

INSTITUTE FOR ADVANCED STUDY

Special Lecture

Speaker: Professor S. S. Chern

Topic: AN INTRINSIC SEMINORM IN THE HOMOLOGY  
GROUPS OF A COMPLEX MANIFOLD

Time: Thursday, March 14, 1968, at 3:00 p.m.

Place: Fuld Hall Lecture Room 119

cc: Mr. Morgan  
Mrs. Barnett  
Miss Underwood

5 October 1964

Dear Dr. Chern:

On the recommendation of the Faculty in the School of Mathematics, I am pleased formally to offer you a membership in the Institute for Advanced Study for the first term of the academic year 1964-1965. We will make available to you a grant-in-aid of \$9,500. to supplement your half-year salary and your National Science Foundation support. We would be very pleased to have you stay on in January, 1965, but we cannot be certain of having housing available for you for that month. We shall, of course, do our best. This supersedes my letter to you of November 6, 1963.

We all look forward with pleasure to having you with us again for a visit.

Sincerely yours,

Robert Oppenheimer

Dr. S. S. Chern  
The Institute for Advanced Study

THE INSTITUTE FOR ADVANCED STUDY  
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

September 29, 1964

Verna:

Professor Chern now has straightened out his finances among the various sources of income for this term. Instead of the \$13,000 that we have reserved for him, his grant from us will be \$9,500. Will you be sending him a revised invitation?

Thank you,

*Caroline*

26 March 1964

Dear Dr. Chern:

I am pleased to inform you that we are reserving the sum of \$13,000 for your stay at the Institute next year.

With warm good wishes,

Sincerely,

Robert Oppenheimer

Dr. S. S. Chern  
Department of Mathematics  
University of California  
Berkeley 4, California

cc: Miss Underwood

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

March 24, 1964

Verna,

Professor Selberg asked me to let you know that \$13,000 can be reserved for Professor Chern's stay here next year.

Peggy

233

cc Mr. Morgan  
Mrs. Barnett  
Miss Underwood

6 November 1963

Dear Dr. Chern:

On the recommendation of the Faculty in the School of Mathematics, I am pleased formally to offer you a membership in the Institute for Advanced Study for the first term of the academic year 1964-1965. We will make available to you a supplementary grant-in-aid to make up the difference between the amount of support you receive from the National Science Foundation and your half-year salary. We would be very pleased to have you stay on in January, 1965, but we cannot be certain of having housing available for you for that month. We shall, of course, do our best.

We all look forward with pleasure to having you with us again for a visit.

Sincerely yours,

Robert Oppenheimer

Dr. S. S. Chern  
Department of Mathematics  
University of California  
Berkeley 4, California

NOTE TO MR. MORGAN: Please reserve \$13,000.

UNIVERSITY OF CALIFORNIA

DEPARTMENT OF MATHEMATICS  
BERKELEY 4, CALIFORNIA

*J. D. L.*  
*Miss Underwood*  
*pls return*

November 15, 1963

Dr. Robert Oppenheimer  
Institute for Advanced Study  
Princeton, N.J.

Dear Dr. Oppenheimer:

Thank you very much for your letter of November 6, in which you offered me a membership in your Institute for the first term of 1964-65. The financial arrangement you suggested, as detailed in recent letters from Professor Borel, is most satisfactory to me. I accept your invitation with great pleasure.

As in the case of many contemporary mathematicians, the role played by the Institute in my mathematical education is unforgettable. I am looking forward for a fruitful stay next year.

Sincerely yours,

*S. S. Chern*  
S.S. Chern

THE UNIVERSITY OF CHICAGO  
CHICAGO 37 • ILLINOIS  
DEPARTMENT OF MATHEMATICS

*Pls circulate*  
~~Mr. Morgan~~  
~~Mrs. Barnett B~~  
~~Miss Underwood~~  
*and return to D.O.*

May 16, 1954

Dr. R. Oppenheimer  
Institute for Advanced Study  
Princeton, N.J.

Dear Dr. Oppenheimer:

In response of your letter of May 11, 1954, I am pleased to learn that I am offered a membership at the Institute for Advanced Study for the academic year 1954-55, with a grant-in-aid of \$500 to supplement my National Research Foundation and Guggenheim Foundation grants. I feel gratified to accept your offer and I am looking forward to renew a tie, which has played such a great role in my scientific career.

With best greetings,

Sincerely yours

*S. S. Chern*  
Shiing-shen Chern



Copy to Mr. Morgan  
Mrs. Barnett  
Miss Underwood

11 May 1954

Dear Professor Chern:

*shd by  
Science*

On the recommendation of the Faculty of the School of Mathematics, I am pleased formally to offer you a membership in the Institute for Advanced Study for the academic year 1954-55, during the period of your National Research Foundation and Guggenheim Foundation grants. We can make available to you a grant-in-aid of \$500 to supplement your NRF and Guggenheim funds in defraying your expenses during your sojourn in Princeton. Since your NRF grant includes \$3,000 to be paid to you in salary, there is a possibility that part or all of your financial support may be subject to income tax.

We all look forward with pleasure to having you with us for a visit.

Sincerely yours,

Robert Oppenheimer

Professor Shiing-Shen Chern  
Department of Mathematics  
University of Chicago  
Chicago, Illinois

THE INSTITUTE FOR ADVANCED STUDY  
PRINCETON, NEW JERSEY

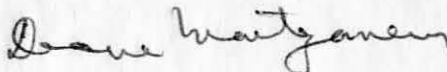
SCHOOL OF MATHEMATICS

April 23, 1954

Dear Colleagues:

I am enclosing a copy of a letter from Chern and my reply. Chern has now received a grant of \$3000 from the Guggenheim Foundation and a grant of \$3000 from the National Science Foundation. As his letter states, he wishes an additional grant of \$500 from the fund which we have reserved for him. I am very much in favor of giving him this grant.

Sincerely yours,



Deane Montgomery

DM:MMM

Encs.

Do you approve?	Yes	No
K. Gödel	<u>yes</u>	—
M. Morse	<u>yes</u>	—
A. Selberg	<u>yes</u>	—
J. von Neumann	<u>yes</u>	—
H. Whitney	<u>yes</u>	—
R. Oppenheimer	—	—

Please return this letter and its enclosures to Miss Underwood.

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

April 23, 1954

Professor S. S. Chern  
Department of Mathematics  
The University of Chicago  
Chicago 37, Illinois

Dear Chern:

I have just learned from our General Manager, Mr. Morgan, that, within the last few days, an official letter came from the Science Foundation which makes your grant of \$3000 from them definite. I feel quite sure that we will be able to be helpful in the way you suggest, but it will take a few days for us to consider this in an official way. I will bring up the question immediately and let you know as soon as I can what the outcome is.

As I said before, everyone here is looking forward with great pleasure to your visit.

Sincerely yours,

Deane Montgomery

DM:MMM

20 April 1954

Dear Mr. Waterman:

In Dr. Oppenheimer's absence from Princeton I am writing to acknowledge receipt of your letter of April 14th announcing Research Grant NSF-G778 to the Institute for Advanced Study for research on "Pseudo-Groups with Emphasis on Complex and Symplectic Manifolds," under the direction of Shiing-Shen Chern.

I shall, of course, hold your letter for Dr. Oppenheimer's attention on his return.

Sincerely yours,

(Mrs. Wilder Hobson)  
Secretary to the Director

Mr. Alan T. Waterman, Director  
National Science Foundation  
Washington 25, D. C.

NATIONAL SCIENCE FOUNDATION  
WASHINGTON 25, D. C.

April 14, 1954

Dr. Robert Oppenheimer, Director  
The Institute for Advanced Study  
Princeton, New Jersey

Research Grant NSF-G778

Dear Dr. Oppenheimer:

I am pleased to inform you that the sum of \$3,450 is hereby granted by the National Science Foundation to The Institute for Advanced Study, for the support of research entitled "Pseudo-Groups with Emphasis on Complex and Symplectic Manifolds," under the direction of Shing-Shen Chern, Department of Mathematics, for a period of approximately one year. This grant will be paid on or about April 15, 1954, in full.


It is a condition of this grant that it may be revoked in whole or in part by the Foundation after consultation with the principal investigator and the grantee, except that a revocation shall not affect any commitment which, in the judgment of the Foundation and the grantee, had become firm prior to the effective date of the revocation; and that funds not committed by the grantee prior to the conclusion of the work contemplated under this grant shall be returned to the Foundation.

It is a further condition of this grant that disposition of domestic patent and other rights in any inventions or discoveries made or conceived during the research shall be the responsibility of the grantee; that disposition of foreign patent and other rights to any such invention or discovery shall be determined by the United States Government; that the grantee shall give the Foundation reasonable notice of application by the grantee or other person or institution for a foreign or domestic patent on any such invention or discovery; and that upon issue of a domestic patent on any such invention or discovery, the patentee shall grant the Government an irrevocable, royalty-free, nonexclusive license for use of such invention or discovery for governmental purposes.

The Foundation desires that this grant be administered in general accordance with the Foundation's policies for research grants as stated in "Grants for Scientific Research," December 1951, and in conformity with the other understandings reached between the Foundation and the grantee relating to this grant.

Please acknowledge receipt at your earliest convenience.

Sincerely yours,

  
Alan T. Waterman  
Director

THE INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

Copy: ✓ Mrs. Barnett

March 6, 1954

Professor S. S. Chern  
Eckhart Hall  
University of Chicago  
Chicago 37, Illinois

Dear Chern:

I can tell you confidentially that there seems a good prospect that the grant you sought from the National Science Foundation will come through in about two weeks. The amount was \$3000. I would like to have, if possible, the answers to two questions.

First, would you be able to provide the remainder of money for your expenses from the funds which the University will give you? If not, how much outside money will you need?

Second, would you like us to apply to Mrs. Barnett for housing for you, Mrs. Chern and your two children? Since housing is extremely difficult here and we cannot guarantee anything, it is desirable that such an application be made as soon as possible.

Looking forward to seeing you next year, I am

Cordially yours,

Marston Morse

MMedu

## PROPOSAL FOR NATIONAL SCIENCE FOUNDATION CONTRACT

This proposal is submitted by the Institute for Advanced Study, Princeton, New Jersey, on behalf of Professor Shiing-shen Chern for the academic year 1954-1955.

Summary of mathematical work by S. S. Chern: I got my B.S. degree from Nankai University, Tientsin, China, in 1930. In the next four years I started some work, of a rather modest nature (1, 2, 3)\*, on differential geometry. Since then differential geometry has been the field of my major interest, although some of my later works can be said to belong to it only in a broad sense. In 1934 I was given a Fellowship by the Chinese Government and I went to the University of Hamburg, Germany, to work with Professor W. Blaschke. I received my D.Sc. degree in 1936 with a thesis on the geometry of webs (4, 5). The next year I was working with the great French mathematician Elie Cartan in Paris. It was a most profitable sejour during which my general outlook of mathematics was greatly widened. I returned to China in 1937 to teach at the National Tsing Hua University. In the years 1937-43 I worked on integral geometry, projective connections, geometry of paths, etc. (9 - 25). My main interest was to attach a connection to a geometric being, although the problem at that time was studied only in its various special cases.

