

Edinburgh Mathematical Society.

LIST OF MEMBERS.

THIRTY-FIRST SESSION, 1912-13.

- 1 V. RAMASWAMI AIYAR, M.A., Deputy Collector, Arni, India
ROBERT J. ALEY, Orono, Maine, U.S.A.
JOHN ALISON, M.A., F.R.S.E., Headmaster, George Watson's
College, Edinburgh
R. E. ALLARDICE, M.A., Professor of Mathematics, Stanford
University, California, U.S.A.
- 5 DAVID ANDERSON, M.A., The Academy, Dumfries
WM. ANDERSON, M.A., F.R.S.E., George Watson's College,
Edinburgh
JAMES ARCHIBALD, M.A., F.R.S.E., 1 Leamington Terrace,
Edinburgh
R. C. ARCHIBALD, B.A., M.A., Ph.D., Brown University,
Providence, R.I.
PAUL AUBERT, Professeur au Lycée Henry IV., Paris
- 10 JOHN BALLANTINE, M.A., High School, Falkirk
A. J. GUNION BARCLAY, M.A., F.R.S.E., High School, Glasgow
J. C. BEATTIE, D.Sc., F.R.S.E., Professor of Applied Mathe-
matics and Experimental Physics, South African College,
Cape Town
H. C. BEAVEN, M.A., Clifton College, Bristol
ROBT. J. T. BELL, M.A., D.Sc., 146 Hyndland Road, Glasgow
(*Co-Editor of Proceedings*)
- 15 PETER BENNETT, Royal Technical College, Glasgow
EDWARD BLADES, M.A., B.Sc., George Watson's Ladies' College,
Edinburgh
JAMES BOLAM, Leith Nautical College, Leith
WILLIAM BRASH, M.A., B.Sc., 12 Society Place, West Calder

- Professor T. J. GA BROMWICH, M.A., F.R.S., 1 Selwyn Gardens,
Cambridge
- 20 A. BROWN, M.A., B.Sc., Professor of Applied Mathematics,
South African College, Cape Town
- WALTER BROWN, M.A., B.Sc., Allan Glen's School, Glasgow
- A. G. BURGESS, M.A., F.R.S.E., Ladies' College, Queen Street,
Edinburgh (*President*)
- J. W. BUTTERS, M.A., B.Sc., F.R.S.E., Rector, The Academy,
Ardrossan
- JOHN F. CAMERON, M.A., Fellow and Tutor of Caius College,
Cambridge
- 25 JOHN CAMPBELL, B.Sc., Allan Glen's School, Glasgow
- GEORGE A. CARSE, M.A., D.Sc., Lecturer on Natural Philosophy,
The University, Edinburgh
- H. S. CARSLAW, Sc.D., Professor of Mathematics, The
University, Sydney, N.S.W.
- CHARLES CHREE, M.A., D.Sc., F.R.S., 75 Church Road,
Richmond, Surrey
- J. B. CLARK, M.A., F.R.S.E., Headmaster, George Heriot's
School, Edinburgh
- 30 PETER COMRIE, M.A., B.Sc., F.R.S.E., Boroughmuir School,
Edinburgh (*Hon. Secretary*)
- JAMES I. CRAIG, M.A., B.A., Survey Department, Cairo, Egypt
- G. E. CRAWFORD, M.A., Manor House, Clifton, Bristol
- LAWRENCE CRAWFORD, M.A., D.Sc., Professor of Mathematics,
South African College, Cape Town
- J. M. DATTA, Superintendent of Post Offices, Purnea, Bengal,
India
- 35 GEORGE DAWSON, M.A., B.Sc., 21 Fonthill Terrace, Aberdeen
- R. F. DAVIS, M.A., 21 Leyborne Park, Kew Gardens,
London, W.
- J. MACALISTER DODDS, M.A., Peterhouse, Cambridge
- A. C. DIXON, M.A., F.R.S., Professor of Mathematics, Queen's
College, Belfast
- JAMES M. DOGGART, B.A., High School, Kirkcaldy
- 40 J. A. DOIG, George Watson's College, Edinburgh
- A. GRAHAM DONALD, M.A., F.F.A., Scottish Provident
Institution, Edinburgh
- J. A. DONALDSON, M.A., c/o Clark, 127 Marchmont Road,
Edinburgh
- CHAS. S. DOUGALL, M.A., Rector, The Institution, Dollar
- JOHN DOUGALL, M.A., D.Sc., Kippen, Stirlingshire

