CONFERRING OF DEGREES

FACULTIES

of

ARCHITECTURE

and

ENGINEERING

FRIDAY, 29th APRIL, 1988

2.30 p.m.
The Arms of the University, granted in 1965, are based upon those of the Shortland family. This is appropriate as it was Lieutenant John Shortland, R.N., who discovered the entrance to the Hunter River where Newcastle now is. On 9th September, 1797, Shortland was pursuing escaped convicts when he entered the river. At the foot of the cliffs on the island lying off the river entrance, Nobbys, his men found coal. The mineral was first shipped from "Coal Harbour" in 1799. The harbour became Port Hunter and the town was named, in 1804, after the then Secretary of State for the Colonies, Lord Newcastle. The site on which the University has been developed is in Shortland. For those interested in heraldry the inscription on the Crest of Arms is:

Azure a Sea Horse naiant in dexter chief a representation of the constellation of the Southern Cross of five Mullets all Argent.

ORDER OF PROCEEDINGS

The Congregation stands as the Procession enters the Hall.

The National Anthem

The Chancellor, The Honourable Justice Elizabeth Evatt, AO.

The Dean, Professor A.W. Roberts, will present the candidate for admission to an honorary degree in the Faculty of Engineering.

Dr. M.B. Alves will deliver the Occasional Address.

The Dean, Professor B.S. Maitland, will present candidates for admission to degrees in the Faculty of Architecture.

The Dean, Professor A.W. Roberts, will present candidates for admission to degrees in the Faculty of Engineering.

Jane Burke, BE, will speak on behalf of the graduates.

The Vice-Chancellor, Professor K.J. Morgan.

The Congregation stands as the Procession leaves the Hall.

Organist: Michael Dudman
MANUEL BARATA ALVES

Presented for admission to the Honorary Degree of
Doctor of Engineering by the Dean of the Faculty of Engineering,
Professor A. W. Roberts.

Chancellor,

As we celebrate this bicentennial year, we may pause to reflect upon the developments that have taken place which, in the space of a short two hundred years, have superimposed upon this vast and ancient land a modern society with its many attributes in terms of the quality of lifestyle we have come to enjoy. We may pause to remember the pioneers who came from other lands and endured many hardships to commence a new life in this part of the Southern Hemisphere. We may record our appreciation of our more enterprising forebears who saw the need to establish the industrial base which dates back to the early part of the nineteenth century. In particular, we may applaud those outstanding individuals who, in the fields of mechanised agriculture, technology and manufacture, displayed great inventiveness and innovation. These characteristics laid the foundation for Australia’s engineering capability.

In more recent years, Australia’s industrial and technological development has been greatly enhanced by the many professionally and technically qualified people who have emigrated from other countries. Apart from the technical knowledge and skills that these people have brought to this country, there has been, invariably, a driving ambition to succeed. This characteristic has acted as a catalyst to stimulate Australia’s industrial and business base. Today we honour a man who exemplifies this characteristic. I speak of Manuel Barata Alves, who has established an outstanding record of achievement in the related fields of engineering, industrial manufacturing and technology.

Manuel Alves was born in Coimbra, Portugal; he completed his basic schooling in that City. His subsequent technical and professional training was in the field of metallurgy. Following a period of military service in the Portuguese Air Force (a part of NATO), he embarked upon a career in the metallurgical based industry. This involved periods of employment in the energy and steel industries. His employment experience in the Portuguese steel industry provided him with the opportunity to study two different but related aspects of metallurgy applied to steel making. This study was performed in the steelworks laboratory. At the time of his resignation to migrate to Australia, he had completed a research project to identify rolling induced surface defects and its consequence on the finished products. This involved a novel system using ultrasonic waves which permitted the identification and classification of billets in accordance with the desired end product. This idea was eventually developed further and is the basis of the system now used world wide.

Manuel Alves came to Australia in January 1964 and commenced employment with Transfield, a large construction company; he worked on several major projects in Whyalla over a period of four years. In 1968, when a request for a transfer was refused he, and his partner Romano Del Bianco, decided to form their own company. Thus Allco Steel was born and, as he has said, this began “the success story of my life”.

On the first working day of 1968, Allco commenced its first project consisting of the installation of the steel tunnel liner for the Blowering Dam, a part of the Snowy Mountains Scheme. This was followed by several projects in N.S.W. as well as the electrostatic precipitator and boiler for the Electrolitic Zinc Company in Risdon, Tasmania. By the end of 1968 the capability of Allco as a structural steel construction company had become recognised, this being highlighted by the involvement of Allco in the erection of large steel structures of a Fertilizer plant in Brisbane.