A turning point in my mathematical career came when I was granted a stipend by the Institute for Advanced Study in 1943. I stayed in Princeton from 1943 to 1946 and had the benefit of contact with various mathematicians. During this period I was able to combine my training in classical mathematics with the more modern developments. In particular, I saw the role that the theory of fiber bundles was to play in differential geometry and established it in a conclusive way (27, 28, 32, 34, 35). My works in these three or four years are perhaps among the best that I have done.

After I joined the University of Chicago in 1949, I have been interested in the homology theory of fiber bundles (45, 49, 54). In particular, I was able to lay a satisfactory foundation of the theory of characteristic classes on an algebraic variety.

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\* Numbers refer to the papers in the Bibliography.

My latest interest is in complex manifolds and infinite continuous pseudo-groups, which seem to form a natural a far-reaching generalization of complex manifolds (55).

Plans for Research: It is proposed to make a study of the different aspects of infinite continuous pseudo-groups with emphasis to the particular cases of complex and symplectic manifolds. The subject can be said to have originated from the Norwegian mathematician Sophus Lie in the last part of the 19th century, as a natural extension of his work on transformation groups. In the beginning of this century Elie Cartan devoted several extensive papers on the subject. While the theory of Lie groups has deservedly received considerable attention in the mathematical researches of the last two decades, the theory of infinite continuous pseudo-groups, which can be considered as its generalization, remains unnoticed. Recently, another of its particular cases, the theory of complex manifolds, has become the object of extensive researches.

Perhaps two of the main reasons that the subject has not received sufficient attention are the unsatisfactory status of its foundations and a lack of problems due to the fact that most of the outstanding local problems were solved by Cartan. This situation has now changed. For, in the first place, the development of notions in modern mathematics has permitted an entirely satisfactory understanding of most of the results in existence, as shown in a forthcoming paper of mine in the "Colloque de géométrie différentielle, Paris". In the second place, this clarification of the foundations opens the way to the study of various global problems, which have so far hardly been touched. Among such problems is the question whether a manifold has a structure corresponding to a given pseudo-group. This contains as particular cases the questions whether an even-dimensional manifold can be given a complex structure or can be a symplectic manifold in the sense of Ehresmann. Recent achievements in fiber bundles have scored great progress on the question of existence or non-existence of tensor fields satisfying algebraic conditions, such as that of continuous linearly independent vector fields. In our problems the tensor field will be subjected not



only to algebraic conditions, but also to conditions in the form of partial differential equations. In a sense these should be more interesting and deeper problems in differential geometry.

More specifically, the plan of research will consist of two parts:

- 1) Further clarification of the work of Cartan. This will perhaps involve more work than it seems. In the first place, it has been found necessary to supply details of Cartan's proofs of his statements and to replace, when possible, his proofs based on computation by more conceptual ones. In the second place, Cartan dealt exclusively with the complex analytic case while our interest will be in the real case and possibly only under differentiability assumptions. Considering the fact that the Cauchy-Kowalewski theorem is not true without analyticity assumptions, a critical study of Cartan's work from this viewpoint seems to be of interest and is by no means trivial.
- 2) Study of some global problems. Two of the most urgent questions are: a) Does the six-dimensional sphere have a complex structure? b) Does the complex projective plane have more than one complex structure? In the case that the answers to these questions are negative, it is my opinion that progress should be achieved by analytic rather than geometrical methods. A more elaborate study of the corresponding differential systems than hitherto undertaken is in order. Similar questions, of different degrees of difficulty and generality, can be proposed and studied.

List of mathematical papers by Shiang-shen Chern:

1. Pairs of plane curves with points in one-to-one correspondence, Sci. Repts. Tsing Hua Univ. 1 (1932) 145-153
2. Triads of rectilinear congruences with generators in correspondence, Tohoku Math. J. 40 (1935) 179-188
3. Associate quadratic complexes of a rectilinear congruence, Tohoku Math. J. 40 (1935) 293-316
4. Abzählungen für Gewebe, Abh. math. Sem. Hamburg 11 (1935) 163-170
5. Eine Invariantentheorie der Dreigewebe aus n-dimensionalen Mannigfaltigkeiten in  $2n$ -dimensionalen Räumen, Abh. math. Sem. Hamburg 11 (1936) 333-358
6. Sur la géométrie d'une équation différentielle du troisième ordre, C. R. Acad. Sci. Paris 204 (1937) 1227-1229
7. Sur la possibilité de plonger un espace à connexion projective donné dans un espace projectif, Bull. Sci. Math. 61 (1937) 234-243

8. On projective normal coordinates, *Ann. of Math.* 39 (1938) 165-171
9. On two affine connections, *J. Univ. Yunnan* 1 (1938) 1-18
10. Sur la géométrie d'un système d'équations différentielles du second ordre, *Bull. Sci. Math.* 63 (1939) 206-212
11. The geometry of higher path-spaces, *J. Chin. Math. Soc.* 2 (1940) 247-276
12. Sur les invariants intégraux en géométrie, *Sci. Repts. Tsing Hua Univ.* 4 (1940) 85-95
13. The geometry of a differential equation  $y''' = F(x, y, y', y'')$ , *Sci. Repts. Tsing Hua Univ.* 4 (1940) 97-111
14. Sur une généralisation d'une formule de Crofton, *C. R. Acad. Sci. Paris* 210 (1940) 757-758
15. (With Chih-ta Yen) Formula principale cinematica dello spazio ad  $n$  dimensioni, *Boll. Un. Mat. Ital.* 2 (1940) 434-437
16. Generalization of a formula of Crofton, *Wuhan Univ. J. Sci.* 7 (1940) 1-16
17. On integral geometry in Klein spaces, *Ann. of Math.* 43 (1942) 178-179
18. (With Hsien-chung Wang) Differential geometry in symplectic space, *Sci. Repts. Tsing Hua Univ.* 4 (1947) 453-477
19. Sur une classe remarquable de variétés dans l'espace projectif à  $n$  dimensions, *Sci. Repts. Tsing Hua Univ.* 4 (1947) 328-336
20. Sur les invariants de contact en géométrie projective différentielle, *Acta Pontif. Acad. Sci.* 5 (1941) 123-140
21. On the invariants of contact of curves in a projective space of  $n$  dimensions and their geometrical interpretation, *Acad. Sinica Sci. Record* 1 (1942) 11-15
22. The geometry of isotropic surfaces, *Ann. of Math.* 43 (1942) 545-559
23. On a Weyl geometry defined from an  $(n-1)$ -parameter family of hypersurfaces in a space of  $n$  dimensions, *Acad. Sinica Sci. Record* 1 (1942) 7-10
24. On the Euclidean connections in a Finsler space, *Proc. Nat. Acad. Sci. USA*, 29 (1943) 33-37
25. A generalization of the projective geometry of linear spaces, *Proc. Nat. Acad. Sci. USA*, 29 (1943) 38-43
26. Laplace transforms of a class of higher dimensional varieties in a projective space of  $n$  dimensions, *Proc. Nat. Acad. Sci. USA*, 30 (1944) 95-97
27. A simple intrinsic proof of the Gauss-Bonnet formula for closed Riemannian manifolds, *Ann. of Math.* 54 (1944) 747-752
28. Integral formulas for the characteristic classes of sphere bundles, *Proc. Nat. Acad. Sci. USA*, 30 (1944) 269-273
29. On a theorem of algebra and its geometrical application, *J. Indian Math. Soc.* 8 (1944) 29-36
30. On Grassmann and differential rings and their relations to the theory of multiple integrals, *Sankhya* 7 (1945) 2-8
31. Some new characterizations of the Euclidean sphere, *Duke Math. J.* 12 (1945) 279-290
32. On the curvatura integra in a Riemannian manifold, *Ann. of Math.* 46 (1945) 674-684
33. On Riemannian manifolds of four dimensions, *Bull. Amer. Math. Soc.* 51 (1945) 964-971
34. Some new viewpoints in the differential geometry in the large, *Bull. Amer. Math. Soc.* 52 (1946) 1-30
35. Characteristic classes of Hermitian manifolds, *Ann. of Math.* 47 (1946) 85-121
36. On the characteristic classes of Riemannian manifolds, *Proc. Nat. Acad. Sci. USA*, 33 (1947) 78-82
37. Note on affinely connected manifolds, *Bull. Amer. Math. Soc.* 53 (1947) 820-823; correction, *ibid* 54 (1948) 985-986
38. On the characteristic ring of a differentiable manifold, *Acad. Sinica Sci. Record* 2 (1947) 1-5
39. On the multiplication in the characteristic ring of a sphere bundle, *Ann. of Math.* 49 (1948) 362-372

- 40. Note on projective differential line geometry, Acad. Sinica Sci. Record 2 (1948) 137-139
- 41. (With Yuh-lin Jou) On the orientability of differentiable manifolds, Sci. Repts. Tsing Hua Univ. 5 (1948) 13-17
- 42. (With Ye-fon Sun) The imbedding theorem for fibre bundles, Trans. Amer. Math. Soc. 67 (1949) 286-303
- 43. (With Sze-tsen Hu) Parallelisability of principal fibre bundles, Trans. Amer. Math. Soc. 67 (1949) 304-309
- 44. Local equivalence and Euclidean connections in Finslerian spaces, Sci. Repts. Tsing Hua Univ. 5 (1948) 95-121
- 45. (With E. H. Spanier) The homology structure of fiber bundles, Proc. Nat. Acad. Sci. USA, 36 (1950) 248-255
- 46. Differential geometry of fiber bundles, Proc. Int. Congr. Math. II (1950) 397-411
- 47. Topics in differential geometry, mimeographed notes, Princeton 1951.
- 48. On the kinematic formula in the Euclidean space of n dimensions, Amer. J. Math. 74 (1952) 227-236
- 49. (With E. H. Spanier) A theorem on closed orientable surfaces in four-dimensional space, Comm. Math. Helv. 25 (1951) 205-209
- 50. Some formulas in the theory of surfaces, to appear in Boll. Soc. Mat. Mexicana
- 51. (With C. Chevalley) Elie Cartan and his mathematical work, Bull. Amer. Math. Soc. 58 (1952) 217-250
- 52. Some relations between Riemannian and Hermitian geometries, to appear in Duke Math. J.
- 53. (With N. H. Kuiper) Some theorems on the isometric imbedding of compact Riemannian manifolds in Euclidean space, Ann. of Math. 56 (1952) 422-430
- 54. On the characteristic classes of complex sphere bundles and algebraic varieties, Amer. J. Math. 75 (1953) 565-597
- 55. Infinite continuous pseudo-groups, to appear in Colloque Géom. Diff. Paris
- 56. La géométrie des sous-variétés d'un espace euclidien à plusieurs dimensions, to appear in l'Ens. Math.

Financial Statement:

Salary for Professor Chern (full time)	\$3000
Overhead (at 15 percent)	<u>450</u>
Total	\$3450

FACULTY SPONSOR:

Deane Montgomery, Professor of Mathematics

APPROVED FOR  
THE INSTITUTE FOR ADVANCED STUDY:

DATED 11/17/53

NATIONAL SCIENCE FOUNDATION

WASHINGTON 25, D. C.

November 25, 1953

Dr. Robert Oppenheimer  
Director  
Institute for Advanced Study  
Princeton, New Jersey

Dear Dr. Oppenheimer:

This will acknowledge receipt of the proposal mentioned below. When evaluation has been completed, we shall inform you of any decision reached by the Foundation.

If this or a similar proposal has been submitted to another agency, please inform us at once of the name of such agency, unless this information is already provided.

Your interest in the National Science Foundation is appreciated.

