

S₂A₃

**THE SOUTH AFRICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
DIE SUID-AFRIKAANSE GENOOTSAP VIR DIE BEVORDERING VAN DIE WETENSKAP**

**JAARLIKSE MEDALJETOEKENNINGSEREMONIE
18 Oktober, 1991**

**ANNUAL MEDAL AWARD CEREMONY
18 October, 1991**

DIE GOUE SUID-AFRIKAANSE MEDALJE

**Met die 90ste bestaansjaar van die S₂A₃ is
Professor P.H. Stoker die 73ste ontvanger van
hierdie, die mees gesogte toekening wat die S₂A₃
aanbied.**

Die eerste ontvanger van die goue medalje was Arnold Theiler – later Sir Arnold Theiler. Om 'n paar ander ontvangers te noem: Professor Raymond Dart, Dr. Austin Roberts, Dr. S.H. Skaife, Dr. Margaret R. Levyns, Professor D.M. Joubert.

PIETER HELENIUS STOKER is in Potchefstroom gebore en kry sy skool- en universiteitsopleiding tot op B.Sc.-vlak daar. Daarna studeer Professor Stoker aan die Kaapstadse Universiteit en aan die Vrije Universiteit in Amsterdam. Sy omvattende loopbaan sluit die poste van Professor in Fisika, Hoof van die Departement Fisika en Dekaan van die Fakulteit Natuurwetenskappe in, steeds aan die Potchefstroomse Universiteit vir CHO.

Professor Stoker het gedurende sy produktiewe loopbaan op verskillende Nasionale sowel as Internasionale komitees gedien. Hy was in 1978 - 1984 een van net tien lede wat gekies is om op die Cosmic Ray Commission of the Union of Pure and Applied Physics te dien. Tot 1990 was hy lid van die Advieskomitee van die WNNR se Magnetiese Observatorium.

'n Vlugbeeld van hierdie ywerige wetenskaplike is: Behalwe om sy dagtaak as Professor in Fisika te volbring dien hy ook in die Raad van die Pu vir CHO as Senaatvertegenwoordiger. Hy is Direkteur PU/SNO Navorsingseenheid vir Kosmiese Strale, Programdirekteur: Antarktiese Navorsingsprogram op Kosmiese Strale en lid van die Nederlandse Natuurkundige Vereniging. Hy is ook Fellow of the Royal Astronomical Society in Londen, lid van die Suid-Afrikaanse Raad van Natuurwetenskaplikes, lid van die Redaksiekomitee van die Fisika-woordelys en lid van die Suid-Afrikaanse Vereniging van Atmosferiese Wetenskappe.

Nasionale en Internasionale toekennings aan Pieter Stoker het nie agterweë gebly nie. Die Ernst Oppenheimer Trustbeurs is aan hom toegeken asook die Havengaprys vir Fisika van die SA Akedemie vir Wetenskap en Kuns en hy was, onder andere, ook uitgenooi as gasnavorsers na die Centre for Space and Remote Sensing Research aan die Nasionale Universiteit van Taiwan.

Professor Stoker het oor die jare internasionale konferensies op sy vakgebied bygewoon. Om die waarheid te sê,

sy besoeke aan elke kontinent word deur plekname soos Rome, Moskou, Kyoto, Boulder, Amsterdam, Londen, Kiel, Calgary, München, Adelaide, Madrid, Mar del Plata in Argentinië, Plovdiv in Bulgarye en so onlangs as Augustus, 1991, in Dublin gekenmerk. Tussendeur het hy nog kans gesien om 'n sewentigtal publikasies in internasionale vaktydskrifte en konferensie-verrigtinge die lig te laat sien benewens 'n twintigtal publikasies van algemene aard.



Professor Stoker het sy kennis en leiding aan 63 Magisterstudente en 18 doktoralesudente geskenk en hulle in staat gestel om hulle doelwit te bereik.

Pieter Stoker se belangstelling is toegespits op Kosmiese Strale, wat Astrofisika en Kernfisika van hoë energie insluit, met spesialisasie in Kosmiese strale in die interplanetêre ruimte en die magneetveld van die aarde.