Allco established itself in the Hunter Valley in order to be at the centre of one of Australia’s major industrial heartlands. In 1978, the company built a new plant at Tomago, which is now recognised as one of the most modern, integrated and highly productive steel fabrication facilities in Australia. The Company is a specialist in civil, structural, electrical and mechanical engineering and construction.

During the 20 years of its operation, Allco has completed a number of major engineering projects throughout Australia in remote areas as well as the major cities. The projects have embraced the mining and mineral processing, power generation and building construction industries. More recent projects have included the fabrication and erection of the structural steelwork for two major projects in Sydney, the Grosvenor Place Building and the Exhibition Buildings of the Darling Harbour development.

While there are many facets of the management style and philosophy of Manuel Alves that have contributed to the success of Allco Steel, two warrant particular mention. The first is his recognition of the need to employ the latest technology in the various aspects of the Company’s operation in order to maintain a competitive edge. It is particularly noteworthy to record that Allco Steel was one of the first companies of the Hunter Valley to invest in CAD/CAM, that is, Computer Aided Design, Computer Aided Manufacturing. This was a step of great significance, involving a major capital investment in computing equipment and a
heavy commitment in terms of development time. The development of “Cinfab”, a highly sophisticated Computer Integrated Manufacturing System, is a contribution of particular merit.

The second facet of his management style is the human characteristic, which is associated with his ability to relate to all members of his company’s workforce, from the management team to the man on the shop floor. As he says, “one cannot achieve success alone. The success of this organisation is based on dedication, trust and hard work of a team”.

Manuel Alves has been active in several other areas related to his profession. He is a Past President of the Institute of Steel Construction and is a Fellow of The Australian Institute of Management.

He is a strong supporter and friend of The University of Newcastle and, in particular, has established close links with the Faculty of Engineering. He is a member of the Faculty’s Industrial Liaison Committee and has given encouragement to the establishment of close relationships between his Company and staff of the Faculty. A number of joint industrial research and development type projects involving Alanco Steel and TUNRA, the University’s research Company, have been undertaken.

It is clear that Manuel Alves is a man of distinction and achievement; a man with a strong ambition who has successfully applied his entrepreneurial, innovative and technical abilities to establish one of Australia’s leading engineering companies. It is indeed fortunate for Australia and, in particular, the Hunter Valley, that he chose to emigrate from his native country of Portugal and establish his nationally recognised company at Tomago. As we celebrate this bicentennial year and reflect on the past, it is crucial that we pay particular attention to the future. If, as the 21st century approaches, Australia is to enhance its technological growth and industrial development and remain competitive in the international arena, it will require industrial leaders of the calibre of Manuel Alves to help ensure that this happens.

It is most fitting that we honour Manuel Alves for his achievements and contributions to the modern industrial development of engineering and for the example he has set for others to follow.

Chancellor, it gives me great pleasure to present to you Manuel Barata Alves for admission to the Honorary Degree of Doctor of Engineering.
Bachelor of Architecture

Lawrence Edward Chong
Chan Siew Lui Cynthia
Kerry Anne Lee
Lo Yu Kwan
Low Kong Yen
Johnny Majamin Sondu
Ong Sian Tam
Phillip John Ryan
Usman Utama
Philip Thomas Wiggs

Gabriel Yuen Leong Chong (Honours Class II)
Suhaimi Jaffar (Honours Class II)
Eric Rudolf Kladnig (Honours Class II)
Lee Weng Cheong Patrick (Honours Class II)
Lim Weng Hua Francis (Honours Class II)
Lim Yoke Lan (Honours Class II)
Ann Catherine Roche (Honours Class II)

Albert Jonathan Mar (Honours Class I)
Abu Hanapiah Mohd Ali (Honours Class I and University Medal)

Master of Architecture

Chen Swee-Eng, B.Sc.(Arch.), B.Arch.
Thesis: "A Decision Model for the Optimization of Construction Costs and Time Using a Component Approach"

Bachelor of Science (Metallurgy)

Michael Joseph Kerby
David James McNeil

Bachelor of Engineering

In Chemical Engineering

Darryl James Baker
Chiang Buong Tai
Christopher James Conway
Paul Kenneth Creedy
Karen May McCaffery
Rashid Motala
Douglas James Palfreyman
Paul Polychroniadis
Antony John Strazzari
Tan Kim Soon
Darkiat Tjangnaka

