10.30 am
Friday, 26th April, 1996.
Faculty of Science and Mathematics.
THE ARMS OF THE UNIVERSITY OF NEWCASTLE

The Arms of the University, granted in 1965, are based on the family crest of Lieutenant John Shortland, RN who charted the entrance to the Hunter River where Newcastle now stands. The name Shortland was given to the suburb in which the University was first developed and the two were synonymous until 1992. It was then that both the campus and the surrounding suburb were formally given the name Callaghan, in honour of the late Sir Bede Callaghan, the Chancellor of the University from 1977 until 1989.

For those interested in heraldry, the University Arms are described officially as: Azure a Sea Horse naiant in dexter chief a representation of the constellation of the Southern Cross of five Mullets all Argent.

THE MACE

The Mace is the symbol of the formal authority of the University. The University of Newcastle's Mace was designed by gold and silversmith Gerald Benney. It is made of Australian walnut and silver and its head represents an open book - the traditional symbol of learning. The Mace was a gift from the University of New South Wales to commemorate the establishment of The University of Newcastle as an autonomous institution on 1 January 1965. It is always borne ahead of the Chancellor in the academic procession during formal ceremonies such as today's conferring of academic awards.

CEREMONY FOR THE CONFERRING OF AWARDS

10.30 AM FRIDAY 26 APRIL, 1996

The UNIVERSITY of NEWCASTLE
AUSTRALIA
MESSAGE FROM THE VICE-CHANCELLOR

Dear Graduates, Family Members and Friends,

Congratulations! Many people can be involved in helping a student reach this important moment, whether parents, friends, or other relatives, and it is an important day for you all. In many ways, graduation should not be seen as the end of a process, but as a stage in one, since the nature of work today changes constantly. Society is never static, but it is probably true today that there is more rapid change than there has ever been before. Human beings are called upon to evolve quickly and to traverse a great distance in their own lifetimes.

Societies like ours today are essentially knowledge-based, and most workers are dealing with knowledge of some sort or other. This is particularly the case with University graduates, but sadly, work in the manufacturing industry in this country is declining at a great rate, and most of the jobs now emerging are in the "knowledge" industries, where service of some kind is provided.

This is a different kind of employment, and needs a different kind of outlook on the part of all of us. We are fortunate enough to live in the relative absence of war, and to live in a period in which national relationships are now based on trade rather than violence. We are called upon to be international in outlook and to build interactions with other countries of a peaceful and co-operative kind. The need to work towards a global interaction will probably be the challenge for today's graduates, along with the need to retain flexibility and autonomy.

Above all, employers today need in their graduates, the ability to learn: they do not want people who consider that they have learnt, and will now learn no longer, but people who have learnt how to learn, and how to continue to learn.

It is a difficult world, but all graduates here today have the most excellent of positions from which to start.

With every good wish for the future.

Raoul Mortley
VICE-CHANCELLOR
**PRINCIPAL OFFICERS OF THE UNIVERSITY**

as at 1 April 1996

Vice-Chancellor  
Professor Raoul J Mortley, BA (Syd), MA (Monash), Dr Cyc De L (Stras), FAHA

Deputy Vice-Chancellor  
Professor Keith S Lester, MDS, PhD, DDSc (Syd), FRACDS, FICO

Pro-Vice-Chancellor (Central Coast Campus)  
Professor Leslie R Eastcott, BA (NSW), MEd (Syd), PhD (Alta), DipEd

Pro-Vice-Chancellor (Research)  
Professor Ronald J MacDonald, BSc PhD (NSW), FAIP

Pro-Vice-Chancellor (External Relations)  
Professor Jennifer M Graham, ATCL (Lond), DipOT (NSWCoIIOT), MSc (Brad), AFCHSE

Deputy President of the Academic Senate  
Professor Brian A English, BSW PhD (NSW) MAASW

University Secretary and Registrar  
Gem P-C Cheong, BA (Sing)

Executive Director, Finance and Property  
Brian L Penfold, BCom, FCPA

Director, Information Technology  
Linda S O'Brien, BEd (Syd), GDipLibInfSc (Kuringai CAE), MPA (Canberra), AALIA

