

The History and Development of the Human Genetics Society of Australasia

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The Human Genetics Society of Australasia is a vibrant professional society with more than 900 members that promotes and regulates the practice of human and medical genetics in Australia and New Zealand. The growth of human genetics was stimulated by the development of diagnostic clinical cytogenetics laboratories in the early to mid 1960s. This coincided with the recognition by medical specialists, mainly pediatricians, that genetic disorders, especially inborn errors of metabolism and birth defects, were of clinical interest and potentially challenging areas for their skills. The organization of professionals in human genetics was slow to evolve. There was an early Western Australian Human Genetics Society, and the cytogenetics community had begun to meet annually from about 1966 but was coordinated by a mailing list rather than as a formal organization. In 1976, as part of the celebrations of the Centenary Year of the Adelaide Children's Hospital, a clinical genetics meeting involving several high profile international speakers and most of the senior medical geneticists in Australia and New Zealand along with the annual meeting of the loose-knit cytogeneticists group agreed that a small working group be charged with setting up a Human Genetics Society. The society was formally incorporated in South Australia in 1977.

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While the theoretical foundations of human genetics have come from classical genetics it has only been since the application of genetics to human medicine that human genetics has developed as a largely separate discipline from nonhuman genetics. The former is essentially based in hospitals and the latter within universities and there has been, at least in Australia, only minimal interaction between the two branches of this science. The classical geneticists formed the Genetics Society of Australasia (of Australia at formation) in about 1955 but it would be 2 decades later before a human genetics society would come into being.

Human genetics did not begin to develop its independent existence until two separate but related processes began to coalesce. The discovery in 1960 of the use of hypotonic treatment of lymphocytes stimulated to divide by phytohaemagglutinin provided a robust method for analyzing human chromosomes

and opened the way to the development of diagnostic cytogenetic laboratories in the early 1960s. Around the same time medical genetics evolved with the recognition that genetics played a significant role in birth defects and that the management of infants with inborn errors of metabolism required special knowledge and skills. Most of the practitioners of medical genetics, especially in Australia, were pediatricians, perhaps largely due to the influence of the late David Danks, the pioneer of medical genetics in Australia who established the Genetics Research Unit at the Royal Children's Hospital in Melbourne in 1967 (Choo, 2003). The recognition that genetic knowledge was important to the etiology and management of many adult diseases came later and the influx of medical specialists other than pediatricians into medical genetics has been slow.

Early Moves

It was suggested in the very early 1970s that a Human Genetics branch of the Anatomical Society of Australia and New Zealand be formed, and Dr David Wallace (Partington, 2003) wrote to various players with this suggestion. A reply from David Danks to Wallace dated September 29, 1971, gave his view that this was '... a rather quaint place to form such a group'. And Danks further stated that the Genetics Society of Australia '... does not offer much to the human geneticist'.

The Cytogenetics Group

From the mid-1960s a mailing list of interested cytogeneticists was maintained by Keith Brown, who ran a cytogenetics laboratory at the Lucas Heights Atomic Energy establishment in New South Wales. Keith organized scientific meetings, originally in Sydney but later moving to other states, focused on human cytogenetics. This group was the only one that could claim to have been a forerunner to the Human Genetics Society of Australasia (HGSA).

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The Centenary of the Adelaide Children's Hospital

Following the centenary year of the Adelaide Children's Hospital in 1976, it was then subsumed into the Women's and Children's Hospital and is now part of the Child, Youth and Women's Health Service. There were a number of events that were part of the hospital centenary celebrations and one of them was a major medical genetics conference. A number of high profile overseas geneticists were invited. Most of the clinical geneticists in Australia and New Zealand attended. The informal cytogenetics group agreed to have their annual meeting co-located with the conference. Most of the practitioners of human genetics in Australia and New Zealand were there. (The proceedings of this conference were published as a single copy of the *Records of the Adelaide Children's Hospital*).

An informal session was devoted to discussion about the formation of an Australian (soon Australasian) Society of Human Genetics. The Adelaide organizers of the centenary meeting were asked to come up with formal proposals to be put to a future meeting. At this stage the de facto office holders in the yet-to-be-born organization were Tony Pollard as Chairman and Grant Sutherland as Secretary.

Formation Issues

There were various tensions in the discussions and correspondence emanating from the Adelaide meeting. Western Australia already had its own human genetics society and that group did not want to be 'taken over' by upstarts from the eastern states. The cytogenetics group, who were mostly modestly rewarded nondoctoral scientists and technicians, were concerned that they would lose their identity and influence if the apparently more politically influential and wealthy medical geneticists 'took over'. There were minor tensions between the medical geneticists, who were the consumers of cytogenetics laboratory reports and pathologists who mainly had control of the cytogenetics laboratories. And there were (often) major tensions between the cytogeneticists and their pathologist masters. Nevertheless, the Adelaide 'executive' got on with the administrative aspects of forming a society. A draft constitution was drawn up. A group of state representatives (Table 1) was chosen to communicate with the Adelaide group and potential members of the new society within each state.

