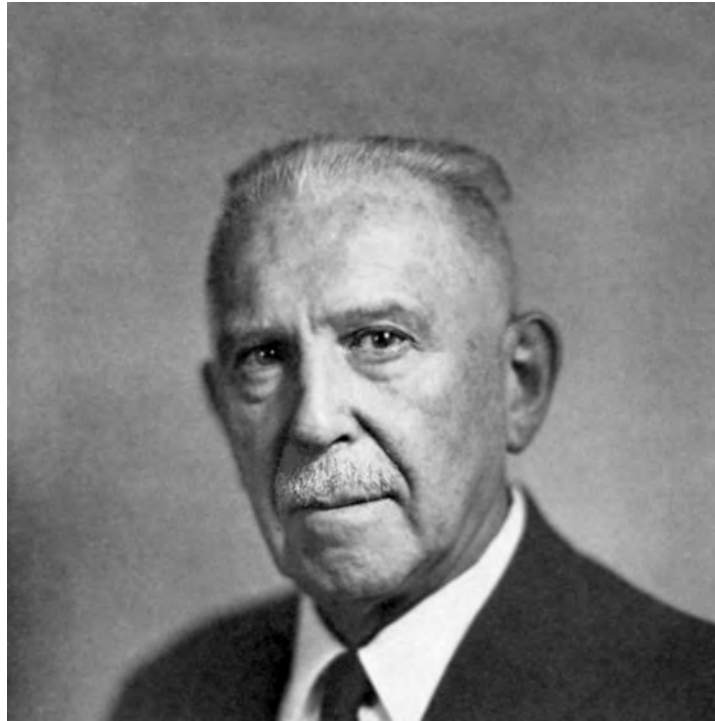
William Rowan Hamilton

Dublin 1805 – 1865

An infant prodigy who spoke many languages at
an early age.

Solomon Lefschetz

Moscow 1884 – Princeton 1972

Lefschetz became a mathematician quite literally by accident.

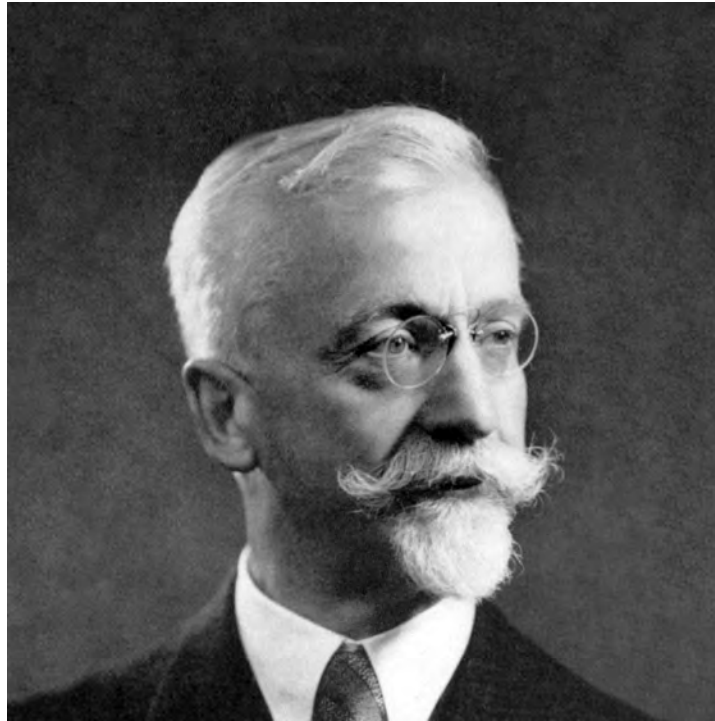# Hermann Weyl

Elmshorn 1885 – Zürich 1955

A mathematician with wide interests and an elegant style.