Director, Professional Education & Projects  
Pamela Finberg, BSc (Massey), MBA (NSW)

**DEANS**

Faculty of Architecture  
Professor Barry S Malland, DipArch MA (Camb), PhD (Sheff)

Faculty of Art and Design  
Professor Graham J Gilchrist, ATD, DipSculp (CSAD), BA (Lond)

Faculty of Arts and Social Science  
Professor John A Ramsland, BA (NE), MEd (Syd), MA PhD, FColiP

Faculty of Economics and Commerce (Acting)  
Professor Annette J Dobson, BSc (Adel), MSc, PhD (James Cook)

Faculty of Education  
Professor Terry J Lovat, BTheol, TheolM (MelbDivColl), GradDipREd, BEd (SAustCAE), MA, PhD (Syd), BLitt (Deakin)

Faculty of Engineering  
Professor Graham C Goodwin, BSc BE PhD (NSW), FIEEE, FTS, FIEAust

Faculty of Law  
Professor Neil R Rees, BJuris LLB (Monash), LLM (S Methodist)

Faculty of Medicine and Health Sciences  
Professor John D Hamilton, MB BS (Lond), FRCP, FRCP (Can)

Faculty of Music  
Professor Robert C Constable, BMus (Dunhelm), DSCM

Faculty of Nursing  
Professor Margaret A McMillan, BA, MCurrSt PhD (NE), DiplEd (Armidale CAE), FCN, FCPA, RA

Faculty of Science and Mathematics  
Professor David C Finlay, MSc PhD (Melb)

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**ORDER OF PROCEEDINGS**

At 10.30am, the Master of Ceremonies will announce the imminent commencement of the Ceremony.

The University Fanfares will herald the entry of the Dale Party. The Assembly will rise and remain standing until the conclusion of the singing of the national anthem.

When all members of the Dale Party are standing in front of their seats and the Mace has been deposited, the Dale Party and the Assembly will sit.

The Chancellor will declare the Proceedings open.

The Chancellor will then confer awards and call upon:

- The Dean, Faculty of Science and Mathematics, Professor David Finlay, to present diplomates and graduates from that Faculty.
- The Pro-Vice-Chancellor (Research), Professor Ronald MacDonald, to present graduates of the degree of Doctor of Philosophy.
- The Vice-Chancellor will present Dr Gregory Tannock for the degree of Doctor of Science.
- The Vice-Chancellor will present Donald Livingstone McNair for admission to the degree of Doctor of Science honoris causa.

Musical interlude.

The Chancellor will invite Dr McNair to deliver the Occasional Address.

The Chancellor will thank Dr McNair for his address. He will then invite the graduate chosen to speak on behalf of the graduates, to address the Assembly.

The Chancellor will thank the graduate speaker and declare the ceremony concluded.

The Procession of graduates will follow the Dale Party out of the Hall.

Music for the Ceremony:

Faculty of Music Choir
Organist - Michael Fowler
The University Fanfares were composed by Robert Constable.
AWARDS

Faculty of Science and Mathematics
Diploma in Aviation Science
With Merit
David Patrick Lyons

Bachelor of Applied Science (Environmental Assessment and Management)
Sarah Artist
Elfrida Johanna Blackburn
Aliison Kathleen Blundell
Suzanne Elizabeth Bridgman
Lyndell Elizabeth Carter
Debbie Joy Charman
Lyndell Coates
Kirsty Louise Costello
Donna Farragher
Brooke Flanagan
Adam Megan Foyle
Virginia Maree Jones
Phillip John Kahler
Anna-Maria Kearney
Warrick Paul McGrath
Samantha Gai McNamara
Sandra May Mitchell
Mark Noel Parsons
Emma Tracey Paul
Imelda Sharad Phadtare
Matthew Stratford Phillips
Tavis William Potts
Michael Trevor Sansom
Tabatha Lee Smith
Shaun Alexander Taylor
David Stephen Wells
Matthew James Wills
Trevor William Wintle

Bachelor of Science
Shannon Rose Mace
Kerry McGregor
Iain William McSkimming
Matthew Francis Neat
Kate Ruth Newman
Kim Nicholson
Duncan William Scott-Lawson
Michael Christopher Taylor
Jessica Georgine Wilce