Sincerely yours,

*Frances W. Cloud*

Administrative Assistant  
Division of Mathematical, Physical  
and Engineering Sciences

Principal Investigator: Prof. Shiing-shen Chern  
Title: "Study of Different Aspects of Pseudo-Groups with Emphasis  
to Particular Cases of Complex and Symplectic Manifolds"

## PROPOSAL FOR NATIONAL SCIENCE FOUNDATION CONTRACT

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Summary of mathematical work by S. S. Chern: I got my B.S. degree from Nankai University, Tientsin, China, in 1930. In the next four years I started some work, of a rather modest nature (1, 2, 3)\*, on differential geometry. Since then differential geometry has been the field of my major interest, although some of my later works can be said to belong to it only in a broad sense. In 1934 I was given a Fellowship by the Chinese Government and I went to the University of Hamburg, Germany, to work with Professor W. Blaschke. I received my D.Sc. degree in 1936 with a thesis on the geometry of webs (4, 5). The next year I was working with the great French mathematician Elie Cartan in Paris. It was a most profitable sejour during which my general outlook of mathematics was greatly widened. I returned to China in 1937 to teach at the National Tsing Hua University. In the years 1937-43 I worked on integral geometry, projective connections, geometry of paths, etc. (9 - 25). My main interest was to attach a connection to a geometric being, although the problem at that time was studied only in its various special cases.

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- 2) Study of some global problems. Two of the most urgent questions are: a) Does the six-dimensional sphere have a complex structure? b) Does the complex projective plane have more than one complex structure? In the case that the answers to these questions are negative, it is my opinion that progress should be achieved by analytic rather than geometrical methods. A more elaborate study of the corresponding differential systems than hitherto undertaken is in order. Similar questions, of different degrees of difficulty and generality, can be proposed and studied.

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13. The geometry of a differential equation  $y''' = F(x, y, y', y'')$ , *Sci. Repts. Tsing Hua Univ.* 4 (1940) 97-111
14. Sur une généralisation d'une formule de Crofton, *C. R. Acad. Sci. Paris* 210 (1940) 757-758
15. (With Chih-ta Yen) Formula principale cinematica dello spazio ad  $n$  dimensioni, *Boll. Un. Mat. Ital.* 2 (1940) 434-437
16. Generalization of a formula of Crofton, *Wuhan Univ. J. Sci.* 7 (1940) 1-16
17. On integral geometry in Klein spaces, *Ann. of Math.* 43 (1942) 178-179
18. (With Hsien-chung Wang) Differential geometry in symplectic space, *Sci. Repts. Tsing Hua Univ.* 4 (1947) 453-477
19. Sur une classe remarquable de variétés dans l'espace projectif à  $n$  dimensions, *Sci. Repts. Tsing Hua Univ.* 4 (1947) 328-336
20. Sur les invariants de contact en géométrie projective différentielle, *Acta Pontif. Acad. Sci.* 5 (1941) 123-140
21. On the invariants of contact of curves in a projective space of  $n$  dimensions and their geometrical interpretation, *Acad. Sinica Sci. Record* 1 (1942) 11-15
22. The geometry of isotropic surfaces, *Ann. of Math.* 43 (1942) 545-559
23. On a Weyl geometry defined from an  $(n-1)$ -parameter family of hypersurfaces in a space of  $n$  dimensions, *Acad. Sinica Sci. Record* 1 (1942) 7-10
24. On the Euclidean connections in a Finsler space, *Proc. Nat. Acad. Sci. USA*, 29 (1943) 33-37
25. A generalization of the projective geometry of linear spaces, *Proc. Nat. Acad. Sci. USA*, 29 (1943) 38-43
26. Laplace transforms of a class of higher dimensional varieties in a projective space of  $n$  dimensions, *Proc. Nat. Acad. Sci. USA*, 30 (1944) 95-97
27. A simple intrinsic proof of the Gauss-Bonnet formula for closed Riemannian manifolds, *Ann. of Math.* 54 (1944) 747-752
28. Integral formulas for the characteristic classes of sphere bundles, *Proc. Nat. Acad. Sci. USA*, 30 (1944) 269-273
29. On a theorem of algebra and its geometrical application, *J. Indian Math. Soc.* 8 (1944) 29-36
30. On Grassmann and differential rings and their relations to the theory of multiple integrals, *Sankhya* 7 (1945) 2-8
31. Some new characterizations of the Euclidean sphere, *Duke Math. J.* 12 (1945) 279-290
32. On the curvatura integra in a Riemannian manifold, *Ann. of Math.* 46 (1945) 674-684
33. On Riemannian manifolds of four dimensions, *Bull. Amer. Math. Soc.* 51 (1945) 964-971
34. Some new viewpoints in the differential geometry in the large, *Bull. Amer. Math. Soc.* 52 (1946) 1-30
35. Characteristic classes of Hermitian manifolds, *Ann. of Math.* 47 (1946) 85-121
36. On the characteristic classes of Riemannian manifolds, *Proc. Nat. Acad. Sci. USA*, 33 (1947) 78-82
37. Note on affinely connected manifolds, *Bull. Amer. Math. Soc.* 53 (1947) 820-823; correction, *ibid* 54 (1948) 985-986
38. On the characteristic ring of a differentiable manifold, *Acad. Sinica Sci. Record* 2 (1947) 1-5
39. On the multiplication in the characteristic ring of a sphere bundle, *Ann. of Math.* 49 (1948) 362-372



- 40. Note on projective differential line geometry, Acad. Sinica Sci. Record 2 (1948) 137-139
- 41. (With Yuh-lin Jou) On the orientability of differentiable manifolds, Sci. Repts. Tsing Hua Univ. 5 (1948) 13-17
- 42. (With Ye-fon Sun) The imbedding theorem for fibre bundles, Trans. Amer. Math. Soc. 67 (1949) 286-303
- 43. (With Sze-tsen Hu) Parallelisability of principal fibre bundles, Trans. Amer. Math. Soc. 67 (1949) 304-309
- 44. Local equivalence and Euclidean connections in Finslerian spaces, Sci. Repts. Tsing Hua Univ. 5 (1948) 95-121
- 45. (With E. H. Spanier) The homology structure of fiber bundles, Proc. Nat. Acad. Sci. USA, 36 (1950) 248-255
- 46. Differential geometry of fiber bundles, Proc. Int. Congr. Math. II (1950) 397-411
- 47. Topics in differential geometry, mimeographed notes, Princeton 1951.
- 48. On the kinematic formula in the Euclidean space of n dimensions, Amer. J. Math. 74 (1952) 227-236
- 49. (With E. H. Spanier) A theorem on closed orientable surfaces in four-dimensional space, Comm. Math. Helv. 25 (1951) 205-209
- 50. Some formulas in the theory of surfaces, to appear in Boll. Soc. Mat. Mexicana
- 51. (With C. Chevalley) Elie Cartan and his mathematical work, Bull. Amer. Math. Soc. 58 (1952) 217-250
- 52. Some relations between Riemannian and Hermitian geometries, to appear in Duke Math. J.
- 53. (With N. H. Kuiper) Some theorems on the isometric imbedding of compact Riemannian manifolds in Euclidean space, Ann. of Math. 56 (1952) 422-430
- 54. On the characteristic classes of complex sphere bundles and algebraic varieties, Amer. J. Math. 75 (1953) 565-597
- 55. Infinite continuous pseudo-groups, to appear in Colloque Géom. Diff. Paris
- 56. La géométrie des sous-variétés d'un espace euclidien à plusieurs dimensions, to appear in l'Ens. Math.

Financial Statement:

Salary for Professor Chern (full time)		\$3000
Overhead (at 15 percent)		<u>450</u>
Total		\$3450

FACULTY SPONSOR:

Deane Montgomery, Professor of Mathematics

APPROVED FOR  
THE INSTITUTE FOR ADVANCED STUDY:

DATED 11/17/53

# Memorandum

To Mr. Bradley ..... Date April 21, 1950 .....

From Mrs. Leary ..... Re Dvoretzky House .....

There is no particular hurry about the Dvoretzky house,  
as Chern is not coming next week; but I think it should be fixed up  
as soon as possible anyhow, as it will probably be used for guests  
before the week is up.

April 19, 1950

Dear Mrs. Leary:

Many thanks for your offer to reserve a room for me during my impending visit of the Institute. This is, however, not necessary, as I have made an arrangement to stay with my former landlady, Mrs. Hunt of 47 Wiggins St.

Perhaps I should have told you that my visa status was changed early this year. I hope to have the chance to tell you the details. Looking forward in seeing you again,

Sincerely yours

S. S. Chern

June 17, 1949

Mr. Martin Clausen  
Chief, Township Police  
Princeton, New Jersey

Dear Mr. Clausen:

This is to certify that the bearer of this note, Professor S. S. Chern, is an accredited Member of the School of Mathematics of the Institute for Advanced Study. He has been a member in good standing during his residence here; he has had a membership during the second academic term of 1949-1950, having arrived at the Institute February 5, 1949; his address is 3D Goodman Road.

Yours sincerely,

(Mrs. John D. Leary)  
Aide to the Director

P. S. Professor Chern was also a member of the Institute from August, 1943 to February, 1946; during that period his residence was at 47 Wiggins Street.

May 23, 1949

Hon. H. Earle Russell  
American Consul General  
Toronto 1, Canada

Dear Sir:

Professor Shiang-shen Chern, a Member of the School of Mathematics of the Institute for Advanced Study, has recently applied to you for consideration of his desire to reside permanently in the United States. Professor Chern came to the Institute with his family this Term from Nanking where he was professor of mathematics at the Academia Sinica. The Faculty of the School of Mathematics here were particularly desirous of having Professor Chern continue his work in higher mathematics in this country because of the high opinion they have had for his work for some years.

Professor Chern came to this country on a visitor's visa under Section 3(2); under the circumstances in China at the time it was impossible to obtain a permanent professorial visa. The University of Chicago has now invited Professor Chern to a permanent position as full professor, starting July 1, 1949. In his particular field, higher geometry, he is considered highly qualified for such a position. If at all possible, it is hoped that arrangements can be completed for consideration for a change in Professor Chern's visa.

In a communication from your office on May 9, 1949, Professor Chern was advised to send the enclosed questionnaire together with reasonable assurance that he will be successful in entering Canada. The University of Toronto has invited Professor Chern to lecture there before the closing of their term June 7, 1949; the invitation is enclosed with this letter. Would this be sufficient assurance of his entry into Canada? In the event that the time is too short would an invitation for the fall term be acceptable? He has been verbally assured of the later invitation.

We would appreciate it very much if you will let us know what further procedure Professor Chern should follow, what documents he should send to you, etc. Both the Faculty and the Director here can give Professor Chern the highest of recommendations; it is hoped that he will receive every consideration in his application.

Yours sincerely,

(M<sup>rs</sup>. John D. Leary)  
Aide to Dr. Robert Oppenheimer  
Director

7-7 - Chern

THE INSTITUTE FOR ADVANCED STUDY

Founded by Mr. Louis Bamberger and Mrs. Felix Fuld

PRINCETON, NEW JERSEY

April 13, 1949

The Commissioner of Immigration  
and Naturalization Service  
Department of Justice  
Washington 25, D.C.