- 45 ALBERT DRIVER, George Watson's College, Edinburgh
 DAVID DRYSDALE, M.A., High School, Arbroath
 JOHN DUNBAR, M.A., B.Sc., Public School, Falkland
 GEORGE DUTHIE, M.A., B.A., F.R.S.E., Superintending
 Inspector of Schools and Statist, Salisbury, Rhodesia
 Professor JAMEHEDJI EDALJI, Bombay Cottage, 97 Hayashi-cho,
 Koishikawa, Tokyo, Japan
- 50 JAMES M. EDWARD, M.A., Headmaster, Wigtown
 F. E. EDWARDES, B.A., Harrow School, Middlesex
 MARION EDWARDS, M.A., Girls' County School, Wrexham
 AGNES FARQUHARSON, 20 Howard Place, Edinburgh
 WILLIAM FARQUHARSON, M.A., Daniel Stewart's College,
 Edinburgh
- 55 ROBERT R. FERGUSON, M.A., The Academy, Rothesay
 WM. FINLAYSON, 84 Pilrig Street, Edinburgh
 DAVID KENNEDY-FRASER, M.A., B.Sc., 95A George Street,
 Edinburgh
 PETER FRASER, M.A., Mathematical Lecturer, The University,
 Bristol
 W. G. FRASER, M.A., H.M.I.S., 18 Glebe Avenue, Stirling
- 60 JAMES F. FREW, M.A., B.Sc., Dollar Institution, Dollar
 J. D. FULTON, M.A., B.Sc., Boroughmuir Higher Grade
 School, Edinburgh
 WM. GENTLE, B.Sc., F.R.S.E., George Heriot's School,
 Edinburgh
 DAVID GIBB, M.A., B.Sc., F.R.S.E., University, Edinburgh
 (*Hon. Librarian*)
 H. T. GERRANS, M.A., Fellow and Tutor of Worcester College,
 Oxford
- 65 GEORGE A. GIBSON, M.A., LL.D., F.R.S.E., Professor of
 Mathematics, University, Glasgow (*Hon. Member*)
 JAMES GOODWILLIE, M.A., B.Sc., Lecturer on Mathematics,
 King's College, Aberdeen
 J. G. GRAY, B.Sc., F.R.S.E., Natural Philosophy Department,
 Glasgow University
 GEORGE GREEN, M.A., 3 Edgefauld Terrace, Springburn,
 Glasgow
 Professor Sir A. G. GREENHILL, M.A., F.R.S., 1 Staple Inn,
 London, W.C. (*Hon. Member*)
- 70 W. J. GREENSTREET, M.A., F.R.A.S., The Woodlands, Burgh-
 field Common, nr. Mortimer, Berks
 WM. GRIEVE, M.A., B.Sc., Boroughmuir School, Edinburgh

- P. S. HARDIE, M.A., B.Sc., Ras-el-tin Government School, Alexandria, Egypt
- R. P. HARDIE, M.A., Assistant to the Professor of Logic, University, Edinburgh
- E. W. HERBERT, M.A., The Academy, Edinburgh
- 75 JOHN HILL, A.R.C.S., Allan Glen's School, Glasgow
- ALEX. HOLM, M.A., Girls' High School, Glasgow
- E. M. HORSBURGH, M.A., B.Sc., A.M.I.C.E., Lecturer in Mathematics, The University, Edinburgh
- ANDREW HUTCHISON, M.A., B.Sc., Provincial Training College, Glasgow
- JOHN JACK, M.A., Angel Court, Fortrose
- 80 WM. JACK, M.A., LL.D., Emeritus Professor of Mathematics, University, Glasgow (*Hon. Member*)
- C. S. JACKSON, M.A., 36 Charlton Road, Blackheath, London, S.E.
- JOHN JACKSON, M.A., B.Sc., B.A., F.R.A.S., Victoria Buildings, Greenock Road, Paisley
- JOHN JEFFREY, M.A., B.Sc., Rector, High School, Selkirk
- WM. JEFFREY, M.A., Academy, Banff
- 85 GEORGE JOHNSTON, M.A., Spier's School, Beith
- D. M. JOHNSTONE, M.A., B.Sc., George Heriot's School, Edinburgh
- COLIN KESSON, M.A., 94 Camperdown Road, Scotstoun
- ARCHIBALD KING, M.A., B.Sc., La Maisonette, Clarkston, Glasgow
- CARGILL G. KNOTT, D.Sc., F.R.S.E., Lecturer on Applied Mathematics, University, Edinburgh
- 90 ARCHIBALD LANG, M.A., B.Sc., H.M.I.S., 93 Millbrae Road, Langside, Glasgow
- P. R. SCOTT LANG, M.A., B.Sc., F.R.S.E., Professor of Mathematics, University, St Andrews
- GEORGE LAWSON, M.A., Rector, Waid Academy, Anstruther
- R. LEES, M.A., B.Sc., Headmaster, The Academy, Fraserburgh
- ALEXANDER LEIGHTON, M.A., B.Sc., Morgan Academy, Dundee
- 95 H. LEVY, M.A., B.Sc., 218 Dalry Road, Edinburgh
- WM. A. LINDSAY, M.A., B.Sc., Provincial Training College, Glasgow
- JAMES LITTLEJOHN, M.A., 11 Kinnaird Street, Arbroath
- J. BARRY-LOW, M.A., Wrenschtown House, Observatory Road, Cape Town
- WM. H. LOVE, M.A., Provincial Training College, Glasgow