Bachelor of Mathematics
Christopher Dean Carr
Kaylene Ruth Connell
Belinda Judith Faddy
Sherre Lynne Harris
Melinda Jane Holmes
Anthony Stuart Kiern
Paul Anthony Murphy
Simona Louise Richardson
Elizabeth Stojanovski

Bachelor of Environmental Science
Matthew John Bourke
Aaron David Bristow
Renae Lynette Gifford
Adam Gilligan
Malcolm Ward Hamilton

Susan Katherine Dippel
Paul Mathew Dixon
David Francis Dufty
Malte Christian Ebach
Craig Anthony Elith
Scott Richard Elliott
Karina Sheree Elelsey
Graham Henry Fallon
Andrew James Fitzgerald
Dianne Elizabeth Frizza
Cynthia Marie Gibson
Philip James Gilmore
Nicole Louise Gilmour
Christopher John Glover
Kenrie Louise Goodwin
Mark Evan Graham
Cathryn Anne Hancock
Todd Andrew Hardy
Elizabeth Wendy Haren
Daniel Francis Healy
Jane Heller
David Antony Henshaw
Danielle Lorraine Herbert
Stuart Richard Hides
Justine Sylvia Howland-Rose
Mark Edward Hunstone
Karen Lorraine Hunt
Joanne Jakubowski
Sonia Owen Jones
Alice Kelly
Mal Kiang
Damian Kinder
Craig Thomas Knott
Norman Garrick Kobelke
Santhini Kumaran
Helena Lake
Anne-Maree Lawrence
Alocia Jane Leonard
Steven Theron Lennon
Brett Robert Macaulay
Tracey Anne MacDonald
Andrew Duncan MacQueen
Paul Vincent Manuslu

Richard Wallace May
Jamie Webster McLeod
Joseph Llewellyn Ellis Metcalf
Colin James Munro
Richard William Neilson
Nathan Peter New
Yvonne Madelaine Nussbaumer
Soo Keat Ooi
Louise Angela Page
Adam Hendrick Parer
Mark John Pawley
Margaret Joyce Phillips
Jacqueline Louise Pilley
Melissa Pomering
Ian Anthony Price
Mark William Priest
Andrew David Proud
Belinda Anne Pralila
Paul Quagliotto
Jamie Scott Quinton
Melissa Anne Robinson
Gary Ronald Sanday
Brett John Savins
Todd Andrew Sarcombe
Anne Shornikov
Craig Stevenson
Judith Robyn Swan
Ian Ken Meng Tan
Christopher John Teasdale
Kylie-Anne Vineburg
Sean Trinity Vittadello
Margaret Ann Wade
Helen Christina Wallace
Alison June Whipp
Mark Gregory Whilton
Robyn Mary Wilkinson
Stuart Anthony Wiseman
Robert Peter Wolter
Andrew Lawrence Yeomans

Bachelor of Science (Aviation)
Gerald Robert Arnold
Laurent Pierre Henry Berlioz-Nott
Marcus John Buckley

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Ceremony for the Confering of Awards • Friday 26 April 1996 • Page 7
Class II Division 1
Natasha Josephine Leonard

Class I
Bruce Stewart Taper

Bachelor of Environmental Science
(Honours)

Class II Division I
Kylie Anne Yeend

Bachelor of Mathematics (Honours)

Class II Division 1
Helen Gray
Neil Raymond Pennington

Class I
Timothy Allan Dobbins - Statistics
Jason Peter Evans
Richard Fracaro - Statistics
Patrick John Kelly - Statistics
Gary Leslie Marshall - Statistics
Katrina Jacqueline Tiller - Statistics
Paul Frances Wilson

Class I and University Medal
Jonathan MacGregor Keith
Jason John Sharples

Bachelor of Science (Aviation) (Honours)

Class II Division 2
Brendan James Schuhna

Class II Division 1
Peter Allan Simpson

Bachelor of Science (Honours)

Class II Division 2
Brooke Elise Byrnes - Psychology
Alison Theresa Kinder - Psychology
Douglas James Oldmeadow - Biology