Dear Sir:

May I take the liberty of suggesting that Professor Shiang Shen Chern be given permission to accept a professorship at the University of Chicago while still in his present status of holding a 3(2) visa? I think that I may best convey the reasons for such exceptional treatment of Professor Chern by giving you a short outline of his position in mathematical science and his relationship to the Institute for Advanced Study.

He first came to our Institute in 1943, largely as a result of the interest which several of my colleagues and I felt in his scientific work. Before that he had already spent several years of study in France and Germany, during which time he had obtained a very thorough training in classical differential geometry. This is a branch of mathematics which deals with the local peculiarities of a surface or of its generalizations to any number of dimensions. These generalizations have been very widely studied during the last twenty or thirty years because of their applications to the theory of relativity. In particular Professor Chern became thoroughly acquainted with the methods of the great French geometer Élie Cartan, who is now over eighty years old and to whom Professor Chern is a worthy successor. Chern's program of work was to combine these purely local methods of studying manifolds with the "global" methods of topology. The latter subject is a branch of mathematics which has been very richly cultivated during this same period of twenty or thirty years, here at Princeton. The time is now ripe for a combination of these two mathematical tendencies which should result in a very valuable theory of "differential geometry in the large".

Professor Chern made substantial progress on this program while he was here at the Institute. He returned to China early in 1946 to assume a position of very considerable scientific and administrative importance in the Academia Sinica at Nanking. But a continuation of this work in China has been rendered impossible by the course of the Chinese civil war. When we learned of the conditions under which he was trying to live, our Institute extended him an invitation which made it possible for him to come back to Princeton, where he now is. Since his return several universities have been seeking his services, but it is quite clear that the position which he has been offered at the University of Chicago affords a unique opportunity for him, not only to carry out the scientific program which I have outlined, but also to influence the development of science in this country, and perhaps to become the founder of an important new school of scientific thought. For this Professor Chern is very well qualified, first because he has the temperament of an influential teacher, secondly because his command of English and his knowledge of American life are exceptionally good; but most of all because he has a unique training for a scientific program which is recognized by mathematicians as thoroughly sound and very much to be desired. I think it is fair to say that there is no one else available anywhere who is as well qualified as is Professor Chern to carry out this program.

Very truly yours,

Copy sent Mr. H. L. Muller

OV:GB

Oswald Veblen

April 8, 1949

Dear Professor Chern:

I have called the Immigration and Naturalization Service in Philadelphia; Mr. Henry L. Mulle, Assistant District Director of the Service will be in his office any day next week. He suggested that you go on Tuesday, April 12th. He is in Room 1115, 42 South 15th Street, Philadelphia, Pennsylvania. Be sure to ask for him, and say that he had called ahead about his seeing you. I do not know that he can do anything personally, but he said he would give you the proper advice.

Professor Veblen has written Mr. Mulle about you. I should think any letters from Chicago would also be helpful.

Sincerely yours,

(Mrs. John D. Leary)  
Aide to the Director

7 - m - Chern

THE INSTITUTE FOR ADVANCED STUDY  
Founded by Mr. Louis Bamberger and Mrs. Felix Fuld  
PRINCETON, NEW JERSEY

April 8, 1949

Dear Mr. Mulle:

I should like to write you a few words about Professor Shiing Shen Chern, whom I know quite well both personally and scientifically.

He was at our Institute during the academic years 1943-1945 and through the fall of 1945, and during this time did scientific work of the very highest grade, - so much so that it is fair to say that he is a mathematician of the first rank as well as being, according to well informed opinion, the leading mathematician of China. He has recently come to the United States again, because the disturbed conditions in China, and particularly at Nanking, make it impossible for him to continue his scientific work there. Several American universities have sought his services, but he now wishes to accept a full professorship at the University of Chicago, which is of course a very distinguished appointment.

I think that on every account his case as an applicant for the necessary permission to do permanent work in the United States can be described as exceptionally meritorious.

Yours sincerely,

Mr. Henry L. Mulle  
Assistant District Commissioner  
Immigration and Naturalization Service  
42 South 15th Street  
Philadelphia, Pennsylvania  
OV:CB

Oswald Veblen



February 22, 1949

To: Miss Trinterud  
From: Mrs. Leary  
Subject: Grant for Professor S. S. Chern (1948-1949)

A grant of \$4000. should be charged against the School of Mathematics for Professor S. S. Chern for the 1948-1949 term. The sum advanced to him to cover traveling costs from China should be deducted from the grant; the balance is to be paid monthly for the five months February through June 1949.

Copy: Prof. Veblen

The monthly payments will be about \$360. Prof. Chern at the time of his arrival said he did not need cash immediately; approximately \$2200. was advanced to him for travel expenses. His rent, including utilities, coal, etc. comes to a little over \$100. a month. He has one of the three-bedroom apartments.

9777  
Chern

Chern, Shiing-shen

1942-Dec.18(?) /45 (Sailed from  
San Francisco Feb.27/46  
Feb.5/49-

- B.S. 1930 Nankai Univ.
- M.S. 1934 Tsing Hua Univ., Peiping, China
- D.Sc. 1936 Hamburg Univ., Germany

Born Oct.26,1911, Kashing, Chekiang Province, China

Citizenship - Chinese

Married (1st trip- without family); 2 children

Entered USA:

- 1) At Miami, Florida, Aug.11/43 under Official\*Visa No. 332 issued May 25/43 at  
Chungking, China. Visa and Entry permit unlimited. \* Official's(?)
- 2) At Honolulu Jan.1/49 by Pan-Amer.World Airways under Visitor's  
Visa No. 598, issued Shanghai, China, Dec.28/48

Princeton home address:

- 1) 47 Wiggins Street
- 2) 3-D Goodman Road

Permanent address - Institute of Mathematics, 320 Yoyang Road, Shanghai, China

In case of emergency notify Mr. S.C.Chang, 148 Governor Street, Providence, R.I.

Honors and societies - Ting Wen-kiang Prize of Academia Sinica 1943; member, German  
Math. Soc., AMS

Positions held:

- Research Fellowship of Natl. Tsing Hua Univ. 1934-36
- " " " China Foundation 1936-37
- Natl. Tsing Hua Univ. - Prof. Math. 1937-
- IAS stipend and Chinese Govt. grant 1943-Dec./45
- Academia Sinica Inst.of Math., 1946-
- IAS stipend Feb.5/49-

(On leave)  
(On leave)

Field - Math.

Publications of Shiing-shen Chern

- Abzählungen für Gewebe, Abh.d.Hamb.Univ. 11 (1935), 163-170  
Eine Invariantentheorie der Dreigewebe aus  $r$ -dimensionalen Mannigfaltigkeiten im  $R_{2r}$ ,  
Abh.d.Hamb.Univ. 11 (1936), 333-358  
Sur la géométrie d'une équation différentielle du troisième ordre, Comptes Rendus  
Acad.Paris 204 (1937), 1227-1229  
Sur la possibilité de plonger un espace à connexion projective donné dans un espace  
projectif, Bull.Sc.Math., 2 série, 61 (1937), 234-243  
On projective normal coordinates, Annals Math. 39 (1938), 165-171  
The geometry of higher path-spaces, Jour.Chin.Math.Soc. 2 (1940), 247-276  
On a Weyl geometry defined from an  $(n-1)$ -parameter family of hypersurfaces in a  
space of  $n$  dimensions, Science Record 1 (1941), 5-11  
On the invariants of contact of curves in a projective space of  $n$  dimensions  
and their geometrical interpretation, Science Record 1 (1941), 13-17  
On integral geometry in Klein spaces, Ann.Math. 43 (1942), 178-189  
The geometry of isotropic surfaces, Ann.Math. 43 (1942), 545-559  
On the euclidean connections in a Finsler space, N.A.S.Proc, 20 (1943), 33-37  
A generalization of the projective geometry of linear spaces, NAS Proc. 20  
(1943), 38-43  
Laplace transforms of a class of higher dimensional varieties in a projective  
space of  $n$  dimensions, NAS Proc. 30 (1944), 95-97  
Integral formulas for the characteristic classes of sphere bundles, NAS Proc.  
30 (1944), 269-273  
A simple intrinsic proof of the Gauss-Bonnet formula for closed Riemannian mani-  
folds, Ann.Math. 45 (1944), 747-752  
Some new characterizations of the Euclidean sphere, Duke Math.Jour. 12 (1945),  
279-290  
On the curvatura integra in a Riemannian manifold, Ann.Math. 46 (1945), 674-684  
On Riemannian manifolds of four dimensions, AMS Bull. 51 (1945), 964-971  
Some new viewpoints in differential geometry in the large, AMS Bull. 52 (1946), 1-30  
Characteristic classes of Hermitian manifolds, Ann.Math. 47 (1946), 85-121

Subsequent pubs. will be listed in School Math.

Return to Dir. off.

Math

January 2, 1949

Dear Dr. Oppenheimer:

I am glad to inform you that I arrived last night in San Francisco, with my family. After some rest here, we are planning to proceed to Princeton via Pasadena and Chicago. I expect to be in Princeton in the end of January. In Pasadena and Chicago I can be reached through F. Bohmstedt and A. Weil. Please convey these informations to Mrs. Leary, as she is interested to know the date of our arrival in Princeton in order to get our apartment ready.

I can not help to say how I feel grateful to you as to make possible this quick trip. Looking forward in meeting you,

Yours sincerely  
S. S. Chern

Prof. Weyl ✓  
G. D. Baker ✓

December 29, 1948

Wells Fargo Bank and Union Trust Company  
Market at Montgomery Street  
San Francisco, California

Gentlemen:

At the request of Professor S. S. Chern, a Member of the Institute for Advanced Study now en route from Shanghai, we are enclosing our check in the amount of \$2,171.14 to be deposited to the account of China Travel Service, Shanghai Office.

We would appreciate your acknowledgment of this deposit.

Yours very truly,

(Mrs. John D. Leary)  
Aide to the Director

Enclosure:

Check #2832 in amount of \$2,171.14

INSTITUTE FOR ADVANCED STUDY

PRINCETON, NEW JERSEY

REQUISITION FOR PAYMENT

Voucher No. ....

Date 12/29/48 .....

Pay to Wells Fargo Bank and Union Trust Company .....

Address Market at Montgomery Street, San Francisco, California .....

Approved by (Signature) ..... Amount \$ 2,171.14

To be charged to School of Mathematics - Grant-in-aid for Prof. S. S. Chern .....

In payment of (Itemize)

2½ passages from Shanghai to San Francisco by air; railroad  
San Francisco to Trenton. S. S. Chern and family. Bill attached.

Check to be deposited to China Travel Service, Shanghai Office in  
above bank.

To be filled in by accounting department.

Debit: ..... Date ..... Ext. ckd. ....

Credit: ..... Check No. ....

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiang Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

國立中央研究院數學研究所  
INSTITUTE OF MATHEMATICS  
ACADEMIA SINICA  
320 YOYANG ROAD  
SHANGHAI, CHINA

*Rec'd. 12/29/48*

December 21, 1948

Dr. Robert Oppenheimer  
Institute for Advanced Study  
Princeton, New Jersey  
U. S. A.

Dear Dr. Oppenheimer:

Enclosed please find a calculation memo for the travelling expenses of myself and my family (2½ persons) from Shanghai to Princeton, amounting \$2,171.14. As my trip has been arranged by the China Travel Service, may I request you to deposit the same amount to the following account:

China Travel Service, Shanghai Office  
Wells Fargo Bank and Union Trust Company  
Market at Montgomery Street  
San Francisco.