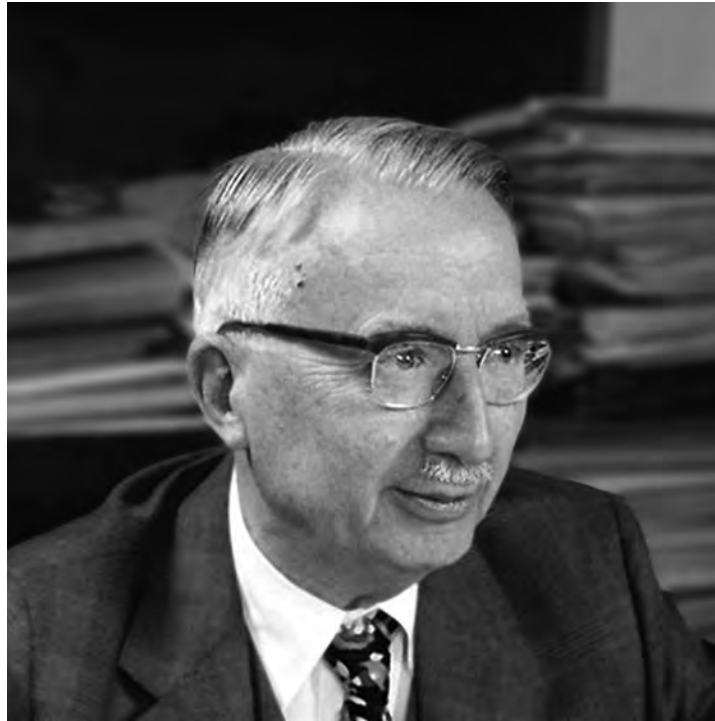# 2) The French School

Élie Cartan

Dolomieu 1869 – Paris 1951

The first modern differential geometer, Cartan provided the right framework (moving frames) for all subsequent work.
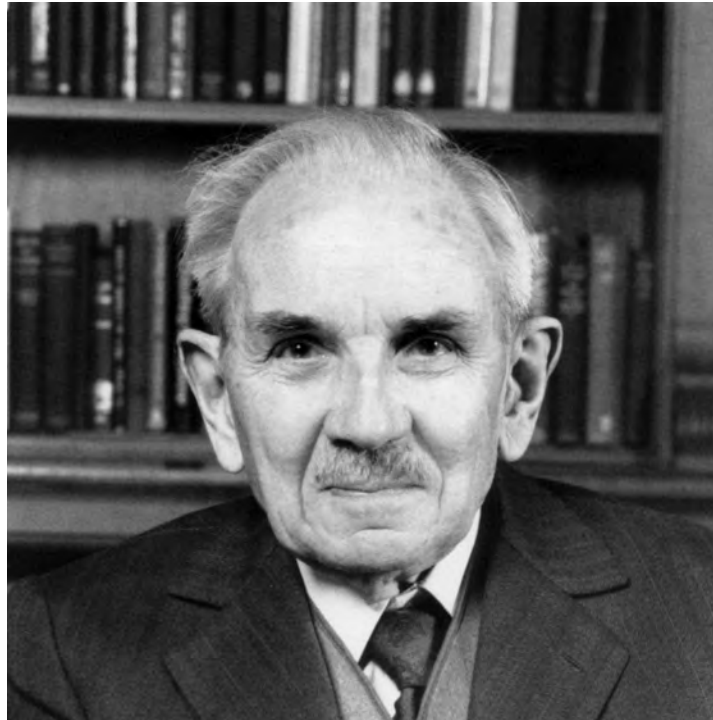
Henri Cartan

Nancy 1904 – Paris 2008

One of the sons of Élie Cartan, he equalled his father's reputation, being the driving force in Paris after 1945.

Jean Leray
Chantenay 1906 – La Baule 1998

Leray was primarily an analyst who was interested in the differential equations of importance in the physical world.