Class II Division 1
Matthew William Bulbert - Biology
Lisa Lorraine Charters - Geography
Penelope Cowan - Biology
Michael Lance Gear - Biology
Susan Louise Hartwig - Geology
Natasha Lee Hobson - Geology

Brett James Hodgins - Geology
Paula Ann Jones - Geography
Martin James Kelly - Chemistry
Allen Trevor George Lansdowne - Psychology
Melinda Gal Martin - Geography
Benjamin David Mooney - Chemistry
Svetlana Tanya Purija - Psychology
Brenda Lea Reinhard - Biology
Aron Anthony Shaw - Chemistry
Peter William Shimeld - Geography
Melinda Gal Thomas - Biology

Class I
Christopher William Bailey - Chemistry
David Scott Beach - Chemistry
Fiona Grace Beach - Chemistry
Warwick Dallas Dyson - Geography
Lisa Michelle Harris - Chemistry
Gabrielle Lester Holland - Biology
Natasha May Keys - Biology
Sonya Janet McClure - Biology
Brendan John Smith - Psychology
Sharon Louise Watt - Chemistry
Gregory John West - Biology

Class I and University Medal
Janine Louise Burns - Chemistry

Graduate Diploma in Environmental Studies

Luke Martin Bagnall
Gavin Francis Cooksley
Brendan Rose
Paul John Shearman

Graduate Diploma in Health Science
(Rehabilitation Counselling)

Soleana Jayne Arnold
Anthony Buzek
Sharon Louise Jeffries
Anthony Joseph Keane
Geoffrey William McLennan
David Geoffrey Mears
Cheryl Anne Morgan
Donal Jeffrey O'Sullivan
Gerardine Mary Pollard

Graduate Diploma in Science
Mirko Michael Cvetanovski
Gary Kenneth Ellem

With Merit
Emily Louise Roberts-Thomson

Master of Environmental Studies
Iain William Challis, BE
Gregory Paul Giles
Geoffrey Raymond Howitt, BSc(Arch), BArch
Timothy Gerard Sheridan, BAppSci(EnvHealth)(Hawkesbury Agricultural College)

Master of Health Science (Rehabilitation Counselling)
Ki Yeon Kim, Grad Dip HSc

Master of Scientific Studies
Nathalie Emmanuelle Perret

Master of Psychology (Clinical)
Katrina Joan Delamothe, BSc(NSW)
Thesis Title: Cognitive Interviewing Procedures and Suggestibility.
Glen George Ward, BA
Thesis Title: Child Psychiatric Problems and Family Functioning: An Investigation Using the McMaster Family Assessment Device.

Master of Psychology (Educational)
Judith Patricia Payling, BMath, DipEd
Thesis Title: Agenesis of the Corpus Callosum: Assessment of a Familial Disorder.

Master of Science

Department of Chemistry
Helen Elizabeth Farrah, BSc, DipEd
Thesis Title: Factors Influencing the Potential Mobility and Bioavailability of Metals and Exchangeable Ammonium Ion in Dried Lake Sediments.
### Doctor of Science

**Gregory Austin Tannock**, MSc(WAust), PhD(ANU)

**Thesis Title:** Studies in Molecular and Applied Virology.

### Doctor of Philosophy

**Vongling Ruan**, MSc(Zhejiang)

**Thesis Title:** Control of Hexose Accumulation in Developing Fruit of Tomato (Lycopersicon Esculentum Mill).

**Jennette Anne Sakoff**, BS, BSc(Hons)

**Thesis Title:** Peri-Implantation and the Process of Decidualization: Uterine Receptivity, Growth Dynamics and Biochemical Changes.

**Peter Glen Lye**, BSc, BSc(Hons)

**Thesis Title:** Kinetic and Thermodynamic Studies of Selected Pendant Arm Macrocycles. Production of High Performance Electrolytic Manganese Dioxide for Use in Primary Alkaline Cells.