I am scheduled to leave Shanghai by air on December 29th. I expect to spend about two weeks in the West Coast and to be in Princeton in the end of January. In San Francisco I think I can be reached by the following address: c/o Professor Y.R. Chao, Department of Chinese, University of California, Berkeley, Cal.

With my thanks in advance,

Sincerely yours

*S. S. Chern*

Copy:sent to: Prof. Veblen  
Prof. Weyl  
Miss Blake

(with note that above amount had been forwarded to Wells Fargo Bank - EWL)

國立中央研究院數學研究所  
INSTITUTE OF MATHEMATICS  
ACADEMIA SINICA  
320 YOYANG ROAD  
SHANGHAI, CHINA

Math  
Leary  
Return to Director's  
files

December 14, 1948

Dr. Robert Oppenheimer  
Institute for Advanced Study  
Princeton, New Jersey  
U. S. A.

Dear Dr. Oppenheimer:

I am glad to inform you that I have got our passport and am now applying for the visa. If things come out smoothly, the visa will probably be granted in ten days. The transportation, however, poses a more serious problem. Because of the West Coast strike and the evacuation, there is a great backlog of people on the waiting list for ships. Perhaps we have to go by air.

As my chance of coming to Princeton increases, I am thinking of the housing problem after our arrival. I understand that there is a number of apartments built on the Institute ground. It would be a most satisfactory arrangement, if some vacancy can be found there. I shall be much obliged, if you could give some thought on this problem. Meanwhile, I am writing to my Chinese friends in Princeton to help me in this matter.

I have yet no idea about the date of our departure. An air reservation has been made on January 5, 1949, but we shall go by plane only after all hopes to go by sea are abandoned.

Please notice that my new address is in Shanghai.  
With best regards,

Sincerely yours

*P. S. Chern*

Prof. Morse ✓  
v. Neumann ✓  
Siegel ✓  
Veblen ✓  
Weyl ✓

*Copy in S. M. file*



917  
Copy to: Miss Blake

December 10, 1948

TO WHOM IT MAY CONCERN:

This will certify that Professor S. S. Chern has been appointed a member of the Institute for Advanced Study in Princeton, New Jersey from January 1, 1949 to December 31, 1951, and that funds will be made available to defray the cost of travel for him and his family from China to the United States and for the maintenance of Professor Chern and his family while in the United States under this appointment.

Robert Oppenheimer  
Director

Subscribed and sworn to before me  
this 10th Day of December, 1948.

\_\_\_\_\_  
Notary Public of New Jersey

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiing Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

# WESTERN UNION

JOSEPH L. EGAN  
PRESIDENT

1201

SYMBOLS

- DL = Day Letter
- NL = Night Letter
- LC = Deferred Cable
- NLT = Cable Night Letter
- Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

PA018

P. SFA063 INTL=SF NANKING VIA RCA 30 10. 1720 1948 DEC 10 AM 7 57

NLT DR OPPENHEIMER=

INSTITUTE ADVANCED STUDY PRINCETONNEWJERSEYUSA=

OFFICIAL DOCUMENT FOR APPOINTMENT REQUIRED FOR VISA PLEASE

SEND SAME TO NEW ADDRESS INSTITUTE OF MATHEMATICS ACADEMIA

SINICA 320 YOYANG ROAD SHUNGHAI CHERN=

SINICA 320 YOYANG=..

TELEPHONE NO. ....

TELEPHONED TO *du*

*dt*

*lp*

*Small*

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Arrive January?

COPY

December 2, 1948

Dr. Robert Oppenheimer  
Institute for Advanced Study  
Princeton, New Jersey  
U. S. A.

Dear Dr. Oppenheimer:

I received with thanks your cable of November 29, which confirms my appointment at the Institute. My procedure of securing the passport has been ready and, if things come out smoothly, I shall be able to get the passport in a week.

I talked to Mr. George Harris of the American Embassy and the United States Educational Foundation in China. He promised his help in visa and transportation. He suggested that in getting the visa it would be necessary to present to the American authorities a formal document of my appointment and travelling allowances, the cable being not considered as valid. May I therefore request you to send me such a document, one copy each, to the following addresses:

Professor S.S. Chern  
Institute of Mathematics  
Academia Sinica, 320 Yoyang Road  
Shanghai, China

Professor S.S. Chern  
Institute of Mathematics  
Academia Sinica, 1 Jooa Hwa Shan  
Nanking, China

(This does not mean that there are two institutes. Our Institute used to be in Shanghai and was moved to Nanjing last spring. The building is now being used by other institutes of the Academy).

According to Mr. Harris it would be much easier to get a plane reservation than ship. As the situation here may develop very quickly, I think it is advisable to depart as early as possible. However, travel by air will make the total expenses a pretty large sum, and I do not want to put such a drain on the already fixed budget of the Institute. I believe I can pull together some resources of my own. In case the sum becomes too large, I shall be completely agreeable to pay a part of it myself. I have no doubt that this can be settled after I arrive in Princeton.

Please send further communications to my Shanghai address.  
With best regards,

(Signed) S.S. Chern  
Shiang-shen Chern

912

國立中央研究院數學研究所  
INSTITUTE OF MATHEMATICS  
ACADEMIA SINICA  
320 YOYANG ROAD  
SHANGHAI, CHINA

December 2, 1948

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Institute for Advanced Study  
Princeton, New Jersey  
U. S. A.

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Institute of Mathematics  
Academia Sinica  
320 Yoyang Road  
Shanghai, China

Professor S.S.Chern  
Institute of Mathematics  
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1 Jeou Hwa Shan  
Nanking, China

(This does not mean that there are two institutes. Our Institute used to be in Shanghai and was moved to Nanking last spring. The building is now being used by other institutes of the Academy).

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Please send further communications to my Shanghai address. With best regards,

*S. S. Chern* Shing-shen Chern

December 1, 1948

Certified cable

American Embassy  
Nanking  
China

This is to certify that three year appointment starting January 1, 1949 with an annual grant of \$4,000 is offered to Professor S. S. Chern, Academia Sinica, Nanking, by the Institute for Advanced Study.

Robert Oppenheimer

Subscribed and sworn to before me  
this 1st Day of December, 1948.

Notary Public of New Jersey

Copy: Professor Veblen  
Charge: School of Mathematics

INSTITUTE FOR ADVANCED STUDY  
PRINCETON, NEW JERSEY

REQUISITION FOR PAYMENT

Voucher No. ....

Date..... 11/30/48 .....

Pay to Chinese Consulate General .....

Address New York City .....

Approved by (Signature) ..... Amount \$ 20.00 .....

To be charged to Grant-in-aid for Prof. S. S. Chern .....

In payment of (Itemize)

**Cable charges re appointment - cable to be sent by Chinese Consulate  
General in New York**

To be filled in by accounting department.

Debit:.....

Date..... Ext. ckd.....

Credit:.....

Check No.....

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiing Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

November 30, 1948

Special Delivery

Mr. P. Yen  
Chinese Consulate General  
1250 Sixth Avenue  
New York City

Dear Mr. Yen:

In confirmation of my telephone conversation with you today, I am sending you this written request that the Consul General cable the Nanking Foreign Ministry to the following effect:

The Institute for Advanced Study has offered Professor S. S. Chern, Institute of Mathematics, Academia Sinica, Nanking, a three year membership starting January 1, 1949 with an annual grant of \$4,000. Funds can be made available for transporting Professor Chern and his family to this country.

The School of Mathematics here is most anxious to facilitate the coming of Professor Chern to this country, and in present circumstances, believes that prompt action is necessary. We would appreciate your sending a certified cable embodying this appointment to membership at the Institute for Advanced Study immediately. Our check for \$20. is enclosed. It is our understanding that this amount is requested to cover the cable charges and that refund will be made to us if this is an over-payment.

Thank you very much for your courteous help.

Yours sincerely,

(Mrs. John D. Leary)  
Aide to the Director

Copy: Prof. Veblen  
Enc. \$20. check - #2585

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiang Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a full rate telegram	
FULL RATE TELEGRAM	SERIAL
DAY LETTER	NIGHT LETTER

# WESTERN UNION

1206

INTERNATIONAL SERVICE	
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FULL RATE	DEFERRED
CODE	NIGHT LETTER

JOSEPH L. EGAN, PRESIDENT

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

Deferred Cablegram  
November 29, 1948

Professor S. S. Chern  
Institute of Mathematics  
Academia Sinica  
Nanking 5, China

Glad to offer you membership Institute for Advanced Study for three years starting January 1, 1949 with annual grant \$4,000. Can make available funds for your passage. Shall communicate State Department to facilitate your entry.

Robert Oppenheimer

Charge: School of Mathematics  
Cpy to: School of Mathematics

**A NEW  
CURTIS  
SERVICE**

Telegraph your order for America's favorite magazines—HOLIDAY, 1 yr., \$5 • the Post, 1 yr., \$5 • LADIES' HOME JOURNAL, 1 yr., \$3. All prices U. S. only. No charge for wire. Pay Western Union clerk for subscription or when billed by publisher.

Publisher will, on subscriber's request, refund full amount paid for copies not previously mailed. Prices subject to change without notice.



Records of the Office of the Director: Member Files : Box 20 : Cherrn, Shiang Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

# WESTERN UNION

JOSEPH L. EGAN  
PRESIDENT

1201

SYMBOLS

- DL = Day Letter
- NL = Night Letter
- LC = Deferred Cable
- NLT = Cable Night Letter
- Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

PA014 OA150

1948 NOV 29 AM 9 06

O SFB388 INTL SF NANKING VIA RCA 25/23 29 1010=

NLT DR OPPENHEIMER INSTITUTE

ADVANCED STUDY=PRINCETONNJER=

WOULD YOU SEND ME CONFIRMATION FOR THREE YEAR APPOINTMENT WITH  
FAMILY ACCOMMODATIONS PLEASE CABLE REPLY CHERN=

TELEPHONE No. ....

TELEPHONED TO *PC* .....

TIME *9:25 AM* .....

BY *PC* ..... TO BE *PC* .....

ATTEMPTS TO .....  
TO *PC* .....

CHERN=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiing Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

# WESTERN UNION

JOSEPH L. EGAN  
PRESIDENT

1201

SYMBOLS

- DL = Day Letter
- NL = Night Letter
- LC = Deferred Cable
- NLT = Cable Night Letter
- Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

PA029

P.SFA101 INTL=SF NANKING VIA RCA 28 27 1530= 1948 NOV 27 AM 10 07

NLT DR OPPENHEIMER=

INSTITUTE ADVANCED STUDY PRINCETON (NJER)=

WOULD YOU REQUEST CHINESE CONSULATE GENERAL NEWYORK TO CONFIRM  
NANKING FOREIGN MINISTRY BY CABLE THREE YEAR APPOINTMENT WITH  
FAMILY ACCOMODATIONS=

CHERN=

TELEPHONE No. *2580*

TELEPHONED TO *LR*

TIME *9:54*

BY *PE* TO BE *filed*

ATTEMPTS TO

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

國立中央研究院數學研究所  
INSTITUTE OF MATHEMATICS

ACADEMIA SINICA  
320 YOYANG ROAD  
SHANGHAI, CHINA  
1 Jeou Hwa Shan, Nanking 5

November 22, 1948

Dr. Robert Oppenheimer  
Institute for Advanced Study  
Princeton, New Jersey  
U. S. A.