Jean-Pierre Serre

Bages, France 1926 –

The outstanding mathematician of the post-war era. Hermann Weyl said that "never before have I witnessed such a brilliant ascension of a star in the mathematical sky as yours."
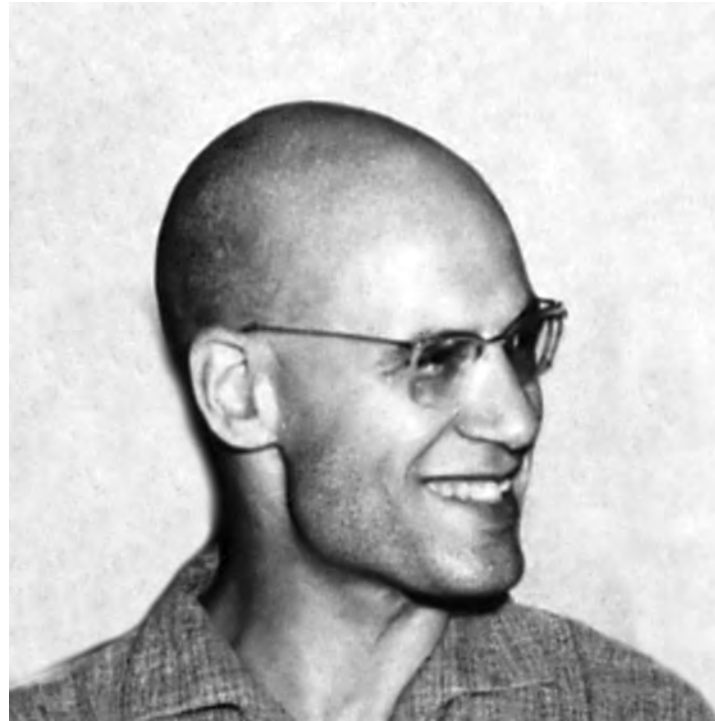
Fields Medal 1954

Abel Prize 2003

Alexander Grothendieck

Berlin 1928 –

The whirlwind who tore through algebraic geometry and then vanished.

Fields Medal 1966

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3) The Cambridge School

Paul Dirac

Bristol 1902 – Tallahassee, Florida 1984

The outstanding theoretical physicist of the 20th century after Einstein.

Nobel Prize 1933

William Hodge
Edinburgh 1903 – Cambridge 1975

Creator of Hodge Theory, the foundation stone of modern algebraic geometry.

John Todd
Liverpool 1908 – Croydon 1994

Famous for the Todd polynomials
in algebraic geometry.
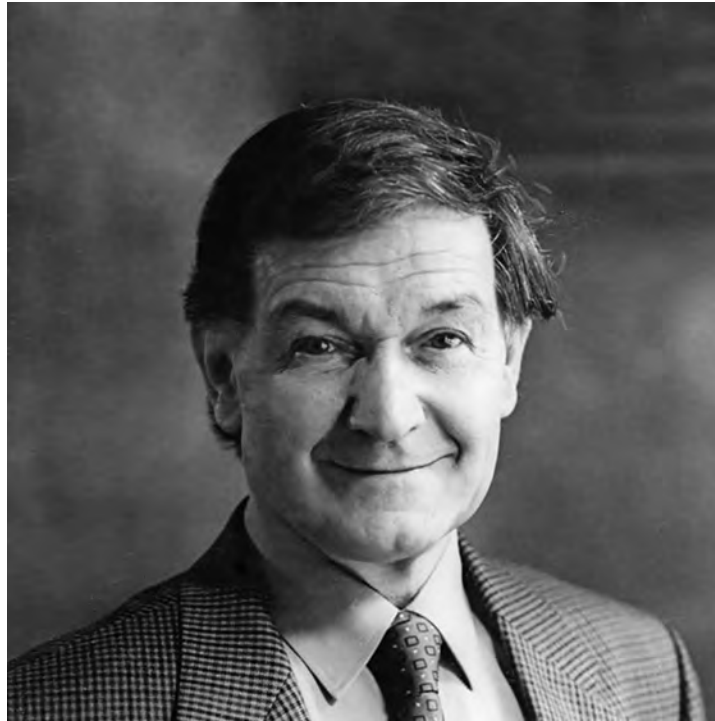
Abram Besicovitch

Berdyansk 1891 – Cambridge 1970

The eccentric Russian
who charmed Trinity.

Roger Penrose
Colchester 1931 –

Cosmologist, original thinker and writer.

Simon Donaldson

Cambridge 1957 –

The man who opened up four dimensions.

