

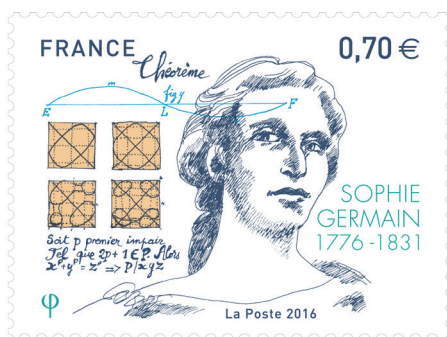
1 IN HONOUR OF SOPHIE GERMAIN

2
3 As part of the activities of the French annual
4 *Week of Mathematics* Sophie Germain was
5 honoured at the Institut Henri Poincaré,
6 Paris, on 18 March 2016 in collaboration
7 with the postal service who put on sale a new
8 stamp dedicated to the mathematician, the
9 realisation of a proposal of an anonymous
10 philatelist of 2014. To date, there seems to
11 be only one other woman mathematician,
12 Sofia Kovalenskaya, celebrated by a stamp
13 (USSR, 1951 and Russia 1996).

14 An exhibition on Sophie Germain prepared
15 for this occasion by historians of mathemat-
16 ics Catherine Goldstein and Jenny Boucard
17 is on display. Talks on *The Sophie Germain*
18 *Primes* by Goldstein and on *Sophie Germain*
19 *in the Face of Prejudices* by Anne Boyé were
20 both aimed at high school students while a
21 round table discussion around Germain was
22 steered by Cedric Villani.

23 Sophie Germain (1776-1831) was born in
24 Paris and started studying mathematics all
25 by herself at the age of 13 when the French
26 revolution broke out. Her family tried unsuc-
27 cessfully to prevent her from pursuing this
28 unacceptable passion. At 18, unable to enter
29 the newly founded all-male École Polytech-
30 nique she nevertheless obtained the course
31 material. She corresponded with stalwarts
32 of the time like Gauss and Lagrange under
33 the male pseudonym of Antoine-August
34 Le Blanc, unsure of revealing her female
35 identity. She was later unmasked and yet
36 continued to impress them by her work.
37 Germain was the first woman scientist
38 allowed to participate in the events of the
39 Institut de France and was posthumously
40 awarded an honorary doctorate by the Uni-
41 versity of Göttingen.

42 The stamp highlights *Sophie Germain's*
43 *Theorem* which occurs as a footnote in Leg-
44 endre's 1823 memoirs and is perhaps her
45 only widely known result. It establishes, for
46 both p and $2p + 1$ being odd primes, the *first*
47 case of Fermat's Last Theorem, i.e. when the
48 equation $x^p + y^p = z^p$ is satisfied for integers
49 x, y, z and an odd prime p , then p divides



the product xyz . Recent studies of her un-
published manuscripts and letters show that
her work is actually more general than this
one special case.

Other than Number Theory she contrib-
uted to Mathematical Physics and explained
the experimentally obtained curves of vi-
brations of elastic surfaces of Chladni with
a mathematical model opposed to that
suggested by Poisson. She ultimately won
the *Grand Prix of the Academie des Sciences*
(1816) for this. The stamp reproduces one of
her drawings.

Her work on the philosophy of science,
published posthumously, influenced posi-
tivist like August Comte. Yet in general
Germain had remained isolated and under
acknowledged, with no institutional support.

The stamp has been designed by Edmond
Baudoin who despite a long illustrious
career had not drawn a postage stamp
before. The artist confides to being appre-
hensive of his responsibility and says that he
had to put aside his awe of the future con-
sequences of this drawing to work with a
certain lightness of spirit! Baudoin is quoted
as saying: "It was important for me that the
face resembled as much as possible that of
a contemporary woman's while using the
strokes of the period." The intaglio print
engraving is due to Elsa Catelin.

Gautami Bhowmik
Université de Lille 1

CHERN ENDOWMENT

The Mathematical Sciences Research
Institute (MSRI) is very pleased
to announce a new \$5 million
endowment, named in honor of
Shiing-Shen Chern. Chern (an LMS
Honorary Member, elected in 1986),
was one of the three University of
California, Berkeley professors who
founded MSRI in the early 1980s, and
the fund will support the most distin-
guished mathematicians participat-
ing in MSRI's programs.

MSRI is one of the world's preemi-
nent research centres for mathemat-
ics, overlooking the UC Berkeley campus.
Mathematicians from around the world
– over 1,700 per year – come to MSRI for
focused periods of research and collaboration
with colleagues in their particular field. The
Institute was envisioned by Chern and two
other UC Berkeley mathematics professors,
Calvin Moore and I.M. Singer, in response to
a 1979 call for proposals from the National
Science Foundation (NSF). MSRI is one of the
largest single projects funded by the NSF's
Division of Mathematical Sciences and has
received continuous US government support
for more than three decades, in addition
to substantial support from other govern-
ment agencies, private foundations, corpora-
tions, individual donors, and more than 100
academic institutions.

In 1982, MSRI began full scientific operation
with Chern as the founding director, and by
1984, a new building was constructed, which
was greatly expanded in 2006 with state of
the art facilities. The renovated building
was named in Chern's honor, as in addition
to his role in the development of MSRI, he
gave the first significant gift to kick off the
capital campaign. Chern remained active in
MSRI through the late 1990s, and a reminder
of his presence can be found in the statue
by sculptor Wei Li (Willy) Wang which greets
visitors to MSRI.

Chern's legacy was not limited to his work
in Berkeley; among his great mathematical



© David Eisenbud, MSRI

accomplishments were the generalization of
the Gauss-Bonnet theorem and the definition
of characteristic classes in complex geometry.
Through Chern's influence, Chinese govern-
ment leaders brought Western mathemati-
cians to China and sent Chinese students
to study abroad. His establishment of the
Nankai Institute of Mathematics, known
today as the Chern Institute of Mathemat-
ics, provides a base for international interac-
tion and research collaboration, and upon his
death in 2004 in Tianjin, over 20,000 people
attended his funeral.

The Shiing-Shen Chern Endowment is
funded by Chern's children, Paul Chern and
May Chu; and by one of Chern's collaborators,
Jim Simons, and Marilyn Simons. (Simons, now
retired from a successful career in finance, co-
authored papers with Chern when he was a
mathematician, including the 1974 develop-
ment of Chern-Simons theory.) Starting soon,
MSRI will name at least one 'Chern Professor'
each semester. This generous endowment will
help the Institute to invite more of the most
distinguished mathematicians to Berkeley, as
they are the core of MSRI's scientific programs,
taking the lead in mentoring postdoctoral
fellows and other junior members.

For more information about MSRI, visit
www.msri.org or contact Jennifer Murawski
(jmurawski@msri.org).

Jennifer Murawski
MSRI Communications and Events Coordinator