Western Australians decided to maintain their identity as members of the Human Genetics Society of Western Australia (HGSWA). Ian Walpole, as Secretary of the HGSWA wrote to Grant Sutherland on 31.5.78 to '... formally indicate that we wish to become an Affiliated Society of the HGSA'. (Eventually this arrangement ended and a new constitution was adopted in 1985 in which there was no mention of the Western Australian Society of Human Genetics.) A number of Western Australians joined the HGSA as soon as it was formed, but others relied on being

Table 1

State Representatives in the Early Stages of the Formation of the HGSA

State	Representatives
New South Wales	Reg Lam-Po-Tang Max Nichols Keith Brown
Victoria	David Danks Margaret Garson
Queensland	Neville Anderson John Pearn Alan Clague
South Australia	David Hayman Grant Sutherland
Western Australia	Pat Hurse Peter Silberstein Athel Hockey
Tasmania	Margaret Baikie
New Zealand	Arthur Veale

members of the Affiliated Society for their information about HGSA activities.

The Membership Issue

A contentious issue revolved around just who could be a member of the new society. Was some formal academic qualification required? Was some professional involvement in the practice of human (or other) genetics necessary? The first constitution, adopted at the 1978 AGM, allowed for ordinary and associate members. The requirement for ordinary membership was a tertiary qualification equivalent to a Bachelor's degree. A number of cytogeneticists felt disenfranchised by this as they had arrived in cytogenetics via the technical route. Those without a degree were offered associate membership. Constitutional changes approved at the 1989 AGM had the effect of deleting the class of associate member from the Society. A more recent associate membership has been available for those resident overseas and those whose primary vocation is not in genetics.

Inaugural Meeting, Melbourne 1977

The inaugural meeting of the HGSA was convened at Monash University on August 24–25, 1977. The constitution that had been drafted was discussed; Tony Pollard as Chairman of the group and Grant Sutherland as Honorary Secretary were asked to continue development of the constitution. The inaugural lecture was delivered by Prof Michael J.D. White, one of the world's leading insect cytogeneticists. The locations of all HGSA meetings and the meeting themes are shown in Table 2; not all meeting themes are recorded and not all meetings had themes.

Second Meeting, Sydney, 1978

This meeting on May 16 formally adopted the constitution. Tony Pollard was elected the Foundation

Table 2

Locations of HGSA Meetings 1977–2008, With Meeting Themes Where These Are Known

Year	Location	Theme
1977	Melbourne	Inaugural Meeting
1978	Sydney	
1979	Queenstown, New Zealand	
1980	Brisbane	
1981	Canberra	
1982	Adelaide	
1983	Perth	
1984	Lorne, Victoria	Molecular Genetics
1985	Sydney	Genes, Environment and Mankind
1986	Canberra	
1987	Rotorua, New Zealand	
1988	Brisbane	
1989	Alice Springs	
1990	Perth	
1991	Melbourne	
1992	Newcastle	
1993	Canberra	
1994	Auckland, New Zealand	
1995	Brisbane	Genes and Development
1996	Adelaide	
1997	Perth	Human Genetics: Diversity and Disease
1998	Melbourne	
1999	Sydney	Genetics into the new Millennium
2000	Wellington, New Zealand	Just Genes
2001	Cairns	
2002	Adelaide	
2003	ICG — Melbourne	
2004	Perth	Genes West
2005	Newcastle	Genetics in the Hunter
2006	ICHG — Brisbane	
2007	Auckland, New Zealand	Genetics for Hearts and Minds
2008	Adelaide	Genetics and Adelaide: A Brilliant Blend

President and Grant Sutherland the Foundation Honorary Secretary. The presidents of the HGSA, their states or regions of origin and their dates of election are shown in Table 3.

Early Activities of the HGSA

The HGSA was determined to be more than a society that simply organized an annual scientific meeting. At the time of its formation medical genetics was not formally recognized as a medical speciality, there was no qualification (or recognized profession) in genetic counseling, there was no competency certification in any area of laboratory genetics and no regulation of cytogenetics laboratories. There were concerns that any medical practitioner could call him/herself a clini-

Table 3

Presidents of the Human Genetics Society of Australasia

President	State	Year elected
Anthony C Pollard (Foundation President)	South Australia	1977
David M Danks	Victoria	1979
Charles Kerr	New South Wales	1981
John Pearn	Queensland	1983
Robert L Kirk	Australian Capital Territory	1985
Cyril Chapman	New Zealand	1987
Grant R Sutherland	South Australia	1989
O. Margaret Garson	Victoria	1991
Robert Robertson	New South Wales	1993
Jack Goldblatt	South Australia	1995
Bridget Wilcken	New South Wales	1997
Agnes Bankier	Victoria	1999
Eric A Haan	South Australia	2001
Cynthia Roberts	New South Wales	2003
John Christodoulou	New South Wales	2005
David Thorburn	Victoria	2007

cal geneticist and that any pathology laboratory could provide genetics testing.

The determination of the Society to be active in various areas meant that annual business meetings were long, drawn-out affairs, usually lasting for hours as each item of business was debated and attempts at consensus made. These meetings were often adjourned within the period of the AGM and restarted, consensus often being achieved by exhaustion.