Dear Dr. Oppenheimer:

I am deeply grateful for the initiative you have taken to send me the cable of November 19. Although the conditions in Nanking have been quieter recently and the work at Academia Sinica is going on as usual, great uncertainties still lie ahead and I think my best choice is to go to your country at this moment. I am starting preparations for the trip, whose main items, I believe, consist of passport, visa, and transportation.

Under the present conditions I think you will sympathize with my intention to bring my family along. For a family passport the regulations require that the applicant should have a three-year appointment. As I intend, besides doing my work, also to be of some service to the scientific activities in your country, there are probably not too great difficulties for me to get some position during my stay. However, it would be unwise for both parties to have such a long-term commitment without a period of trial. I wonder whether, just to fulfill the regulations, you can give me some assurance for an appointment of three years, with the understanding that the assurance will be binding on neither parties. My friends in Princeton who know me personally will probably guarantee that this will cause no trouble to you.

To get the visa from the American Consulate some financial guarantee would be necessary. But I imagine that the procedure should be much facilitated, in case some steps could be taken by the State Department to instruct both the American Embassy in Nanking and the American Consulate General in Shanghai to grant the visa. For this purpose may I give you the following information about my family:

Person	Age
Shing-shen Chern	37
Mrs. Chern	33
Master Po-lung Chern	8
Miss P. Chern	1

國立中央研究院數學研究所  
INSTITUTE OF MATHEMATICS

ACADEMIA SINICA  
520 YUYANG ROAD  
SHANGHAI CHINA

1 Jeou Hwa Shan, Nanking 5

If such a step could be taken by the State Department, it would be helpful to include also instructions for help of the American authorities here with the arrangement of transportation.

I am afraid that I have to touch the financial question. I understand that your cable does not imply an appointment at the Institute, it being more an emergency measure to bring me out of this situation. As you perhaps have been informed, my friends in the US are making arrangements for me to make a trip to the US in the academic year 1949-50. Although there is nothing definite, I can see where the possibilities lie. As these will turn out some time later, I wonder whether you think there is any way at the moment to have our trip financed. No matter it will be a grant or a loan, my chief concern is that the trip be not hampered just because of the lack of a proper financial arrangement.

I send you here my best thanks in advance and my greetings to the friends in Princeton.

Sincerely yours

*S. S. Chern*

Shiing-shen Chern

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiang Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

DOMESTIC SERVICE	
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FULL RATE TELEGRAM	SERIAL
DAY LETTER	NIGHT LETTER

# WESTERN UNION

1206

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise this message will be sent at the full rate	
FULL RATE	DEFERRED
CODE	NIGHT LETTER

JOSEPH L. EGAN, PRESIDENT

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

DELAYED CABLE  
November 19, 1948

Professor S. S. Chern  
Institute of Mathematics  
Academia Sinica  
Nanking 5, China

If there should be any steps that you would like to have us take in the next months to facilitate your coming to this country, please let us know.

Charge: School Mathematics

Robert Oppenheimer  
Institute for Advanced Study

**A NEW  
CURTIS  
SERVICE**

Telegraph your order for America's favorite magazines—HOLIDAY, 1 yr., \$5 • the Post, 1 yr., \$5 • LADIES' HOME JOURNAL, 1 yr., \$3. All prices U. S. only. No charge for wire. Pay Western Union clerk for subscription or when billed by publisher.

Publisher will, on subscriber's request, refund full amount paid for copies not previously mailed. Prices subject to change without notice.

November 18, 1948

To: Professor Veblen  
From: Mrs. Leary

The Visa Division in the State Department can only suggest that either Prof. Chern is advised to travel immediately to a safer place than Nanking - taking papers and credentials - and apply at Consul there; or that we send a certified cable (including terms of our contract) to the American Consul at Nanking at same time as we cable or write Prof. Chern. The certified cable can be notarized and apparently can be expected to expedite Consul's action.

Passage is sure to be difficult. At present everyone has to go to Hong Kong or Shanghai and fly to Manila (about \$75.): wait there for ships to start again for U.S. Flight all the way would be over \$700. per person. There are family rates, etc. but it would be very high.

EWL

# Memorandum

To Mrs. Leary

Date Nov. 11/48

From G. Blake

Re Professor Shiing-Shen Chern

Professor Veblen suggests that I send you the following information about Professor Shiing-Shen Chern, who was a member of the Institute's School of Mathematics 1943-45. He was born 1911 in China, is married, had one child when he was here and probably more now. After obtaining his B.S. and M.S. in China, he got his D.Sc. 1936 Hamburg, Germany. <sup>and more ever since!</sup> Beginning in 1937 he was Professor of Mathematics at the National Tsing Hua University of Peiping, and since his return to China has been Director (at least Acting) of the Institute of Mathematics of the Academia Sinica, now in Nanking. The most recent letter from him, this autumn, is from the address

Institute of Mathematics  
Academia Sinica  
1 Jeou Hwa Shan  
Nanking 5, China

February 23, 1946, San Francisco

Dear Dr. Aydelotte:

Before saying anything I must send ~~you~~ my sincerest thanks to you and to the Institute, which made my stay in Princeton possible. The years 1943-45 will undoubtedly be decisive in my career, and I have been profited not only in the mathematical side. I am inclined to think that among the people who have stayed at the Institute I was one who has been profited the most, but the other people may think the same way.

I have been travelling in the weeks before and after Christmas, including a trip to Mexico City. Generally speaking, the trip was very pleasant, except that in the last part of my trip I learned that my mother passed away. This was in fact the main reason that I hurried back. I had the fear that I would not see her again, and it became a reality!

For the last three weeks I have been waiting here for passage to China. Yesterday I got word that I shall be able to sail on February 27th. News in China are still not too bright, but I shall try to see what can be done under such circumstances.

Please convey my regards to Mrs. Aydelotte and all my friends at the Institute.

Very sincerely yours

S. S. Chern

mouse saw this



February 7, 1946

Officer in Charge  
Immigration and Naturalization Service  
U. S. Department of Justice  
Miami, Florida

Dear Sir:

I wish to report to you the departure of Professor Shing-Shen Chern on December 18, 1945. Professor Chern has left for San Francisco where he expects to obtain passage to China. He is returning to his post of Professor of Mathematics at the National Tsing Hua University in China.

Yours very truly,

Jane S. Richardson  
Assistant Secretary

Copy to Miss Blake

February 1, 1946

The Income Tax Bureau  
San Francisco  
California

Dear Sirs:

Professor Shing-Shen Chern, a Chinese scholar, came to the United States on August 9, 1943. He received a research stipend at the Institute for Advanced Study as follows:

August to December, 1943	\$ 750
January to December, 1944	1,500
January to December, 1945	1,650.

This stipend was given to him to facilitate his own researches and was not in compensation for services rendered. It therefore comes within the definition of non-taxable income as defined by the Bureau of Internal Revenue.

Professor Chern plans to return to China, leaving San Francisco at the end of January 1946. His work in this country was entirely concerned with the advancement of scholarship, and he seems to me to be qualified in every way to receive clearance papers and sailing permit.

Yours very truly,

Secretary to the Director

Miss Miller:

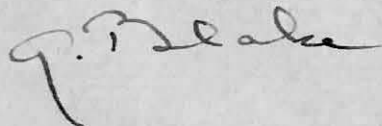
February 1, 1946

An Air Mail letter from Professor S. S. Chern includes the following:

"Before I left Princeton, Miss Miller gave me a copy of letter certifying the amount of stipend that I received in Princeton in 1943-45. As I have given up the letter when I went to Mexico, I need another income tax clearance and possibly another copy of that letter. I would appreciate very much if you get an original copy of the letter for me -- addressed to the income tax bureau at San Francisco -- and send it to the above address."

His address is:

Care Chinese Consulate General  
551 Montgomery Street  
San Francisco, California



December 7, 1945

Collector of Internal Revenue  
Camden, New Jersey

Dear Sir:

Professor Shiing-Shen Chern, a Chinese scholar, came to the United States on August 9, 1943. He received a research stipend at the Institute for Advanced Study as follows:

August to December, 1943	\$750
January to December, 1944	\$1,500
January to December, 1945	\$1,650

This stipend was given to him to facilitate his own researches and was not in compensation for services rendered. It therefore comes within the definition of non-taxable income as defined by the Bureau of Internal Revenue..

Professor Chern plans to return to China, leaving San Francisco at the end of January 1946. His work in this country was entirely concerned with the advancement of scholarship, and he seems to me to be qualified in every way to receive clearance papers and sailing permit.

Yours very truly,

Frank Aydelotte  
Director

THE INSTITUTE FOR ADVANCED STUDY  
SCHOOL OF MATHEMATICS  
PRINCETON, NEW JERSEY

March 22, 1945.

Dear Dr. Aydelotte:

I thank you very much for the invitation you have extended to me to stay here for the year 1945-46. The benefit I derived during the last two years in continuing my research work and broadening my viewpoint of mathematics as a whole can hardly be over-estimated. It is perhaps fair to say that without this opportunity my research work could not have arrived a higher level.

I accept your invitation with great pleasure. I hope that my third year of stay will be more productive than the last two years. I also hope that after going back to China I shall be able to contribute to the scientific development in China and to further cultural cooperation between our two countries.

Very sincerely yours

*S. S. Chern*

Shiing-shen Chern

March 17, 1945

Professor Shiing-shan Chern  
47 Wiggins Street  
Princeton, New Jersey

Dear Professor Chern:

On the recommendation of the Faculty of the School of Mathematics, it gives me great pleasure to offer you a renewal of your stipend of \$1,800 for the academic year 1945-1946. It is a great pleasure to have you here at the Institute and I hear with satisfaction fine reports of the work you are doing. I think it is a very intelligent policy on the part of the Chinese Government to offer scholars such opportunities as you have, during the war period so as to be prepared to revive the universities in the most effective way as soon as the war is over.

With warmest good wishes, I am

Yours sincerely,

Frank Aydelotte

FA:jsr

Copies to Professor Weyl  
Miss Miller

March 1, 1945

Gentlemen:

This is to certify that Dr. Shiing-shen Chern, professor of mathematics in the National Tsing Hua University, is now completing his second year of research in the School of Mathematics of the Institute for Advanced Study.

Dr. Chern has been most successful in his work and it has been a source of great satisfaction to us to have him as a member of our School of Mathematics.

Dr. Chern now wishes to make application for the sum of \$2,000 for travel expenses from the United States back to China, to which I understand he is entitled. He would be grateful if this sum could be sent to him at the official rate.

Believe me,

Very sincerely yours,

Frank Aydelotte, Director

The Ministry of Finance  
Chungking  
CHINA

fa;kk

Copy to Miss Blake  
Prof. Chern

U. S. DEPARTMENT OF JUSTICE  
IMMIGRATION AND NATURALIZATION SERVICE  
MIAMI, FLORIDA

IN REPLYING PLEASE REFER TO THIS  
FILE NUMBER

0606-1197

Aug. 29, 1944

Miss Marie C. Eichelser  
Assistant Secretary  
The Institute for Advanced  
Study,  
Princeton, New Jersey.

Dear Madam:

In re: Prof. SHIING-SHEN CHERN

We thank you for your courteous letter of June 30th.

Our records show that Prof. Shiing-Shen Chern was admitted as a Government Official, under Section 3(1) of the Immigration Act of 1924 and is at liberty to remain while he maintains that status.