Robert Bruce Drummond (Honours Class II, Division II)
Stuart Graham Hutchings (Honours Class II, Division II)

Bradley Girvan (Honours Class II, Division I)
Matthew John Gurr (Honours Class II, Division I)
Ian Lewis Kidd (Honours Class II, Division I)

Elizabeth Anne Dallimore (Honours, Class I)
Paul Gerard Rippon (Honours, Class I)
### In Civil Engineering

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<td>Craig Beveridge</td>
<td>Lee Keh Ting</td>
<td>Gregory John Bojko</td>
<td>Lee Tze Chang</td>
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<td>Chai Chun Hin</td>
<td>Antony Maurice Lenehan</td>
<td>Cheah Sai Hoo</td>
<td>Lim Loong Kheong</td>
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<td>Bernard Desmond Gillis</td>
<td>Lo Chee Khiong</td>
<td>Stephen Glen</td>
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<td>Steven Gomboso</td>
<td>Ong Shi Loong</td>
<td>Bruce John Grayson</td>
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<td>Koh Hong Whatt</td>
<td>Mark James Pilgrim</td>
<td>Lai Nyong Shen</td>
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<td>Lee Kean Hwa</td>
<td>Tan Lin Kuan James</td>
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Kenneth Brett Bargallie (Honours Class II, Division II)
Peter Geoffrey Knee (Honours Class II, Division II)
Christopher Ronald Thomas (Honours Class II, Division II)
Chia Kay Hua Robin (Honours Class II, Division I)
John Acheson Johnston, B.Sc. (Honours Class II, Division I)
Liang Mui Keow (Honours Class II, Division I)
Wong Yen Nyen Patrick (Honours Class II, Division I)
Anthony John Daley (Honours Class I)
Ng Wan-Sing (Honours Class I)
Alex Valery Tarasenko, B.Surv. (Honours Class I)

### In Computer Engineering

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<td>Rodney William Skinner</td>
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<td>Sean Brendan Durkin</td>
<td>Andrew James Steele</td>
<td>Brian Craig Hansford</td>
<td>Timothy Conlon Willis</td>
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<td>Latif Tian Kin</td>
<td>Wong Lai Wa</td>
<td>Brett Eric McKenzie</td>
<td>Wong Tak Hung</td>
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<td>David Guy Menzies</td>
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Chew Peh Seng (Honours Class II, Division II)
Kwok Man-ki Philip Kino (Honours Class II, Division II)
Lie Hok Min (Honours Class II, Division II)
Anthony Guy Maher, B.Sc. (Honours Class II, Division II)
Mao Yue Fah (Honours Class II, Division II)
Robert James Paton (Honours Class II, Division II)
Yeo Wee Lian (Honours Class II, Division II)

Chua Leok Saw (Honours Class II, Division I)
Anthony Robert Meredith (Honours Class II, Division I)
Geoffrey Stephen Engel (Honours Class I)
Lau Siu-Wing, B.Math. (Honours Class I)
Peter Stepień (Honours Class I)
Steven Ronald Weller (Honours Class I)

Lee Lea Hwang (Honours Class I and University Medal)

### In Electrical Engineering

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<td>James Errol Thomson</td>
<td>George Parashou</td>
<td>Tong Yi Hong</td>
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<td>Eko Tjahyono Suharso</td>
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<td>Paul Anthony James Myors (Honours Class II, Division II)</td>
<td>Phillip James Hayes (Honours Class II, Division I)</td>
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<td>Samuel Edward Walker (Honours Class II, Division II)</td>
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Scott John Ellis (Honours Class I)
Richard Duncan Thomas (Honours Class I)

Murray Charles MacPherson (Honours Class I and University Medal)
Industrial Engineering

Chieng Yew Wei
Christopher Kee Liang Chuang

Sim Hon Heng (Honours Class II, Division II)
Tang Choon Tuan (Honours Class II, Division II)
Wong Wai Min William (Honours Class II, Division II)

Mechanical Engineering

John Peter Alan Barry
Andrew Douglas Collison
Peter Maxwell Dunford
David Leslie Fellowes
Tony Neville French
Ananda Gunasekera
Mark Andrew Hoffmann
Mark Gordon Hughes

Owen Harley Buckman (Honours Class II, Division II)
David Stuart Cox (Honours Class II, Division II)
Leslie George Gibson (Honours Class II, Division II)
Sim Seng Kok (Honours Class II, Division II)
Craig John Williams (Honours Class II, Division II)