Fields Medal 1986

4) The Russian School
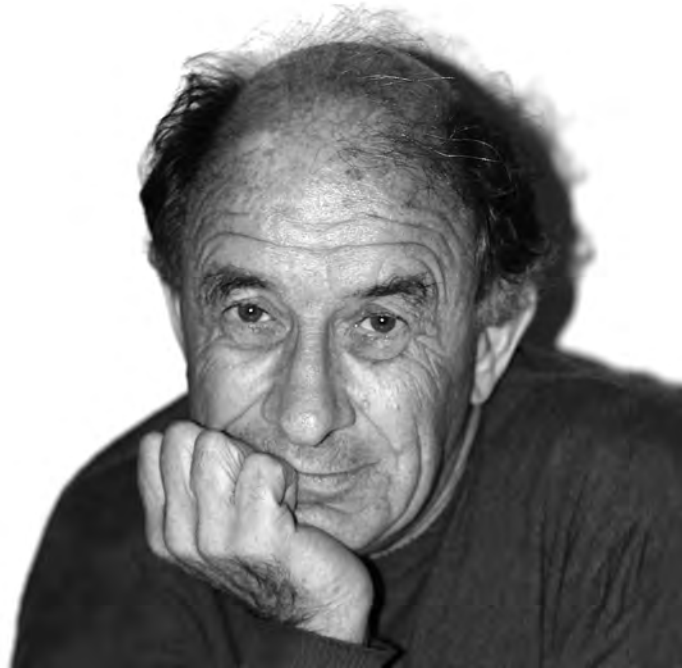
Israel Gelfand

Krasnya 1913 – New Brunswick 2009

One of the outstanding figures
of 20th century mathematics.

Vladimir Arnold

Odessa 1937 – Paris 2010

One of the few mathematicians of modern times who was equally admired in both pure and applied mathematics.

Sergey Novikov
Gorki 1938 –

The most brilliant Russian topologist
of the younger generation.

Fields Medal 1970

5) Trinity Contemporaries

Frank Adams

Woolwich 1931 – Huntingdon 1989

The climbing topologist with a powerful algebraic punch.

Ian Macdonald

London 1928 –

An algebraic virtuoso and a master of beautiful formulae.
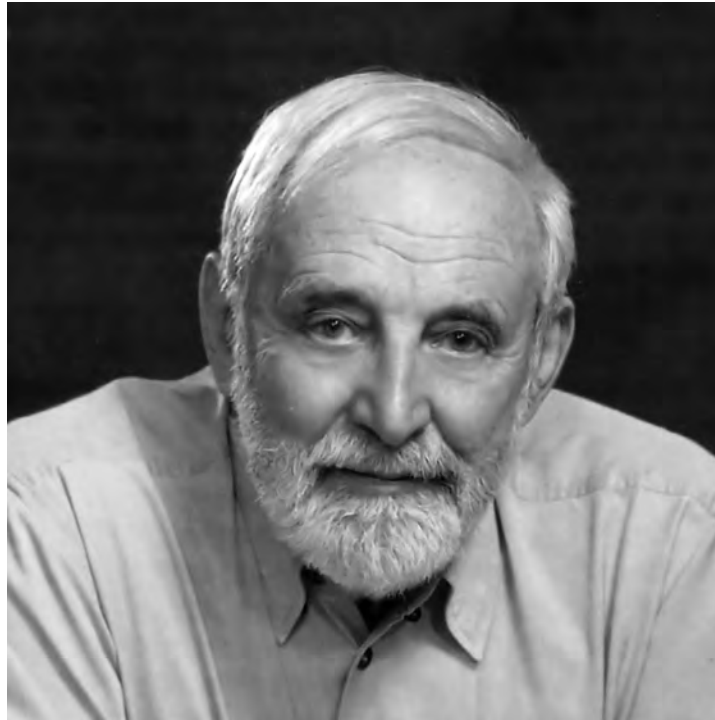
James Mackay
Edinburgh 1927 –

Scottish mathematician turned lawyer who ended up as Lord Chancellor.

6) MFA collaborators

Raoul Bott
Budapest 1923 – California 2005

A charismatic figure: everyone's favourite geometer.

Friedrich Hirzebruch

Hamm 1927 – Bonn 2012

The biggest figure in mathematics in post-war Germany.

Vijay Patodi

Guna, India 1945 – Bombay 1976

A brilliant and original young Indian
who died tragically early.

Michael Atiyah / Isadore Singer

London 1929 – / Detroit 1924 –

Shared the Abel Prize in 2004.