For the closing of our files, it would be appreciated if he would inform this office as to date, place and means of departure shortly before he does finally leave the United States.



Yours truly  
Francis J.H. Dever  
Officer in Charge

by

*H. B. Read*  
H. B. Read  
Chief, Nationality and  
Status Section



June 30, 1944

Officer in Charge  
Immigration and Naturalization Service  
Miami, Florida

Dear Sir:

I regret that through pressure of work in our office I have failed to report to you, as required by the new regulations, on the arrival of Professor Shiing-shen Chern for the purpose of study and research at the Institute for Advanced Study.

Professor Chern entered the United States at Miami on August 11, 1943, with Visa No. 332, issued May 25, 1943, at Chungking, China, and came directly to the Institute. He has been in continuous attendance here since that time and expects to remain throughout the next academic year. His address in Princeton is 47 Wiggins Street.

Very truly yours,

Marie C. Michels

April 4, 1944

Dear Professor Chern:

On the recommendation of the School of Mathematics it gives me great pleasure to invite you to continue your membership in the Institute for Advanced Study for the academic year 1944-45, with a stipend of \$1500.

Looking forward to having you here for another year, I am

Yours sincerely,

FRANK AYDELOTTE, Director

Professor Shing-shen Chern  
Institute for Advanced Study  
Princeton, New Jersey

FA/MCE

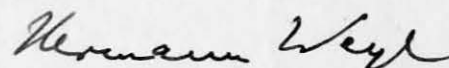
THE INSTITUTE FOR ADVANCED STUDY  
SCHOOL OF MATHEMATICS  
PRINCETON, NEW JERSEY

April 1, 1944

Dear Doctor Aydelotte:

The School of Mathematics wishes to recommend the reappointment of Professor Shiing-shen Chern for the next academic year, 1944-45, with the same stipend as before, \$1500.

Very sincerely yours,



Hermann Weyl

Dr. Frank Aydelotte  
HW:GB

UNITED STATES OF AMERICA  
OFFICE OF WAR INFORMATION  
224 WEST 57TH STREET  
NEW YORK CITY

February 18, 1944

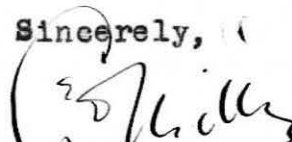
Dear Miss Eichelser,

We have arranged for Dr Chern to record at 4 PM Friday, February 25. Will you please ask him to come to this office, Room 1228, 250 West 57th Street (between Broadway and 8th Avenue), shortly before that time? I will appreciate an English synopsis in addition to the Mandarin text.

I have not yet heard from Dr Fong, and will appreciate whatever cooperation you can give us in arranging a talk by him.

Thanks for everything, and all good wishes.

Sincerely,



Leo Miller

Miss Eichelser  
Institute for Advanced Study  
Princeton University  
Princeton, N J



Charge to the account of \_\_\_\_\_ \$ \_\_\_\_\_

CLASS OF SERVICE DESIRED	
DOMESTIC	CABLE
TELEGRAM	ORDINARY
DAY LETTER <input checked="" type="checkbox"/>	URGENT RATE
SERIAL	DEFERRED
NIGHT LETTER	NIGHT LETTER
SPECIAL SERVICE	SHIP RADIOGRAM

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

# WESTERN UNION

1217-B

CHECK
ACCOUNTING INFORMATION
TIME FILED

R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

*Inst.*

October 4, 1943

Leo Miller  
Office of War Information  
224 West 57th Street  
New York City

In accordance with our telephone conversation Dr. Chern will appear your office Wednesday morning October sixth before eleven forty-five ready to broadcast and bringing biographical material

Frank Aydelotte

September 27, 1943

Dear Mr. Miller:

I have your letter of September 25th and take pleasure in enclosing herewith an English translation of Professor Chern's talk. I have made no attempt to polish his English since the address will be given in Chinese. Professor Chern informs me that he has carefully tried out the time required to read the speech in Chinese and that it can be done in ten or eleven minutes.

Professor Chern is ready to go to New York to record the speech at any time that you suggest. He tells me it would interfere the least with his program here if you could arrange to have him on a Monday, Tuesday, or Wednesday.

Yours sincerely,

Frank Aydelotte

Mr. Leo Miller  
Office of War Information  
224 West 57th Street  
New York City

PA/MCE

UNITED STATES OF AMERICA  
OFFICE OF WAR INFORMATION  
224 WEST 57TH STREET  
NEW YORK CITY

September 25, 1943

Dear Dr Aydelotte,

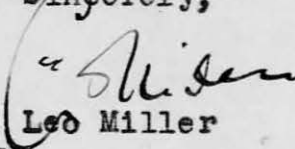
Thank you for your letter of September 23 advising the progress on Professor Chern's talk.

I would appreciate an English synopsis as soon as convenient to Professor Chern.

Can we aim for a recording of the talk within two weeks?

Thanks again, and good wishes.

Sincerely,

  
Leo Miller

Dr Frank Aydelotte  
Institute for Advanced Study  
Princeton, New Jersey



UNITED STATES OF AMERICA  
OFFICE OF WAR INFORMATION  
224 WEST 57TH STREET  
NEW YORK CITY

September 22, 1943

Miss Eichelser  
Institute for Advance Study  
Princeton University  
Princeton, New Jersey

Dear Miss Eichelser:

We are awaiting word regarding the talk  
by Dr. Chern, to be recorded here.

Will you please let me know about Dr.  
Chern's plan as soon as he feels he is ready to make the  
recording?

Thanks for your fine cooperation, and  
all good wishes.

Sincerely

*Leo Miller*  
Leo Miller

LM:HM





September 23, 1943

Dear Mr. Miller:

I had already dictated a note to you when your letter to Miss Eichelser arrived.

Professor Chern has outlined what I think will be a very satisfactory radio address. Do you want to see his manuscript? It will, of course, be in Chinese, and it occurred to me that you might prefer a translation or a synopsis, but perhaps you or someone in your office read Chinese and could criticize it.

Yours sincerely,

Frank Aydelotte

Mr. Leo Miller  
Office of War Information  
250 West 57th Street  
New York City

FA/MCE

Re Professor Chern

*Nov 1st  
Paul  
mod. by mi*

Mr. Leo Miller of the O.W.I. office, 250 West 57th Street, New York (Circle 6-4400, Ext. 472-<sup>on 473</sup>) telephoned to say that he had been requested by the San Francisco office of OWI to communicate with Professor Chern and ascertain whether he would be willing to make a broadcast for a series of talks entitled "America talks to China." The talk should be on a subject interesting to China, should be about ten to twelve minutes long, preferably in Mandarin, though another dialect would be acceptable. The most convenient arrangement would be for Professor Chern to go to New York for recording of the talk; the record would then be sent to San Francisco for Broadcast to China.

I have talked to Professor Chern about this, he is interested in making such a broadcast and willing to go to New York for the purpose. He will come in tomorrow (Thursday) to discuss the matter with you before committing himself.

9/8/43

M.C.E.

July 19, 1943

His Excellency The Chinese Ambassador  
Chinese Embassy  
Washington, D. C.

Dear Mr. Ambassador:

As you doubtless know, Professor Shiing-shen Chern has been selected by the Chinese government to spend a year in mathematical research in the United States and has been elected a member of the School of Mathematics of the Institute for Advanced Study.

Professor Chern wrote to Professor Oswald Veblen of this Institute to say that he hopes to make the trip from China to the United States by air, that commercial air lines are available for most of the journey, but that from Cairo across Africa the only air transportation available is by United States Army transport planes. Professor Chern has asked us to do anything in our power to assist him in getting permission to travel by one of these planes.

I have taken this matter up with the War Department and have been informed that a request for such a priority should be made by Chinese officials through the usual channels. I should be grateful on Professor Chern's account if you would be so kind as to take this matter up with the proper authorities with a view to obtaining for Professor Chern the permission he is seeking.

Professor Chern's address, should you wish to communicate with him, is P. O. Box 96, Kunming, China.

Believe me,

Yours very truly,

FA/MCE

FRANK AYDELOTTE, Director

WAR DEPARTMENT  
WASHINGTON

July 17, 1943.


Dear Dr. Aydelotte:

Your letter of July 13th concerning Professor Shiing-shen Chern has been received in the absence of Mr. Bundy, who is on an inspection trip overseas.

Upon inquiry, I have been informed that your request should be taken up with the Chinese Mission, who should establish the priority of needed travel. If they wish the trip by Professor Chern to be made by air, this request should be made through usual channels.

I shall be glad to show your letter to Mr. Bundy upon his return to the office.

Sincerely yours,

  
WILLIAM T. HODGE  
2nd Lieutenant  
Assistant to Mr. Bundy.

Dr. Frank Aydelotte,  
The Institute for Advanced Study,  
Princeton, New Jersey.

July 13, 1943

Dear Harvey:

I am writing to ask whether you could do anything to assist Professor Shiing-shen Chern of Kunming, China, perhaps the most eminent living Chinese mathematician, to obtain passage by Army transport plane from Cairo to some point on the east coast of Africa or the west coast of Brazil, where he could continue his trip to the United States by commercial air line.

Professor Chern has been given an appointment by the Chinese government to spend a year in advanced research in mathematics at the Institute for Advanced Study and we have awarded him a stipend to assist in paying his expenses. He plans to make the journey through China to the United States by air and can do most of it by commercial air lines. I understand, however, that from Cairo across to the other side of Africa or possibly to Brazil there are no commercial air lines operating and that the only way of getting across is by Army transport plane.

Professor Chern asked me for a letter to the military authorities in Cairo, vouching for him and explaining his purpose. I have sent him such a letter by air mail to China, but I am afraid this may not be sufficient and I have been wondering whether it would be possible for you to say a word in the right quarter so as to facilitate Professor Chern's passage. I should appreciate deeply anything that you feel able to do, and I am sure that any assistance given to Professor Chern would be a very friendly act to Chinese scholarship.

With kindest regards, I am

Yours sincerely,

Frank Aydelotte

Harvey Bundy, Esq.  
Office of the Secretary of War  
Washington, D. C.

July 8, 1943

Dear Professor Chern:

Professor Veblen has suggested that it might be better if I furnished you with two certificates of your appointment to the Institute and a letter to the military authorities at Cairo for permission to travel on an Army transport plane. I accordingly enclose these two documents, each in duplicate, and have notarized the one concerning your appointment in case it might be more useful for you to have it in that form.

I enclose also a copy of the supplement to our Bulletin No. 10 of the Institute, which you may find it convenient to have with you in order to show the military authorities and others the list of names of the officers, trustees, and members of the faculty of the Institute for the purpose of indicating to them the nature and importance of the institution. I hope this material will answer your purposes.

Looking forward with keenest pleasure to having you with us next year, I am

Yours sincerely,

FRANK AYDELOTTE, Director

Professor S. S. Chern  
P. O. Box 96  
Kunming, China

FA/MCE

July 8, 1943

Commanding Officer  
U. S. Military Transport Service  
Cairo, Egypt

Dear Sir:

The bearer of this letter, Professor Shiing-shen Chern of Kunming, China, is an eminent Chinese mathematician, who has been designated by his government to pursue advanced research for a year in the United States. Professor Chern has been elected a member of the Institute for Advanced Study for the academic year 1943-1944 and has been awarded a research stipend. He plans to come from China to the United States by air.