MARLOTH GEDENKLESING: „IS RUIMTENAVORSING VAN BELANG VIR DIE RSA?“

Professor Stoker het die geskiedkundige aspekte van die sterrekunde geskets. Hy het na die snel veranderende wêreld waarin ons leef verwys en die afname in natuurwetenskap-onderrig betreur.

Suid-Afrika met sy gunstige geografiese ligging en helder hemelruim bied uitsonderlike moontlikhede aan sterrekundiges tot innoverende navorsing. Sterre skyn nie slegs in die sigbare gebied nie, maar ook in die radio, mikrogolf, infrarooi deur die sigbare gebied na die korter golflengtes in X-strale en gammastrale. Dit is in die laasgenoemde golflengtegebied waar die RSA 'n wesentlike en leidinggewende bydrae tot die wetenskap van die hemelruim maak. Ook vanweë die feit dat van die mees belangrike astronomiese objekte alleenlik in die suidelike halfrond gesien kan word.

Met sy minder mense is daar minder wat navorsingsaktief
Vervolg bladsy 2

volg van bladsy 1

Suid-Afrika is. Professor Stoker het tereg opgemerk dat dit die A besondere geleentheid bied om sy omgewing, die georuimte en arbuite te ondersoek, te leer ken en te verstaan.

Professor Stoker het afgesluit deur te sê dat daar internasionaal nemend 'n benadering is om die aarde as 'n geïntegreerde stelsel sien. Daarom is dit vir Suid-Afrika met sy unieke ligging noodsaaklik om sy bydrae as lid van die Internasionale Geosfeer-biosfeerprogram te lewer, om die wisselwerking van die biosfeer met die aarde se fisiese stelsel te bestudeer.

THE SILVER BRITISH ASSOCIATION MEDAL FUND

The Fund was established in 1929 to commemorate the second visit to South Africa by members of the British counterpart of the A₃. The Silver British Association medal is awarded to a junior scientist. Since its inception, 59 years ago, this coveted medal has been awarded only 30 times. The first time to Miss Nellie F. Peterson in 1932. Dr. Ortrud R. Oellermann is the 30th recipient. Dr. Oellermann in good company. Looking down the list of names – Professor D. Schell, Dr. James B. Park, Professor M.N. Jaton, Dr. Christoff Louw and Dr. Elisabeth van der Merwe springs to mind.



Ortrud Oellermann

ORTRUD R. OELLERMANN commenced her after-school studies at the University of Natal, gaining her M.Sc. degree there, then going on to Western Michigan University in the U.S.A. to do her Ph.D. degree. Climbing the career ladder in Computer Science, Dr. Oellermann started as lecturer at the Durban-Westville University. She spent three years as Assistant Professor at the Western Michigan University, returning to home-base as Lecturer and now Senior Lecturer at the University of Natal in Durban.

Dr. Oellermann has received a number of honours and awards: The Certificate of Merit for Chemistry at the University of Natal in 1979. A Bronze Medal as best Master's student from the S₂A₃ in 1983; Graduate Student Distinguished Service Award from the Western Michigan University in 1986, the President's Award, Foundation of Research Development in 1989 and in 1990 the Certificate of Merit from the S₂A₃ to name a few.

She has given talks in her professional capacity in the United States at a number of universities as well as in England, Japan and in South Africa. In collaboration with colleagues she has written two books and 47 publications. Where will the future take Dr. Oellermann?

Present Dr. Oellermann's two main areas of research are:

The study of measures of network reliability. As she says, she has introduced several new measures which are more sensitive measures than the traditional measures, namely the connectivity and edge-connectivity of a graph and investigated their properties.

2. The theoretical aspects of the Steiner distance of subsets of vertices of a graph. The computational aspects of the Steiner distance of a subset of vertices in a graph have been studied extensively, but the theoretical aspects, which are natural extensions of the normal distance parameters such as the radius, diameter, centre, periphery etc., of a graph had never been looked at until 1987/88 when she was involved in the initial investigations that extended these concepts to the corresponding Steiner distance concepts. As Dr. Oellermann says, since then many exciting new areas in this field have been developed, and that she has been involved in almost all of these research papers, and will certainly follow through in the foreseeable future.