The HGSA set up Boards of Censors, initially for Cytogenetics (Figure 1) and for Clinical Genetics, then for Genetic Counselling and more recently for Molecular and Biochemical Genetics.

Newsletter/Bulletin

The first HGSA Newsletter was issued in February 1979 and was issued twice yearly until around 1987 when it became the Bulletin of the HGSA. It continued until 2005 when it was discontinued. Although an electronic version was to follow on the HGSA website (<http://hgsa.com.au>) this did happen as it was found that the website provided current information to members and subsequently the HGSA developed an affiliation with the journal *Twin Research and Human Genetics*.

Policy Development

As the sole professional organization covering all aspects of human and medical genetics the HGSA has developed policies on various aspects of human genetics and its applications and statements on issues that affect other groups but where the HGSA has special expertise. In 1983 a 'Policy statements of the Human



Figure 1

The inaugural Board of Censors for Cytogenetics met in Sydney on April 4, 1984: Grant Sutherland, Margaret Garson, Judy Bell, John Pearn, David Sillence and Stuart Purvis-Smith. Photo courtesy of John Pearn.

Table 4

Policies and Statements

Guidelines for diagnosis of Huntington disease
Role of the clinical geneticist
Australian Society of Genetic Counsellors Code of Ethics
Predictive testing in children and adolescents
Parental consent to the paternity testing of children for nonclinical purposes
Presymptomatic and predictive testing for genetic disorders v2 2005
Human genetics education
HGSA position paper on the patenting of genes
Human cloning
Predictive testing and insurance
Privacy implications of genetic testing
Guidelines for the structure of clinical genetics units in Australia
HGSA policy on fundraising
HGSA policy statement on newborn screening
HGSA policy on the retention, storage and use of sample cards from newborn screening programs
Guidelines for testing for fragile X syndrome
Guidelines for the application of DNA techniques for the diagnosis of human genetic disorders
Prenatal screening tests for trisomy 21 (Down syndrome), trisomy 18 (Edwards syndrome) and neural tube defects
HGSA position statement protection of human genetic information
The use of assisted reproductive technology to select for disability
HGSA position statement: Genetic testing and sport performance
HGSA position statement: Intelligent design
Direct to consumer genetic testing: HGSA issues paper

Genetics Society of Australasia' booklet was issued which contained policies on:

- genetic registers
- clinical genetics
- prenatal diagnosis
- newborn screening for inborn errors of metabolism and related disorders
- training of cytogeneticists and accreditation of cytogenetics laboratories.

The HGSA now has more than 20 policies that are available on its web site and are listed in Table 4.

Special Lectures

In the late 1980s HGSA decided to establish the HGSA Oration to be given at the Annual Scientific meeting. There was some lively discussion when this was established as to whether a medal should be awarded to each orator, but those who thought this was unnecessary prevailed and the egalitarian nature of the society was preserved. A certificate suitable for framing is now awarded. The first oration was given at the 1990 Annual Scientific Meeting; it became a lecture given by a senior member of the HGSA who had contributed significantly to the discipline over many years. The HGSA orators are listed in Table 5.

In 2005 the author was greatly touched and honoured when the society established the 'Sutherland Lecture', to be given annually by a mid-career researcher in human genetics. The Sutherland lecturers are listed in Table 6.

Table 5

HGSA Orators and Oration Titles

Year	Orator	Title
1990	Tony Pollard	Birth and adolescence of the HGSA and its sibling 'ACH Chem-Path'
1991	O. Margaret Garson	Seven little Australians
1992	David Danks	What we can do/What we should do
1993	Richard Cotton	Detection of mutations in DNA
1994	Peter Fitzgerald	A human perspective
1995	Gillian Turner	The X chromosome and intelligence
1996	Grant Sutherland	Fragile sites: from medium 199 to dynamic mutation
1997	Bridget Wilcken	Mild disease carriers and problems with screening
1998	John Rogers	From Medical Genetics to Psychotherapy and back again
1999	William (Bill) Carey	Lysosomes, peroxisomes and other very important matters
2000	Dianne Webster	Newborn screening quality: Lessons from the past
2001	Sister Regis Mary Dunne	Ethics and public policy in the genomic era
2002	John J. Hopwood	Lysosomal storage disorders: early diagnosis and effective therapy
2003	Bob Williamson	Ethics, the New Genetics and Public Health
2004	Jack Goldblatt	Do genetics: See the world
2005	Michael Partington	Forays in syndromology over 50 years
2006	Oration Not Held	—
2007	Robert (Mac) Gardner	Some reflections on the philosophy and practice of Medical Genetics
2008	John C. Mulley	Forty years from markers to genes

Table 6

HGSA Sutherland Lecturers

Year	Lecturer	Title
2005	Jozef Gećz	Mining for GOLD on the X chromosome
2006	Georgia Chenevix-Trench	Meeting the challenges of breast cancer genetics research from Down Under
2007	David Thorburn	Threads of life, granules of death, and a circular genome of death
2008	Kathryn North	A gene for speed? ACTN3, evolution and athletes

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