I am informed that for part of the journey across Africa there is no commercial air line available and that this part of the journey must be made, if at all, in an Army transport plane. Because of Professor Chern's eminence in his field and the importance of the work which he is planning to undertake here, I venture to request from you an authorization for Professor Chern to be allowed to travel on an Army transport plane over this portion of his journey.

I should greatly appreciate any assistance you may be able to render to Professor Chern.

Yours very sincerely,

FA/MCE

FRANK AYDELOTTE, Director

July 8, 1943

TO WHOM IT MAY CONCERN:

This is to testify that by formal vote of the School of Mathematics of the Institute for Advanced Study, Professor Shiing-shên Chern of Kunming, China, has been elected to membership in the Institute for Advanced Study for the academic year 1943-1944 and has been awarded a research stipend of \$1500.

FRANK AYDELOTTE, Director

Subscribed and sworn to before me  
this 8th day of July, 1943.

Notary Public, State of New Jersey



*D. Aydelotte*

May 3, 1943

Dear Professor Chern:

I received your letter of March 4 a few days ago, and have talked over the question of your stipend more fully with Dr. Aydelotte, who has also been in communication with Dr. Hu Shih. These gentlemen are convinced that the supplement of this Institute to your Chinese stipend is hardly sufficient for the purpose intended. I am therefore happy to state that I can now officially offer you a stipend of \$1500 from our Institute. This we feel confident will be sufficient for your expenses while you are here, but it will be necessary for you to obtain from other sources the funds for coming and for your return to China.

With best greetings,

Yours sincerely,

Oswald Veblen

Professor S. S. Chern  
P.O. Box 96  
Kunming, China  
OV:GB

COPY

*for Dr. Apdeltter*

April 12, 1943

Dear Professor Chern:

Two or three weeks ago I received from you a letter which I appear to have lost. But the gist of it was that you have been chosen by your University as one of a number of professors who will receive stipends with which to come to the United States. This would on the face of it appear to make it unnecessary to seek a stipend for you from our Institute as I suggested in my letter of February 1. It is, however, clear from your letter, and I think obvious from general considerations, that it would be helpful if you could receive from our Institute an increment to your stipend.

Therefore I am happy to say that I can now officially offer you a stipend of \$1000 from this Institute for the academic year 1943-44, for the purpose of supplementing what you receive from Chinese sources. I hope that this will help to make your stay in this country more comfortable in a material way, and more profitable scientifically.

I look forward with great pleasure to welcoming you here as a colleague.

Yours sincerely,

Oswald Veblen

Professor S. S. Chern  
P.O. Box 96  
Kunming, China

C O P Y

S. S. Chern  
P.O. Box 96  
Kunming, China  
March 4, 1943

Dear Professor Veblen,

I thank you very much for your kindness in arranging for me the stipend for the academic year 1943-1944.

To provide my traveling expenses to America, I am asking our Ministry of Education and our University for a grant. But even if this should fail, I can still depend on the subsidy of our University to cover these expenses, which will not be high if I go by boat. I am planning to leave China in July or August this year and hope to arrive at Princeton before the first term begins.

Your State Department has invited some Chinese professors to come to the United States. Our University has chosen as its representative Dr. Y. L. Ching, professor of philosophy and a senior member of our faculty. Although most of the professors in Chinese universities have studied in the United States, much can still be done in promoting cultural relations between the two countries, particularly, as you have said, in helping Chinese scientists to do serious research works, either in the United States or in China. We hope that someday we could welcome prominent American scientists to lecture in China.

With best wishes,

Yours sincerely

S. S. CHERN

C O P Y

February 1, 1943

Dear Professor Chern:

I shall be very glad to continue to assist in finding suitable places for the publication of your papers from time to time. I only regret that I do not have time to read them myself.

I have talked with my colleagues, and we should be much pleased if you could spend a year at our Institute. I think there is no doubt that we could obtain for you a stipend of \$1,500. for the academic year 1943-1944. The difficulty, however, would be in meeting the expenses of your journey to America and back. I am making inquiries from the Division of Cultural Relations of our State Department. Perhaps you could arrange it somehow as an enterprise of the Chinese Government in promoting cultural relations with the United States. I am making the argument that it is very important for China to develop leaders in the various fields of scholarship, and for the United States to cooperate in this process.

With best wishes,

Yours sincerely,

Oswald Veblen

Professor S. S. Chern  
P.O. Box 96  
Kunming, China

*D. Aydelotte*

THE INSTITUTE FOR ADVANCED STUDY

In lieu of missing Minutes of a 1942-1943 meeting of the Professors of Mathematics with Dr. Aydelotte, before February 15, 1943:

From letter of O. Veblen to Prof. S. S. Chern, Kunming, China, February 1, 1943:

I have talked with my colleagues, and we should be much pleased if you could spend a year at our Institute. I think there is no doubt that we could obtain for you a stipend of \$1,500. for the academic year 1943-1944. The difficulty, however, would be in meeting the expenses of your journey to America and back. I am making inquiries from the Division of Cultural Relations of our State Department. Perhaps you could arrange it somehow as an enterprise of the Chinese Government in promoting cultural relations with the United States. I am making the argument that it is very important for China to develop leaders in the various fields of scholarship, and for the United States to cooperate in this process.

O. Veblen to Willys R. Peck, Division of Cultural Relations, U.S. Department of State, February 1, 1943:

I have discussed the question with my colleagues and with the Director of the Institute, Dr. Aydelotte. If it were possible for your organization to bring Dr. Chern to this country and to provide for his return to China, we should be glad to give him the leading place on our list of candidates for stipends in mathematics. This would insure him an income of \$1500 for the year that he would spend with us.

*Chern*

*PM Walker*  
*Reff. to*  
*letter from Chern*

**CHINESE EMBASSY**  
WASHINGTON, D. C.

May 29, 1942

Mr. Frank Aydelotte, Director  
The Institute for Advanced Study  
Princeton, New Jersey

Dear Sir:

In the absence of the Ambassador, I wish to acknowledge the receipt of your letter of May 23rd, and to assure you that it will be brought to his attention upon his return to Washington next week.

Very truly yours,  
*Jola Lois Ing.*  
Private Secretary

li/

*Copy to Sch. of Int.*

Records of the Office of the Director: Member Files : Box 20 : Chern, Shiang Shen  
From The Shelby White and Leon Levy Archives Center, Institute for Advanced Study, Princeton, NJ, USA

*Chern*

May 23, 1942

His Excellency The Chinese Ambassador  
The Chinese Embassy  
Washington, D. C.

My dear Dr. Hu Shih:

I take the liberty of writing to you about a very eminent Chinese mathematician, who is eager to come to Princeton to work at the Institute for Advanced Study. This is Professor Shiing-shen Chern, whose academic career is summarized in the enclosed statement. Professor Chern's publications, which have been read by members of our School of Mathematics, indicate that he is one of the most promising mathematicians of this generation.

It seems to us quite clear that Professor Chern himself and Chinese mathematics in general would be advanced if it could be made possible for him to come to the Institute for a year or, still better, for two. At the end of the war Professor Chern could be immensely useful in his own professorship at National Tsing Hua University and indeed throughout all the universities of China.

We should be most happy to have Professor Chern as a member of the Institute if it could be made possible for him to come. I regret to say that we have no funds out of which we could offer to defray the cost of his travel or of his expenses in Princeton. I am writing you in the hope that it may be possible for the Chinese government to make Professor Chern's visit to Princeton financially possible. His own high qualifications and the importance of the subject would seem to us to justify the Chinese government in undertaking this expense.

With kindest regards, I am

Yours sincerely,

FA/MCE

FRANK AYDELOTTE, Director

1 copy  
Weaver

THE ROCKEFELLER FOUNDATION

49 WEST 49th STREET, NEW YORK

THE NATURAL SCIENCES

WARREN WEAVER, DIRECTOR  
FRANK BLAIR HANSON, ASSOCIATE DIRECTOR  
HARRY M. MILLER, JR., ASSISTANT DIRECTOR

April 30, 1942

Dear Mr. Aydelotte:

In my letter to you of April 10th I remarked that we would give the question of bringing Chern to this country further thought and that I would communicate with you again.

I am writing now to say that at a conference of the officers having to do with refugee scholars it was decided that the Foundation would not undertake to bring a scholar from China at this time.

Cordially yours,

*Frank Blair Hanson*

Frank Blair Hanson

Mr. Frank Aydelotte, Director  
The Institute for Advanced Study  
Princeton, New Jersey

FBH:CR



THE INSTITUTE FOR ADVANCED STUDY  
SCHOOL OF MATHEMATICS  
PRINCETON, NEW JERSEY

April 22, 1942

Dear Frank:

The facts concerning Professor Shiing-shen Chern are about as follows:

He wrote me on May 8, 1941, asking whether he could get a stipend in the Institute in 1942. With his letter he enclosed an account of his researches, and a paper which he offered for publication in one of the American mathematical journals. The paper struck me as being extremely good, and the referee's report pronounces it first class. His work altogether seems to establish that Chern is the most promising Chinese mathematician who has thus far come to our attention. Our mathematical group would therefore, except for the difficult situation in which we find ourselves, have recommended him for a stipend from the Institute.

In the present circumstances our recommendation is that an attempt should be made to bring him to the Institute for a couple of years. The problem of bringing him here and of returning him to China at the end of his period might be referred to the Chinese Embassy in Washington, and the funds might be sought from one of the Foundations. We feel that Chern seems to be a man of such unusual quality, and the need of China for the development of such men so immediate, that there should be a good chance of carrying out a program of this sort.

I enclose a short outline of Dr. Chern's career, which he supplied himself, and may add that he is now a professor at the National Tsing Hua University, which was moved from Peiping to Kunming. Where it is now I don't know.

Sincerely,



Oswald Veblen

Dr. Frank Aydelotte  
OV:GB

C O P Y

My Academic Career

Shiing-shen Chern

I was born on October 26th, 1911, in Kashing, Chekiang Province, China. After graduating from the Fulun Middle School, Tientsin, I entered the Nankai University, Tientsin, in 1926 and obtained my B.Sc. degree in 1930. In 1930-31 I was assistant in the Department of Mathematics at National Tsing Hua University in Peiping. In 1931-34 I was studying in the Graduate School of Tsing Hua University, and completed my work with distinction in 1934. I was then granted a fellowship by the University to study abroad for three years. I studied from 1934 to 1936 in Hamburg, Germany, under Professor W. Blaschke and received my degree of "Doktor der Naturwissenschaften" in February 1936. In 1936-37 I studied in Paris under the direction of Professor Elie Cartan. In 1937 I came back to China to be Professor of Mathematics at National Tsing Hua University, which position I am still holding.

Acknowledged, University catalogue sent, and referred to Institute for Advanced Study for a copy of the bulletin of that institution. 12-14-35.

B. T. Jeang  
M.I.T. Dormitory  
Cambridge, Mass.  
Dec. 12, 1935.

Registration Office  
Princeton University  
Princeton, N. J.

Dear Sir:

Will you please send a General Catalogue of Princeton University including the Institute of Advanced Study to the following address?

Herrn Chern Shiin-Shen  
Rothebaumchaussée 21  
Math. Seminar der Universität  
Hamburg 13, Germany

Thanking you in advance, I am.

Very truly yours,

*B. T. Jeang*

Herrn Chern Shiin-Shen  
Rothebaumchaussée 21  
Math. Seminar der Universität  
Hamburg, 13, Germany

*Recd. 12/14/35  
C. L. B.*