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22 May 1952

MEMO FOR THE FILE

~~SCAMP~~

1 July - 31 Aug

Prof. Cairns has arranged for the following people to participate in the seminar at Los Angeles.

cleared	2 months	Prof. S. S. Cairns	U. of Ill.	Topologist ANABRANCH
cleared	2 months	Mr. J. C. Koken	U. of Ill.	Topologist ANABRANCH
	2 months	Prof. D. W. Hall	U. of Md.	Topologist
	2 months	Prof. C. Wexler	U. of Ariz.	War time cryptanalyst
cleared	2 months	Prof. T. Botts	U. of Va.	Topologist, War time cryptanalyst
15 June - 15 Sept cleared	3 months	Prof. J. A. Ward	U. of Ky.	Algebraist
1 July - 31 Aug	2 months	Prof. E. H. Hanson	N. Tex. State	War time cryptanalyst
	2 months	Prof. G. A. Hedlund	Yale	Topological Groups
	~~2 months~~	~~Prof. W. Karush~~	~~U. of Chicago~~	~~Eigenvectors~~ not cleared
3 - 24 Aug	~~5 weeks~~	~~Prof. I. Kaplansky~~	~~U. of Chicago~~	~~Combinatorial analysis~~ " "
last of Aug	1 week	Prof. A. A. Albert	U. of Chicago	Algebraist
1 15 July	~~2 weeks~~	~~Dr. S. Ulam~~	~~Los Alamos~~	~~Monte Carlo methods~~
cleared	2 weeks	Dr. R. A. Leibler	Sandia	Probability
1 July 31 Aug	2 months	Mrs. L. Walters	AFSA	Librarian

Various members of SCAG have indicated they will be there part of the time.

15 June 15 Sept	3 months	Dr. C. Tompkins	I.N.A.
dates unknown	short time	Dr. H. T. Engstrom	E.R.A.
	3 weeks	Prof. J. von Neumann	I.A.S.

Shannon - Adm Wenger phoned him this morning Sorry he can't get away 17 June 52 J

Representatives of AFSA will be

6 weeks, July	Dr. H. Campaigne
5 weeks, July	LCDR A. M. Gleason
3 weeks, August	LCDR M. Hall

others yet to be nominated by O2 and O4.

Others

Lowell J. Paige - UCLA (3 weeks) ~~SECRET~~

A. E. Roberts - ERA (less than week)

D. C. Spencer - Princeton (3 days)

Memo for the file SCAMP.

Problems proposed as starting points for this research are:

1) Matrix algebra, particularly solving for matrices X such that $X^{-1}RX = B$ or with fragmentary A_s $X^{-1}R^sX = A_s$ or finding X and Y such that

$$X^{-1}R^sY^{-1}R^{-s}+t_{YR^{-t}X} = B_{s,t} .$$

This is the wheel-wiring recovery problem. One method of solution is matrix projection.

2) Computations with group characters; this may be another way to recover wheel wiring.

3) Cycle structures (combinatorial topology).

4) Logical reduction of hypotheses. This is another potential way of attacking burst messages.

5) Determination of the finite geometries of a given order. This is of interest because it may be possible to solve it by matrix projection.

6) Invent a measure for security. This may be possible using information theory. Our present crude measure is in terms of minimum time of breaking; 24 hours or 5 years for example.

7) Determine what level of security is needed in a privacy system. This depends on satisfactorily solving 6), and may involve the theory of games.

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Reading file

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