- 100 JOHN H. MACALPINE, M.I.N.A., 5845 Phillips Avenue,
Pittsburg, Pa.
T. M'ALPINE, 50 Windsor Road, Church End, Finchley,
London, N.
NEIL M'ARTHUR, M.A., B.Sc., Mathematical Department,
University, Glasgow (*Co-Editor of Proceedings*)
JAMES A. M'BRIDE, B.A., B.Sc., Allan Glen's School, Glasgow
JAMES A. MACDONALD, M.A., B.Sc., F.R.S.E., H.M.I.S.,
Stewarton, Kilmalcolm
- 105 D. C. M'INTOSH, M.A., D.Sc., F.R.S.E., Ladies' College,
Queen Street, Edinburgh
DONALD MACKAY, M.A., Viewforth School, Kirkcaldy
J. S. MACKAY, M.A., LL.D., F.R.S.E., 69 Northumberland
Street, Edinburgh (*Hon. Member*)
ANGUS M'LEAN, B.Sc., C.E., Principal, Technical College,
Paisley
CHARLES M'LEOD, M.A., D.Sc., Grammar School, Aberdeen
- 110 PETER M'LEOD, M.A., B.Sc., Hillhead High School, Glasgow
JESSIE CHRYSAL MACMILLAN, M.A., B.Sc., Carcraig, Davidson's
Mains
D. B. M'QUISTAN, M.A., B.Sc., Technical College, Glasgow
THOMAS M. M'ROBERT, M.A., B.Sc., Mathematical Depart-
ment, Glasgow University
JOHN M'WHAN, M.A., Ph.D., Rossville, Cambuslang
- 115 ARTEMAS MARTIN, M.A., Ph.D., LL.D., U.S. Coast Survey,
Washington, D.C., U.S.A.
DAVID B. MEEK, M.A., B.Sc., Government College, Dacca,
India
J. B. MEIKLEJOHN, M.A., High School, Dundee
JOAQUIN DE MENDIZABAL Y TAMBORREL, Professor de Mathe-
matique, Palma, 13, Mexico
ALEX. J. MERRILES, M.A., B.Sc., 12 Marchmont Street, Edin-
burgh
- 120 W. J. MILLAR, C.E., late Secretary, Instit. Engineers and
Shipbuilders in Scotland, 31 Marine Place, Rothesay
JOHN MILLER, M.A., D.Sc., F.R.S.E., Professor of Mathe-
matics, Royal Technical College, Glasgow (*Vice-President*)
JOHN MILLER, M.A., B.Sc., Mackie Academy, Stonehaven
T. HUGH MILLER, M.A., D.Sc., Training College, Isleworth,
near London
WILLIAM MILLER, M.A., Ph.D., D.Sc., Institution, Dollar
- 125 ARCH. MILNE, M.A., B.Sc., F.R.S.E., Provincial Training
College, Edinburgh