DAVID GERHARDUS ROUX was born at Paarl. He matriculated in Wellington and completed his B.Sc. and M.Sc. degrees at the Rhodes University. He joined the staff of the United Tobacco Company in Cape Town as Chief Chemist. He then joined the Central Leather Industries Research Centre and later in his career was appointed Professor in the Department of Chemistry at the University of the Orange Free State, where he became Head of the Department prior to his retirement.



David Gerhardus Roux

Professor Roux was invited to serve on the Management of the Foundation for Research Development and was appointed manager of the main Research Support programme in 1987, a position he still holds.

During his career he visited numerous research institutions in Britain, Canada, the U.S.A., Australia, Angola, Mozambique, the Belgian Congo and Europe.

He is the author of 216 papers published in International Chemical Journals and in Technical Bulletins of the Leather Industries Research Institute.

48 South African Scientists have attained their Masters and Doctorate degrees under the tutelage of Professor Roux over the years.

David Roux has been honoured at home and abroad. The Havenga prize from the S.A. Akademie vir Wetenskap en Kuns; The Gold Medal of the S.A. Chemical Institute and the Fellowship of the Royal Society of South Africa; the Donald Bruton prize of the British Society of Leather Chemists; the Charles Bullard Senior Stipendium of the Harvard University, U.S.A. On the 17th of June, 1991 Professor Roux was honoured with an award from the 2nd North American Tannin Conference where he delivered the plenary Award Paper at the International Conference which took place in the city of Houghton, Michigan, U.S.A.

He has contributed greatly to the basic knowledge of Condensed Tannins in the development of new applied uses and thus of specific value to the South African, Brazilian, Indian and East African Wattle Bark Extract Industries.

In collaboration with the Applied Technical Research Services Group of the S.A. Wattle Industry and the CSIR Timber Research Institute, a standardization in the production of composite wood products have been achieved, particularly in the field of the neutral, non-swelling chipboards, such as Novo and Bisonbord. Also in the Bondtite adhesives where fortified Wattle Bark Extracts are used. Over the many years industry at large has benefitted immensely from the scientific input by David Gerhardus Roux who was given the S₂A₃ Merit Award.



Keith Klugman

KEITH PAUL KLUGMAN, Professor and Head of the Department of Medical Microbiology, South African Institute for Medical Research and University of the Witwatersrand was the first student to obtain a Ph.D. and MBBCh. degrees simultaneously at the Witwatersrand Medical School.

Professor Klugman received several bursaries and Awards which enabled him to continue his studies and to further his research programmes. He also received the James Gear prize as the best Registrar graduating in the Pathology specialities;

the Alwyn Zonderdijck Fellowship and the Cecil John Adams Medical Trust Travelling Fellowship, among others.

To date he has presented six scientific papers at various centres in the United States and was invited to Canada, England, Turkey and Switzerland, as well.

In spite of a busy workload, Professor Klugman is a member of 12 different organisations, such as the Senate at the University of the Witwatersrand; a member of the SAIMR Medical Library Committee; a member of several Medical Societies and a member of the New York Academy of Science.

In conjunction with colleagues he has published 42 papers, reviews and letters and 12 Journal Publications of Abstracts.

The National Council of the S₂A₃ conferred a Merit Award upon Professor Keith Klugman, indeed a dynamic recipient.



ESMÉ DEN DULK

Die S₂A₃ het oor die lang jare van sy bestaan nog altyd 'n stewige kern van nie-wetenskaplik opgeleide lede gehad, maar wat wel in die wetenskap, in al sy vertakkinge, belangstel.

Die Nasionale komitee het besluit om mevrou Esmé den Dulk 'n Merietoekenning aan te bied vir haar toegewyde werksaamhede ten opsigte van die S₂A₃.

