Exams on laptops: UTAS is using hi-tech solutions in exams and to combat plagiarism.

Within the past few years plagiarism rates at UTAS have dropped significantly from the 15% national average for Australian universities.

The third-year education students were given a USB stick with the exam on it; a security system ensured they had no access to outside networks or hard-drive access – but they could use a spell-check.

The e-exam and the application of Turnitin, a text-matching software system that detects plagiarism, are just two examples of hi-tech solutions to assignments and examinations.

Information technology lecturer Dr Andrew Fluck, from the School of Education, said that he is hoping other areas such as English, history and geography would take on the e-exam idea.

“It not only changes the way we assess but also the way for changing what we teach if we know we can assess in this way,” he said.

Meanwhile “beating the system” in exams has never been more difficult at UTAS, which has employed technologically advanced systems to assist in the detection of plagiarism and exam fraud.

Students who sat UTAS exams over the past three weeks were watched by eagle-eyed supervisors trained to detect sophisticated cheating devices such as micro-cameras disguised as pens and tiny earpieces receiving radio transmissions.

Student assignments were also analysed by Turnitin, which compares a submitted assignment with text located on billions of periodicals, journals, publications, internet documents, web pages and previously submitted student papers from around the world.

Students can also use Turnitin to check their assignments for matching text before submitting their assignment, giving them an opportunity to correct sections of text showing up as potentially having been plagiarised, often because the content has simply not been referenced correctly.

But educational strategies rather than sophisticated pattern-matching software have helped reduce plagiarism the most, according to UTAS educational developer at the Centre for the Advancement of Learning and Teaching Dr Doug Colbeck.

Central to reducing plagiarism at UTAS was this year’s introduction of the online module 2009 – Academic Writing.

“This module offers students better writing strategies, helping them to develop their own writing style in order to reference more accurately and improve overall writing abilities to avoid unintentionally committing plagiarism,” Dr Colbeck said.

Turnitin’s ability to match assignments to documents published years ago has helped combat the habit of copying assignments previously submitted by other students.
Excellent achievements for UTAS Chancellor

University of Tasmania Vice-Chancellor Professor Daryl Le Grew has announced his intention to leave the University at the end of his second term next year.

Prof. Le Grew said he is happy to be able to make the decision knowing that the University is undoubtedly now firmly placed as an international higher education institution operating out of Tasmania and is in the best position it has ever been in after an extremely strong period of growth.

“Looking forward to spending the final year of my term focusing on attracting funding to support the UTAS Masterplan, working to build the UTAS profile with philanthropic organisations and setting up strategies to help UTAS achieve the Australian Government’s participatory agenda,” he said.

“UTAS has continued to nurture and improve its research excellence, attracting high-quality academics locally and internationally as well as increasing the numbers of international students. We have also significantly expanded offshore, with now several bases interstate and overseas.”

Prof. Le Grew said the continuing partnership agreement between the University and the Tasma- nian Government had been a highlight of his time at UTAS. Significant achievements include the review and restructuring of the Menzies Research Institute, the integration of the Australian Maritime College, the continued expansion of the Launceston and Cradle Coast campuses, the launch of the Australian Innovation Research Centre and the establishment of the Institute for Marine and Antarctic Studies.

UTAS Chancellor Damien Bugg congratulat- ed Prof. Le Grew on his work as Vice-Chancellor, saying that Tasmania can be justifiably proud of its University and the work that Prof. Le Grew is doing as Vice-Chancellor.

“Daryl was initially appointed for a term of five years, which was later extended to eight. That extended term still has 14 months to run and the University is looking to Daryl’s continued leadership during that time. The University Council will, however, soon commence the search for Daryl’s replacement,” he said.

$1m+ extension to Rural Clinical School

Hi-tech: new medical facilities at the UTAS Rural Clinical School in Burnie

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First-aid defibrillators at UTAS

The University of Tasmania is the first Tasmanian organisation to install lifesaving heart defibrillators extensively in the workplace.

Twenty lifesaving heart defibrillators have been installed across all UTAS campuses around Tasmania.

An Automated External Defibrillator (AED) is a first-aid device used to treat someone suffering a cardiac arrest and administers an electric shock through the chest wall to the heart.