### Department of Geography

**Damian Bruce Gore**, BSc(Macq)

**Thesis Title:** Geomorphological Processes and Quaternary Sediments of the Vestfold Hills, East Antarctica.

### Department of Mathematics

**Sriwulan Adji**, BMath(Institute of Technology Bandung), MMath(NSW)

**Thesis Title:** Crossed Products of C*-Algebras by Semigroups of Endomorphisms.

**Van Li**, BSc(Beijing), MSc(Institute of Space Physics)

**Thesis Title:** Characteristics of Low Latitude Pi2 Geomagnetic Pulsaations.

### Department of Psychology

**Michael Shane Exton**, BS, BSc(Hons)

**Thesis Title:** Behavioural Conditioning of Lipopolysaccharide-Induced Acute Phase Responses: Characterisation and the Role of Prostaglandins.

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### PRIZES

**Faculty of Science and Mathematics**

- **The Kath and Tom Farrell Prize** - Gregory John West
- **The McDonnell Douglas Trophy** - Nathan Adam Smith
- **The SHL Aviation Psychology Prize** - Nathan Adam Smith
- **The Boeing Prize for Excellence in Aviation** - Laurent Pierre Henry Berlioz-Nott
- **Australian Institute of Navigation Proficiency Award** - Stephen Louis Galosi
- **The Don Angus Memorial Prize** - Joanne Jakubowski
- **The Royal Australian Chemical Institute Prize in Level 300 Chemistry** - Shared - Kaylene Ruth Connell, Sean Trinity Vittadello, Soo Keat Ooi
- **The Royal Australian Chemical Institute Prize in Chemistry Honours** - Janine Louise Burns
- **Australian Manganese Company Limited Prize** - Kaylene Ruth Connell
- **The Geological Society of Australia (NSW Division) Prize in Third Year Geology** - Mark John Pawley
- **The CRA Exploration Mapping Prize** - Damian Kinder
- **The CRAE Ore Deposits Prize** - Susan Katherine Dippel
- **The Irene Vitnell Memorial Prize** - Susan Katherine Dippel
- **The William Vitnell Memorial Prize** - Mark John Pawley
- **The Frank Stoddart Prize** - Shared - Damian Kinder, Mark John Pawley

**Carbon Consulting International Prize** - Susan Louise Hartwig

**The Western Mining Corporation Prize** - Brett James Hodgins

**The Huldah Turner Prize for Mathematics** - Sheree Lynn Harris

**The George Arkla Harle Memorial Prize in Physics 300** - Nigel Patrick Savage

**The W H Ward Prize in Psychology** - Tarnya Antionette Davis

**SAS Institute Prize in 300 Level Subjects in Statistics** - Belinda Judith Faddy

**The Statistical Society of Australia Prize in 400 level Subjects in Statistics** - Patrick John Kelly

**The Newcastle Law Society Prize in Property** - Thomas William Cowen
THE UNIVERSITY OF NEWCASTLE FANFARES

In mid-1994, staff and students of the University's Faculty of Music were invited to submit entries for a competition to compose the University Fanfares. The composition had to be capable of being performed either on organ or on brass. The winning entry by Professor Robert Constable, was first played publicly at the University's overseas graduation ceremony held in Singapore in August 1994. The Fanfares will be performed at all ceremonial functions to herald the entry and departure of the Chancellor and other members of the Council.

THE GRADUATION CEREMONY: A BRIEF HISTORY*

The graduation ceremony is one of great antiquity. Its essential features have been the same since the 12th century when the first universities came into existence. Its necessary constituents are the Chancellor or his deputy, the academic staff, the graduands, and the public.

The Chancellor

When the Chancellor confers degrees, saying to the graduands: "By virtue of my authority as Chancellor, I admit you to the degree of..." those words are a translation of the Latin form used in the Middle Ages. Then, the Chancellor's authority to confer degrees came from the church. The church had a monopoly of education, partly because it was the guardian of true doctrine, and partly because clerics were almost the only people who could read and write. As a result, the only person who could license a teacher was the bishop of a diocese until, under pressure of other business, he deputed the task to his chief-secretary or chancellor.

As learning spread, teachers wanted a licence to teach not just in one diocese, but everywhere, and the only person who could give them that was the Pope. The Chancellor's authority, then, came from the Pope. But at the Reformation Henry VIII assumed for the Crown all the rights which had previously been the Pope's in England. That is why all subsequent universities in England have been created by Royal Charter. It is for this reason also that the Chancellor does not wear ecclesiastical robes, as would have been worn in the Middle Ages, but robes similar to those of the Lord Chancellor of England.