- EDWARD L. MILNE, M.A., B.Sc., Waid Academy, Anstruther
 JAMES ROBERT MILNE, D.Sc., Lecturer on Physical Optics,
 The University, Edinburgh
 JOHN MILNE, M.A., High School, Stirling
 WILLIAM P. MILNE, M.A., D.Sc., 6 Clifton Park Road, Clifton,
 Bristol
- 130 HUGH MITCHELL, 30 Durham Street, Monifieth
 JAMES MITCHELL, M.A., B.Sc., F.R.S.E., Cruach, Lochgilphead
 GEORGE L. MOFFAT, M.A., B.Sc., The Academy, Glasgow
 ALEXANDER MORGAN, M.A., D.Sc., F.R.S.E., Principal,
 Provincial Training College, Edinburgh
 A. S. MORRISON, M.A., B.Sc., 20 Queensborough Gardens,
 Glasgow
- 135 J. T. MORRISON, M.A., B.Sc., F.R.S.E., Professor of Physics,
 Stellenbosch, Cape Colony
 R. F. MUDIE, B.A., 5 Fintray Place, Broughty-Ferry
 THOMAS MUIR, M.A., LL.D., F.R.S., F.R.S.E., C.M.G.,
 Superintendent-General of Education, Mowbray Hall,
 Rosebank, Cape Colony
 R. FRANKLIN MUIRHEAD, B.A., D.Sc., 64 Great George Street,
 Hillhead, Glasgow (*Hon. Member*)
 ASUTOSH MUKHOPADHYĀY, M.A., LL.D., F.R.A.S., F.R.S.E.,
 Professor of Mathematics, Bhowanipore, Calcutta
- 140 A. M. C. MUTCH, M.A., B.Sc., Royal Academical Institution,
 Belfast
 WALTER G. NAPIER, M.A., B.Sc., Ruby Villa, Sciennes Gardens,
 Edinburgh
 M. T. NARANIENGAR, M.A., Professor of Mathematics, Central
 College, Bangalore, South India
 CHARLES NIVEN, M.A., D.Sc., F.R.S., Professor of Natural
 Philosophy, University, Aberdeen (*Hon. Member*)
 ROBERT NORRIE, M.A., 1 Kilburn Place, Newport-on-Tay
- 145 R. T. OMOND, F.R.S.E., 3 Church Hill, Edinburgh
 JAMES PAUL, M.A., B.Sc., Royal Technical College, Glasgow
 FRANK R. PEARSON, M.A., George Watson's College, Edinburgh
 WILLIAM PEDDIE, D.Sc., F.R.S.E., Professor of Physics,
 University College, Dundee
 HENRY T. H. PIAGGIO, M.A., B.Sc., Mathematical Lecturer,
 University College, Nottingham
- 150 GEORGE PHILIP, M.A., D.Sc., George Watson's College,
 Edinburgh
 WM. EDWARD PHILIP, M.A., H.M.I.S., 12 Lauder Road,
 Edinburgh

- D. K. PICKEN, M.A., Professor of Mathematics, Victoria College, Wellington, New Zealand
- P. PINKERTON, M.A., D.Sc., F.R.S.E., George Watson's College, Edinburgh (*Editor of Mathematical Notes*)
- R. H. PINKERTON, M.A., Professor of Mathematics, University College, Cardiff
- 155 JAMES POTTS, M.A., 42 Airlie Gardens, Hyndland, Glasgow
- HARRY RAINY, M.A., M.D., F.R.S.E., 16 Great Stuart Street, Edinburgh
- PETER RAMSAY, M.A., B.Sc., George Watson's College, Edinburgh
- THOS. T. RANKINE, C.E., B.Sc., Principal, Wigan and District Mining and Technical College, Wigan
- DAVID RENNET, LL.D., 39 Fountainhall Road, Aberdeen
- 160 JOHN ROBERTSON, B.Sc., Holy Cross Academy, Leith
- M. RODERICK, Pretoria House, West Folkestone
- EDWARD B. ROSS, M.A., Professor of Mathematics, Christian College, Madras
- PETER ROSS, M.A., B.Sc., Broughton H.G. School, Edinburgh
- ANDREW RUTLEDGE, B.A., 32 Clonmore Road, N. Strand, Dublin
- 165 ALEX. D. RUSSELL, B.Sc., F.R.S.E., F.R.A.S., 34 Heugh Street, Falkirk (*Hon. Treasurer*)
- K. J. SANJANA, Professor of Mathematics, Bhavnagar, Bombay
- CHARLOTTE ANGAS SCOTT, D.Sc., Professor of Mathematics, Bryn Mawr College, Pennsylvania, U.S.A.
- R. F. SCOTT, M.A., Master of St John's College, Cambridge
- W. SCRIMGEOUR, M.A., B.Sc., 26 Alexandra Place, Oban
- 170 RODERICK M. SHEARER, M.A., B.Sc., 28 Strathearn Road, Edinburgh
- ALEXANDER SIVEWRIGHT, M.A., Boroughmuir School, Edinburgh
- DUNCAN M. Y. SOMMERVILLE, M.A., D.Sc., Lecturer in Applied Mathematics, University of St Andrews
- MISS L. SPENCE, Girls' High School, Oudtshoorn, Cape Colony
- T. B. SPRAGUE, M.A., LL.D., F.R.S.E., 29 Buckingham Terrace, Edinburgh
- 175 J. E. A. STEGGALL, M.A., Professor of Mathematics, University College, Dundee
- ADAM B. STEWART, M.A., The Ministry of Education, Darb-El-Gamamiz, Cairo, Egypt
- C. A. STEWART, M.A., B.Sc., 12 Gardenside Terrace, Uddingston