Brett Arthur Jones (Honours Class II, Division I)
Lim Yoke Beng (Honours Class II, Division I)
Steven James Parish (Honours Class II, Division I)
Steven Anthony Pryor (Honours Class II, Division I)

Chow Tin Cheong (Honours Class I)
Lim Gim Chong (Honours Class I)
Sim Mong Huat (Honours Class I)
Tan Kok Chua (Honours Class I)
Tang Weng Chee (Honours Class I)
Wong Ah Lin (Honours Class I)

Jane Maree Burke (Honours Class I and University Medal)
Ng Peng Hong (Honours Class I and University Medal)
Wong Ming Mao (Honours Class I and University Medal)

Bachelor of Metallurgy

Leung Wang Chak, B.Math. (Honours Class I)
Tony Andrew Skimmings (Honours Class I)
David Alexander Varcoe (Honours Class I)

Bachelor of Surveying

Geoffrey Michael Baker
Michael Gordon Cookson
Murray Paul Edwards
Jeffrey Scott Emmerton

Owen Harley Buckman (Honours Class II, Division II)
Marsha Andrew Collison (Honours Class II, Division II)

Master of Engineering

Department of Mechanical Engineering
Teo Lian Hing, B.E.

Thesis: "Belt Conveyor Calculations Incorporating Static, DYNAMIC and ECONOMIC Theories"

Master of Science

Department of Chemical and Materials Engineering
Ross Brent Flanagan, B.Sc., M.Ed.

Doctor of Philosophy

Department of Chemical and Materials Engineering

Narendra Chhotalal Dave, B.E.(Bombay), M.Tech.(Indian Institute of Technology, Bombay)
Thesis: "Droplet Removal in Fibrous Filters"

Vinay Vasantrai Parekh, B.E.(Bombay), M.Tech.(Indian Institute of Technology, Bombay)
Thesis: "Effect of Solutes on Coalescence of Bubbles"

Department of Civil Engineering and Surveying

Sk Sekender Ali, B.Sc.(Eng.), M.Sc.(Eng.)(Bangladesh University of Engineering and Technology)
Thesis: "Concentrated Loads on Solid Masonry"

Nammalwar Purushothaman, B.E.(Madras), M.Tech.(Indian Institute of Technology, Madras)
Thesis: Numerical Analysis of Sliding of Rubber Over Triangular and Rectangular Grooved Asperities — Tyre Pavement Interaction"

Mark Gerard Stewart, B.E.(Monash)
Thesis: "Control of Human Errors in Structural Design"

Department of Electrical and Computer Engineering

Marimuthuswami Palaniswami, B.E.(Madras), M.E.(Indian Institute of Science, Bangalore)
Thesis: "Robust Adaptive Control Algorithms"

Soh Yeng Chai, B.E.(Canterbury N.Z.)
Thesis: "Robust Control of Dynamical Interval Systems"

Department of Mechanical Engineering

Graham John Beverley, B.E.
Thesis: "Mechanics of High Speed Bucket Elevator Discharge"

Philip Douglas Clausen, B.E.
Thesis: "Measurements and Predictions of Swirling Flow Behind Wind Turbine Blades and Through an Axisymmetric Diffuser"

Lakshmanan Venkata Krishnamoorthy, B.Sc.(Madurai), Dip.A.E.(Indian Institute of Technology, Madras), M.E.(Indian Institute of Science, Bangalore)
Thesis: "Measurements in the Near-Wall Region of a Turbulent Boundary Layer"

Konanur Srikantiah Manjunath, B.E. University of Mysore (India)
Thesis: "Interactive Roles of Wall Pressures and Feeder Loads in Hopper/Feeder Systems"
AWARD OF DIPLOMAS

Diploma in Industrial Engineering
Keith Leslie Wells

PRIZES

Faculty of Architecture
The Board of Architects of N.S.W. Prize
   Mohd Ali Abu Hanapiah
The N.B. Pitt — R.A.I.A. Newcastle Division Prize
   Lau Wing Chee Lawrence
The Neville Clouten Architectural Synthesis Prize
   Tan Chye Hin
The R.A.I.A. Annual N.S.W. Chapter Prize
   Albert Mar
The Sydney C. Morton Prize
   Chong Yuen Leong Gabriel
   Cheah Ky Beng Jeffrey
The Newcastle Gas Company Prize

Faculty of Engineering
The Engineering Fraternity Prize
   Stephen Wheatley
The Australian Water and Wastewater Association (Newcastle Group) Prize
   Wong Yen Nyen Patrick
The Institution of Engineers Australia (Newcastle Division) Prize
   Murray MacPherson