A Merit Certificate was awarded to **D**EREK JOHN GRAY who was born in England and grew up in erst-while Rhodesia, where he received his schooling. He obtained his B.Sc. degree at the University of Cape Town; furthered his studies at the University College of Rhodesia and Nyassaland and gathered a further Academic Diploma in Education at the University of London. His thesis for his M.Sc. degree, at the University of York, centred on "Optional Topics in Physical Science Education in South Africa". His thesis for his Ph.D. Education degree, at the University of Pretoria covers the subject of In-service Training of Science Teachers.



Derek Gray

Mr. Gray is the author of numerous scientific publications and three books published by McGraw-Hill/Lexicon Publishers; Science – An Investigation. Standards 5,6 and 7. He is also the Science Editor for the Chamber of Mines newspaper for black pupils.

Over the years Mr. Gray held various teaching posts and in 1986 became the Chief Research Officer concerned with Science Curriculum Development and Educational Management Studies at the Human Sciences Research Council. At present, Mr. Gray is the Founder Chairman of the G.E.C. Expo for Young Scientists and the initiator of the project "Horizon" sponsored by Escom.

Derek John Gray attended several International Conferences, has been awarded bursaries and scholarships and the South African Association of Teachers' Silver Medal during his fruitful career.

STIGTERSVERGADERING VAN DIE INTERNASIONALE FEDERASIE VAN VERENIGINGS VIR DIE BEVORDERING VAN DIE WETENSKAP: IFAAST: 7 EN 8 MEI, 1991. HONG KONG

Die Nasionale President, Professor Paul Smit, het die vergadering bygewoon. In Hong Kong het hy as verteenwoordiger van een van die stigterslande 'n referaat "Some Scientific and Technological Developments in a Changing South Africa" voorgelê.

Die afgevaardigdes van die 18 lande wat in Hong Kong byeengekom het sluit Nasionale en Regionale organisasies in van onder andere Nederland, Sri Lanka, Brittanje, Australië, Bangladesh. Lede het die geleentheid benut om vooraanstaande industrieë te besoek, na die \$70 miljoen Museum vir Wetenskap en ook na die Rekenaarskou te gaan.

Professor Smit het 'n boek oor die verrigtinge en 'n gedenkplaat as herinnering aan dié besondere geleentheid saamgebring. Dit sal voortaan in die Museum vir Wetenskap en Tegnologie in die Didactagebou, Pretoria, uitgestal word ter insae van belangstellendes.

Oppad terug het Professor Smit 'n paar dae in Taiwan vertoef. Hier het hy Dr. Hsiun-ing Chen van die Departement Fisiologie aan die Nasionale Cheng-Kung Universiteit in Tainan besoek. In Taipeh het hy die kans gehad om na die Departement van Liggaamlike Opvoeding aan die Nasionale Taiwanese Normaal-Universiteit te gaan en ter afsluiting om 'n gesprek met Mnr C.K. Yang, voormalige direkteur van die Taiwanese Atletiekvereniging, te voer.

GENCOR-S₂A₃ BRONS MEDALJES: 1991

Die Gencor Ontwikkelingstrust borg die toekenning van die S₂A₃ bronsmedaljes.

Die verskillende maatskappye binne die Gencorgroep dra by om die trustfonds in stand te hou. Die fondse word vir verskeie projekte aangewend, soos die Kleinsake-ontwikkelings Korporasie, Gesondheidsdienste, Opvoedings- en ontwikkelingsprogramme, Diere-beskerming en omgewingsbewing.

'n Brons medalje word jaarliks aan elk van die 22 universiteite, landswyd beskikbaar gestel om aan die beste magisterstudent in enige van die wetenskapdissiplines toegeken te word.