The device has built-in sensors to assess heart rhythm and to determine whether defibrillation is needed and automatically calculates the level of shock required. An additional machine, which costs $2755, also gives voice instructions to users and features a diagram that shows the user where to put the two electrodes on a heart-attack victim’s chest.

UTAS Asset Management Services director Matt Smith said defibrillators were already employed in many public buildings in Australia.

“It was important that we provide this first-aid device on all campuses and in public areas that are easy to access,” Mr Smith said.

“The early application of an AED greatly improves the chances of recovery. Research indicates defibrillation is most effective when carried out within three to four minutes of a sudden cardiac arrest.”

The defibrillators are all connected to an alarm system, which alerts UTAS Security to call an ambulance if a device is removed from the wall. Security is also automatically alerted if any defibrillators are tampered with.
Learn to love calculus, say academics

Two UTAS academics have been united by the seemingly-impossible common purpose of convincing school students to enjoy calculus.

Dr Andrew Fluck, from the School of Education, and Associate Professor Dev Ramnathugala, from the Australian Maritime College, are beginning a one-year project with six schools across four Australian states.

“We want to work with Year Six students, who don’t normally learn calculus, to give them the correct tools on their laptop computers to learn the methods involved,” Dr Fluck said.

“The students will use small notebook computers with software that will teach them the principles of calculus without them needing to do the complicated calculations involved.”

Dr Fluck’s interest in the project relates to his expertise in using information technology for teaching purposes.

Assoc. Prof. Ramnathugala, head of the AMC’s Maritime Engineering Department, wants to take steps to solve the problem of why Australia does not produce enough engineers.

“We’ll be using subject matter that interests the students, such as calculating the amount of paint needed to paint a wall or how many seeds are needed to plant a garden,” he said.

“The problem is that it’s difficult and students can’t see the connection between calculus and real-life problems who are doing it. They don’t know why they’re doing it.”

“Some teachers are realising that this is a problem but it needs a bigger push.”

Dr Fluck and Assoc. Prof. Ramnathugala hatched their project at Paringa Archery Club in Launceston where, among the bows and arrows, they found they had academic interests in common.

“I already go to schools trying to promote engineering so it’s a natural move to teach them so students like the subject of calculus better,” Assoc. Prof. Ramnathugala said.

$23,000 is helping the calculus project get off the ground.

Solid gold ideas at UTAS

A business idea that could save mineral exploration companies millions of dollars searching for new gold deposits has won $25,000 in the 2009 UTAS Business Competition.

Dr Steven Micklethwaite, a research fellow in the ARC Centre of Excellence in Ore Deposits at UTAS, has developed a system that will more accurately identify gold deposits.

The system uses earthquake and tectonic fault movement information to help identify where gold deposits are more likely to have formed.

Dr Micklethwaite’s system has the potential to significantly reduce investigative drilling costs because it can more accurately predict where gold deposits may have formed at depth.

“This is a really novel approach to making predictions about what lies beneath our feet, which will encourage mineral exploration companies to take more risks and drill deeper,” Dr Micklethwaite said.

His technique has already helped a minerals exploration company design a drilling program and locate good gold grades at Mt Pleasant, near Kalgoorlie in Western Australia. It is hoped the technique will help cut exploration costs in Australia significantly. It may also be useful for finding other resources like copper, lead and zinc.

Dr Micklethwaite plans to use the $25,000 first prize money from the competition to assist with further software development and to set up a research development and consultancy company through UTAS.

Second place in the 2009 UTAS Business Competition was won by UTAS Architecture and Design PhD student Tim Law, who is developing a more efficient airconditioning system for large buildings.

Dr Adele Vincent, a research fellow at the Minerals Research Institute, won the competition’s non-University Intellectual Property category for her business idea for creating a book and associated website on dealing with food gluts.

The idea developed after Dr Vincent caught a 143 kilogram Southern bluefin tuna – the fifth largest bluefin tuna ever caught on a game line.

“I faced with 143 kg of tuna to eat, Dr Vincent thought that she was probably not the only person ever to face a seasonal food glut.