- DAVID N. STEWART, M.A., B.Sc., Royal High School, Edinburgh
 THOMAS W. STEWART, M.A., B.Sc., Ladies' College, Queen
 Street, Edinburgh
- 180 GEORGE D. C. STOKES, M.A., D.Sc., Mathematical Department,
 The University, Glasgow
 LOUISA STORY, Headmistress, Royal School, Bath
 ISABELLA B. SUTHERLAND, M.A., Girls' High School, Graff
 Reinet, Transvaal, So. Africa
 J. C. SWAMINARAYAN, M.A., Professor of Mathematics, Gujerat
 College, Ahmedabad, India
 DAVID G. TAYLOR, M.A., University College, Cardiff
- 185 FRANK GLANVILLE TAYLOR, M.A., B.Sc., Mathematical
 Lecturer, University College, Nottingham
 W. S. TEMPLETON, M.A., B.Sc., Principal, Municipal Technical
 School, Devonport
 J. A. THIRD, M.A., D.Sc., Spier's School, Beith
 G. R. THOMPSON, B.A., M.A., B.Sc., Leddra, Cromer Road,
 Holt, Norfolk
 H. F. THOMPSON, B.A., Charterhouse, Godalming
- 190 THOMAS THOMPSON, B.A., B.Sc., 49 Vernham Road, Plumstead,
 London, S.E.
 JAMES THOMSON, M.A., B.Sc., Gordon's College, Aberdeen
 JOHN GRAHAM THOMSON, 34 London Street, Edinburgh
 PETER THOMSON, M.A., Royal High School, Edinburgh
 ROBERT F. THOMSON, M.A., University, St Andrews
- 195 WM. THOMSON, M.A., B.Sc., LL.D., F.R.S.E., Registrar to the
 Cape University, Cape Colony
 W. L. THOMSON, M.A., George Heriot's School, Edinburgh
 JOHN TURNER, M.A., B.Sc., Royal High School, Edinburgh
 CHARLES TWEEDIE, M.A., B.Sc., F.R.S.E., Lecturer on Mathe-
 matics, University, Edinburgh
 DAVID TWEEDIE, M.A., B.Sc., Ministry of Public Instruction,
 Cairo, Egypt
- 200 J. URQUHART, M.A., B.A., University, Edinburgh
 GEORGE D. VALENTINE, M.A., Advocate, 18 Dundas Street,
 Edinburgh
 ROBERT WALKER, M.A., Provincial Training College, Glasgow
 DAVID WALLACE, M.A., B.Sc., Bell-Baxter School, Cupar
 W. WALLACE, M.A., F.R.S.E., Moss-side P.O., Belvidere,
 Alberta, Canada
- 205 T. P. WATSON, M.A., B.Sc., F.R.S.E., Principal, Technical
 College, Keighley, Yorkshire

- JOHN C. WATT, M.A., Jesus College, Cambridge
 JAMES MACPHERSON WATTIE, M.A., B.A., H.M.I.S., 60 Queen's
 Road, Aberdeen
 EDWIN WAUCHOPE, Lochview, Lenzie
 J. H. MACLAGAN WEDDERBURN, M.A., D.Sc., F.R.S.E., 11
 Alexander Street, Princeton, N.J., U.S.A.
- 210 WILLIAM WELSH, M.A., Jesus College, Cambridge
 JOHN W. WHITE, B.A., Trinity Academy, Leith
 WM. WHITE, B.Sc., A.R.C.S., Allan Glen's School, Glasgow
 EDMUND TAYLOR WHITTAKER, Sc.D., F.R.S., Professor of
 Mathematics, The University, Edinburgh
 ERSKINE D. WILLIAMSON, M.A., B.Sc., 59 Spottiswoode Street,
 Edinburgh
- 215 ROBERT WILSON, M.A., B.Sc., George Heriot's School,
 Edinburgh
 PHINEAS L. WINDSOR, University of Illinois Library, Urbana,
 Illinois, U.S.A.
 WM. WYPER, C.E., 100 Bothwell Street, Glasgow
 Rev. JOHN YOUNG, M.A., B.D., 78 Finnart Street, Greenock
 W. YOUNG, F.F.A., Actuary's Dept., New York Life Insurance
 Co., 346 Broadway, New York, U.S.A.