Department of Chemical and Materials Engineering
The Australian Corrosion Association
   (Newcastle Branch) Prize
Denise Goldsworthy
The Institution of Chemical Engineers (N.S.W. Group) Prize
   Matthew Gurr
   Leslie Armstrong
   Malcolm Engel
The Newcastle Chemical Engineering Group Prize
   Peter Austin
   not awarded
The B.H.P. Company Prize in Chemical Engineering
   Shared
   Denise Goldsworthy
   Mark Douglas
The B.H.P. Company Prize in Metallurgy
   Darren Burne
The Australasian Institute of Mining and Metallurgy (Newcastle Women's Auxiliary) Prize
The Daniel Clark Award
The Australian Institute of Metals (Newcastle Branch) Prize
The Ernest Guy Smith Memorial Medal
   Leung Wang Chak

Department of Civil Engineering and Surveying
The Australian Photogrammetric Society Prize
   John Sorby
The Association of Consulting Surveyors N.S.W. Prize in Land Studies
   John Sorby
The Board of Surveyors Medal
   Scott Mason
The Institution of Surveyors Australia Hunter-Manning Group Prize in Surveying
   Scott Mason
The Tony Herzog Award
   Alex Tarasenko
The Hunter District Water Board Gold Medallion
   Shared
   Ng Wang-Sing
   Alex Tarasenko
The James Hardie Water Resources Engineering Prize
   Wong Yen Yuen Patrick
The A.C.S.E. Prize in Structural Engineering
   Kenneth Bargallie
The B.H.P. Company Prize in Civil Engineering
   Peter Ward
Department of Electrical and Computer Engineering

The Purdue Prize in Computer Engineering
Peter Stepien
The Purdue Prize in Circuit Fundamentals
Lim Chin-Keng
The B.H.P. Company Prize in Electrical Engineering
Richard Mazzaferri

Department of Mechanical Engineering

The Ernest J. Egan Prize
Bruce Miller
The Les Gibbs Prize for Creative Design
Ng Peng Hong
The Morison Prizes in Mechanical Engineering
Junior Prize
David McLoughlin
Senior Prize
Leslie Gibson
The W.E. Clegg Memorial Prize
Ng Peng Hong
The B.H.P. Company Prize in Mechanical Engineering
Russell Davies

THE GREAT HALL

The Great Hall was designed by Architects Ancher, Mortlock, Murray & Woolley, and was the winning entry in an Architectural competition. The Auditorium seats 1,450 people and the stage can accommodate a full Symphony Orchestra. The stepped ceiling of the Auditorium rises to over 19 metres and is lined with Brush-Box timber from the New South Wales north coast. The acoustic screen at the rear of the stage uses similar boarding.

The Great Hall was officially opened on 20th November, 1973. The project cost $1.3 million, more than half of which was donated in response to the Lord Mayor's Great Hall Appeal.

The Conn electronic pipe organ was made in the United States of America, and is the only one of its type and size outside that country. A wide range of music, from religious to avant-garde is played on the organ.

The lecterns on the stage were made by the Sydney woodcraftsman Leon Sadubin from Australian Blackwood (Acacia melanoxylon).

Some of the University's works of art are on display in the foyer and environs of the Great Hall, others are located in the Auchmuty Library and academic buildings.

On the wall to the east of the stage is a stainless steel emblem of the University's Coat of Arms which was made by the Sydney designer Michael Santry. This was originally mounted above the entrance to the McMullin Building and was relocated in 1979.

The applique banners over the entrance doors to the Auditorium are by Newcastle artist Rae Richards. The banners facing into the Auditorium represent "Arcadia" on the left and on the right "Academia". From the Foyer the banner over the right hand door is "Bright Sun" and over the left is "Tree of Life".

The stained glass panels over the Convocation Doors at the main entrance into the Foyer were created by A.C. Handel and donated by the Joint Coal Board. They depict the Faculties of the University, and the Coat of Arms of the University and the City of Newcastle.

The large woven tapestry on the Foyer wall opposite the Convocation Doors, by Mary and Larry Beeston, is called "Procession" and is appropriately based on academic gowns worn at Graduation.

The bronze sculpture on a pedestal in the garden to the left of the main entrance to the Great Hall is by Marilyn McGrath, and is an abstract interpretation of growth from a single cell. It is entitled "Nucellous".

To the right of the main entrance in the corner of the upper terrace stands a recently acquired work by the late Otto Steen. It is a large head in terra cotta and was made available to the University by the artist's widow, Mrs. Irene Steen.