Her book and associated website will provide preservation tips and recipes for foods that often occur in gluts, including tomatoes and seasonal fruits.

Both Mr Law and Dr Vincent won a trip to attend the two-day UniQuest Annual Conference in Queensland next year.

The UTAS Business Competition People’s Choice Award went to David Maynard of the Australian Maritime College, who has developed an innovative method to reduce bio-catch in prawn trawlers.

The second year of the UTAS Business Competition attracted 50 entrants who were each keen to turn their big idea into a lucrative business. Prior to the competition, all participants undertook commercialisation skills workshops facilitated by the UTAS Research Office Commercialisation Unit to develop their business and pitching skills.

Sustainable action a must

UTAS has much to be proud of in advocating environmental causes and providing the research and teaching that support the concept of a sustainable future.

Our role in climate change and the South- est Asia-Pacific region, in water management, in plant ecology, built environment and life cycles, alternative energy and many other areas demonstrates our commitment to sustainability.

We need to make sure that we “practice what we preach” in terms of adopting our own methods and our infrastructure to address a sustainable future.

Universities have a crucial role in educating students and the community about common links between air, water and climate, the importance of individual responsibility and the value of community action.

Sustainability implies that the critical activities of a higher education institute are ecologically sound, socially just and economically viable, and that they will continue to be so for future generations.

As one of the largest employers in Tasmania, the university has an opportunity to set an example and influence policy by improving standards of practice in recycling, energy use, food services, purchasing and green building practices.

Undoubtedly, UTAS has the capability to develop practical solutions to help play its part in addressing issues of sustainability and to be a model corporate citizen in sustainability.

In 2005 UTAS committed to improving its environmental management. That was backed up by the UTAS strategic plan (EDGE2 Agenda), which prioritises the implementation and evaluation of projects to reduce UTAS’s carbon footprint and energy expenditure and, by last year’s decision, to adopt a Sustainable Built Environment Design Policy.

Another example of the University’s commitment is the recent signing of the Talloires Declaration.

By signing this declaration, the University of Tasmania has committed to adopting a plan for incorporating environmental literacy and sustainability into University teaching and practices, and providing a comprehensive framework for shaping steady progress towards sustainability.

First signed in 1990 by 22 universities, the declaration now has over 360 university signatories in more than 40 countries.

The declaration represents the first time that universities from around the world have joined in a commitment towards sustainability in higher education.

Sustainability in organisations is created when all three components – leadership, corporate strategies and culture – reinforce each other for the long-term benefit of various stakeholders.

As a responsible corporate citizen, the University of Tasmania aims to be a living laboratory, with our efforts at sustainability research and education fully integrated with the community around us.

Warm regards

Daryl Le Grew

Professor

Daryl Le Grew

Vice-Chancellor

www.utas.edu.au/vc

Commercialisation Unit to
A new UTAS research project has discovered that just one hectare of Tasm-nia’s wet eucalypt forests supports at least 849 macro fungal species—approximately half of which live on dead wood on the forest floor. The findings have implications for retaining woody debris in managed forests to help conserve fungi biodiversity.

Genevieve Gates, who undertook her three-year research doctorate through the Cooperative Research Centre for Forestry, studied the amount of dead wood and associated macro fungal assemblies (those fungi species with easily visible fruit bodies such as toadstools, mushrooms and puffballs) in a Eucalyptus obliqua-dominated wet sclerophyll forest near Geeveston in southern Tasmania. The fallen and standing dead wood in 50 x 50 m plots with different fire histories was painstakingly measured, stages of decay classified and volumes calculated. Formally surveys for fungal fruiting bodies on wood, soil and litter in each plot continued for 14 months.

Ms Gates’ work showed that a forest’s wildfire history could be deduced by analysing the quantity and decay stage of fallen and standing dead wood. Her study also showed that each plot had unique fungi species. “The reasons for this could not be discerned in the course of my study, but are probably an interaction of plot age, inherent site characteristics and higher vascular plant communities,” Ms Gates said.