The Academic Staff

The second group participating in the ceremony is the academic staff. In the 12th century they would all have been called "masters" or MAs. At that date they were paid no salaries, but hired their own lecture rooms and charged their own fees. But they also formed themselves into a guild or union, which is what universitas originally meant. As in all guilds they were insistent that they, and only they, should determine who should be of their number, and since this involved saying who should be teachers, they soon found themselves in conflict with the Chancellor. In the 13th century they won a great victory when they persuaded the Pope to decree that Chancellors were obliged to confer degrees on all those nominated by the masters. That is why the masters examine the candidates, why the Dean, acting as their spokesman, reads out the names of those who are to receive degrees, and why the masters at this ceremony watch to see that the Chancellor or his Deputy does what is required of him.

The Graduands

Thirdly the graduands. The word "degree" comes from the Latin gradus, which means "a step". When students are admitted to the degree of Bachelor of Arts, they move one step up towards the mastership. When they are admitted to the degree of MA they climb another step and come up on a level with the masters, who then receive them into their guild or universitas. In the Middle Ages they would then have stayed on the dais, so that their old master could invest them with the symbols of office. But that was only part of the business. The new master had to
deliver an inaugural lecture, entertain the whole guild of masters to dinner, and preside over disputations for forty days continuously. For that reason, taking one's MA was called "inception", or the beginning of one's career as a master.

The Public

The public is the fourth participant in this ceremony. The public also has a function, because the whole point of the proceedings is that they should be seen and heard by valid witnesses. The public hears the words of the Dean and the Chancellor, and sees the new graduates dressed in their respective gowns or robes. The gowns are derived from the everyday dress of the medieval clergy. In the Middle Ages they were not open in front but closed like a clergyman's cassock. It was about 1500 that academics had the front opened up so as to display the fine clothes which they were wearing underneath. The hood was the normal medieval headwear, but it soon acquired a coloured lining. By the 17th century, if not earlier, these colours were strictly controlled, so that anyone could identify from the colour of a graduate's hood, the university, and the degree.

*The foregoing is an adaptation of an Address given at a Graduation Ceremony at the University of Birmingham by Emeritus Professor R H C Davis and reprinted in his book 'From Alfred the Great to Stephen' (Hambledon Press 1991), pp. 307-309. It is reproduced with kind permission of the author's widow.

NOTE

MESSAGE FROM THE WARDEN OF CONVOCATION

Congratulations, you made it! Welcome to Convocation, the graduate body of The University of Newcastle. When you graduate you automatically become a member of Convocation. Our first member received his degree in 1966. Since then, Convocation has grown to include more than 40,000 members.

The role of Convocation is to strengthen the links between the University, its graduates and the community. Convocation also elects four representatives to the Council, the governing body of the University, thereby providing input into the future direction of the University.

A strong and active graduate association benefits all those who hold qualifications from the University by safeguarding the value of your degree and ensuring the interests of graduates are served.

As a member of Convocation, you will receive Cetus, the graduate publication, to keep you informed of Convocation activities and developments affecting the university.

Convocation also offers a lively calendar of activities throughout the year for its members. So if you are interested in joining fellow graduates and members of the University at:
- dinners, cocktail parties, Balls (commencing with the Graduation Balls!), reunions;
- networking opportunities through regional chapters of Convocation, both nationally and internationally;
- lectures by new professors and renowned Australians;
- presentations of graduate awards;
then please stay in touch.

We also offer many more benefits including discounts on Internet access, airfares and hotel accommodation.

If you wish to receive further information on these benefits and services, or would like to update your address, please contact the Convocation Officer, the University of Newcastle, Callaghan, NSW 2308, Australia or by telephoning (049) 21 6459, by fax (049) 21 6400, or email convocation@newcastle.edu.au.

On behalf of Convocation, I wish you all the best. I hope your memories of university life are fond and the friendships you made here last a lifetime.

Regards,

Jean McGarry
WARDEN OF CONVOCATION