Fields Medal 1966

Abel Prize 2004

7) Mathematical women
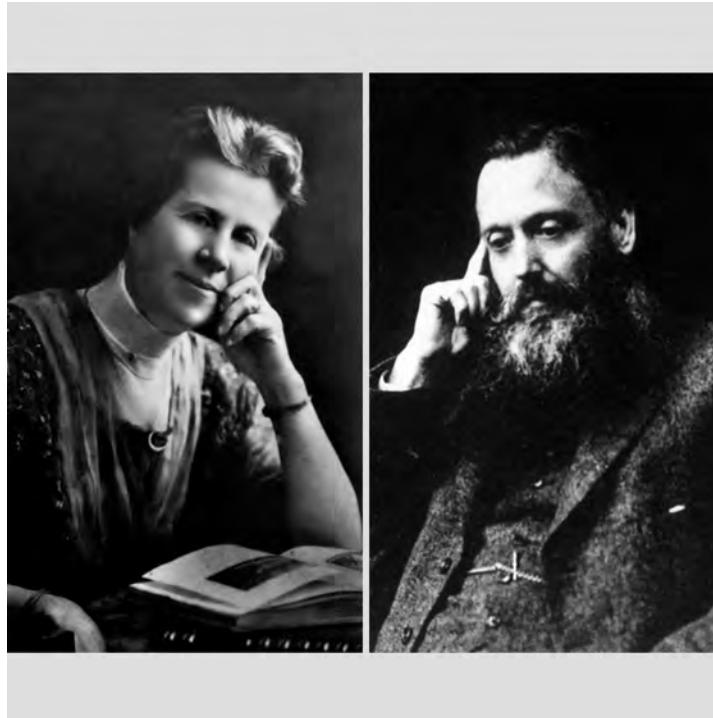
Philippa Fawcett

Cambridge 1868 – London 1948

The woman who beat the men at their own game.

Grace Chisholm

Haslemere 1868 – Croydon 1944

Grace Chisholm was, in 1895, the first female student at Göttingen to be awarded a Ph.D.

Dusa McDuff

Edinburgh 1945 –

Dusa McDuff with husband
John Milnor (Fields Medal 1962)

Harold & Bertha Jeffreys

Fatfield 1891 – Cambridge 1989 / Northampton 1903 – Cambridge 1999

A famous Cambridge mathematical pair

Mary Cartwright

Aynho, Northamptonshire 1900 – / Cambridge 1998

First female mathematician to become an FRS

Michael & Lily Atiyah

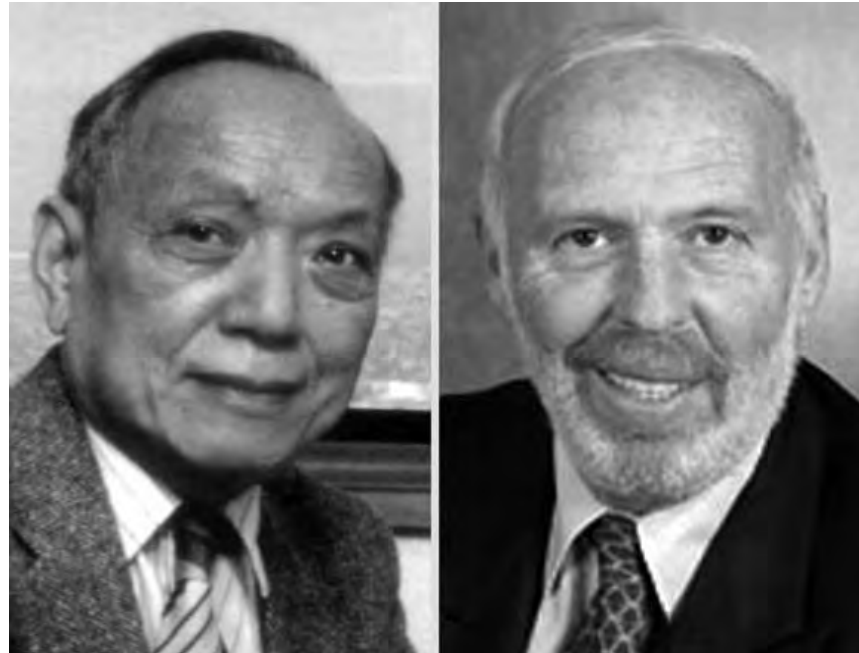London 1929 – / Edinburgh 1928 –

Originators of this portrait gallery of mathematicians

8) Special

Shiing-Shen Chern / James Simons

Jiaxing 1911 – Tianjin 2004 / Newton, Massachussetts 1938 –

A productive partnership for geometry and finance.