- Universiteit van Stellenbosch**
Mnr J. von Delft, M.Sc. (cum laude) Fisika
'Delta-Resonances in the Walecka Model and the High Spin Problem'
- Potchefstroomse Universiteit vir CHO**
Mev. E.S. van der Westhuizen, M.A. in Afrikaans-Nederlands
'De Toekomst der Religie en De Koperen Tuin van SimonVestdijk: 'n Intetektuele Ondersoek'
- University of Cape Town**
Miss G.A.M. Kauffmann, M.Sc. Astronomy
'Voids in the Distribution of Galaxies – An Assessment of Their Significance and Implications for Large-Scale Structure Formation Theories'
- MEDUNSA**
Mr P.T. Manyike, M.Med.Sci. – Microbiology/Virology
'Prevalence of Hepatitis B Virus and Controlled Immunisation in a Developing Community'
- Randse Afrikaanse Universiteit**
Mnr T.L. van der Merwe, M.Sc. Chemie
'Palladium – Gekataliseerde Substitusiereaksies van Pseudoglikale'
- Universiteit van die Oranje-Vrystaat**
Mnr G.J. Strauss, M.A. Wysbegeerte (Met Lof)
'Christian Philosophy and the Transformation of African Culture'
- University of the North**
Mr A.M. Hamese, M.Sc. Chemistry
'The Use of Organocobalt and Organotitanium Compounds in Organic Synthesis'
- University of Fort Hare**
Mrs E. Dixon, M.A. (Music) cum laude
- University of Port Elizabeth**
Miss J.R. Burkinshaw, M.Sc. (Geology)
'A Study of the Airflow on the Windward Slope of a Transverse Dune in the Alexandria Coastal Dunefield'
- University of the Witwatersrand**
Mr O.D. Goldbach, M.Sc. Geophysics
'The Use of Seismogram Waveforms to Characterize the Fracture Zone Around a Mine Excavation'
- University of the Witwatersrand**
Mr O. Turnbull, M.Sc. Psychology
'Neuropsychology Changes Associated with Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome'
- Universiteit van Pretoria**
Mnr C. Lombard, M.Ing (Meganiese Ingenieurswese)
'Further Refinements and a new Efficient Solution of a Novel Model for Predicting Indoor Climate'

ANNUAL GENERAL MEETING 18 OCTOBER, 1991

Professor Paul Smit welcomed members and visitors to the A.G.M., the 90th in the history of the S₂A₃.

As members of the National Council are elected bi-annually the National President proceeded with the other business on the Agenda. He outlined the activities of the Association during the past year. He then called upon Dr. Bertha van Drimmelen, Chairperson of the Pretoria Branch to present her annual report.

Wishing the newly elected National President, Professor Johan Wolfaardt a productive term of office he closed the meeting which was followed by the Medal and Award presentation ceremony.

Die plek en datum vir die volgende Algemene Jaarvergadering sal gedurende die loop van die jaar aangekondig word.

NASIONALE PRESIDENT

Professor Johan A. Wolfaardt is in Pretoria gebore. Hy het in Pretoria en aan die Vrije Universiteit in Amsterdam studeer. Hy was sewe jaar lank predikant en die afgelope sestien jaar dosent in Praktiese Teologie aan UNISA. In dié tydperk het hy navorsingsbesoeke gebring aan verskeie universiteite in die V.S.A. en in Brittanje.

Benewens publikasies op vakgebied, het hy dan ook oor konflik, moraliteit en die mark en politiekevraagstukke gepubliseer.

S₂A₃ RAAD/COUNCIL: 1991 – 1992

President	Prof. Johan Wolfaardt
Vise-presidente:	Dr. C. Albrech (Suid-Wes Kaap)
	Prof. J.A.J. Meester (Natal)
	Prof. W. Oelofsen (Oos-Kaap)
	Dr. F.A. Korb (Witwatersrand en voorsitter van die medalje-komitee)
	Mnr E. Hanau (Noord-Transvaal)
	Dr. B. van Drimmelen (Transvaal en voorsitter van Pretoriatak)
Ere-tesourier	Mnr G. den Dulk
Sekretaris	Mev. A. Bentum
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Oud-presidente:	Prof. Paul Smit, Prof. Eric Holm, Brig. G. Robertson
Pretoriatak Verteenwoordigers	Prof. G. Erens, Dr. E. Fourie, Prof. J. Geerthsen, Mevrouw U. Ortnier

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