“Three polypore fungus species that can be considered as indicator species of old forests and old trees were identified and will be useful in identifying habitats to be preserved for aesthetic and biodiversity values.” The majority of the fungi Ms Gates recorded are new species that have not yet been named; there are many species that are still undescribed and probably not even discovered yet,” Ms Gates said. The study recommends that some forest coupes be assigned to longer rotations to provide a continuum of dead wood sizes and decay stages to help maintain the diversity of fungi species that live on dead wood, and to allow trees to reach a larger diameter.
Wish you were here

As the pinkest of Hobart sunsets is reflected on the Derwent River, a shadow of a man stands by the Antarctic ship L’Astrolabe.

This blurred figure seems uncertain. Is he really there—or is he only there in body, his spirit elsewhere?

Kim Lehman’s name for this photograph, the signature photo of his exhibition at the New Gallery on the UTAS Newnham campus, is poignant: *How I wish, how I wish you were here*.

Each of the 12 large-format photographs by Dr Lehman, a lecturer in the School of Management, has a certain poignancy, or at least provokes thoughts and memories in the mind of the viewer.

On opening the exhibition, the Head of the Tasmanian School of Art, Professor Noel Frankham, quoted French literary theorist and philosopher Roland Barthes: “A photograph is always invisible, it is not it that we see . . .”

Barthes’ point is that it’s the evoked memories and emotional responses that matter when we view photographs.

“Kim’s photo-media work recalls snapshots and postcards, presenting the human subject indistinctly as shadow, allowing us to place ourselves within his experiences,” Prof. Frankham said.

“In doing so we can recall and even re-experience the thrills and adventure of iconic tourist destinations, mundane airports and lonely hotel rooms and the longing for home and family.”

“With 12 ironically titled images he invites us to share the range of emotions that build up to and down from solitary travel.”

Wish you were here is curated by Dr Robyn Glade-Wright, a lecturer in the School of Education.

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This blurred figure seems uncertain. Is he really there—or is he only there in body, his spirit elsewhere?
New super computer helps forecast world climate

BY KATHY GRIEBE

Complex science problems are being solved faster than ever before with the installation of a $1 million supercomputing facility at UTAS by the Tasmanian Partnership for Advanced Computing (TPAC).

Complex modelling of Tasmania’s future climate, the Southern Ocean’s currents, and Antarctic ice sheet melting are now all possible with the new super-fast computer.

The high performance computer, nicknamed Katabatic after blizzard-speed winds found in Antarctica, will enable super-fast processing and calculations of large research data sets, which would otherwise take a desktop computer many years to complete.

TPAC director Professor Nathan Bindoff said Katabatic will be used for ocean, atmosphere, Antarctic ice sheet and climate modelling, as well as computational chemistry, fluid dynamics and other projects requiring above average compute and/or memory capacity.

“This facility is used for simulations, storage of data and the re-use of data by researchers,” he said.

Prof. Bindoff said the new supercomputing facility maintains UTAS’ position as a centre for high performance computing and the hosting of data in Australia in the marine and climate areas.

“The projects it will enable and support are of national and state significance,” he said.

Researchers from various parts of the University, including the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), the Australian Integrated Marine Observing System (IMOS), the UTAS School of Chemistry, the School of Maths and Physics, and the Menzies Research Institute have already booked in to use Katabatic.

There are about 30 direct users of the computing facility and, through the hosted data sets, more than a 100 users on a daily basis – equivalent to more than 30,000 users annually.

Headed bush boosts medical experience

BY MERIAN ELLIS

An old saying claims there is no work in Burke and sand-all in Blackall. With this in mind, you might wonder why University of Tasmania medical student Henry Nowlan is planning his third trip to this remote community in Western Queensland this summer.

The heat, dust and flies of the Outback might seem a challenging alternative to the mild, sunny days and sandy beaches of the Tasmanian summer. But, for Mr Nowlan, a trip to Western Queensland in January is one of the highlights of his year.

Mr Nowlan is a fifth-year student at UTAS’ Rural Clinical School in Burnie and is a participant in the John Flynn Placement Program.

The program is an Australian Government initiative that aims to provide medical students with authentic rural and remote clinical and life experiences, and encourage them to seriously consider a career as a country doctor.

Each year the program links 300 new medical students with doctors in rural and remote communities. For four years the students travel to the communities and spend two weeks of their summer vacation learning from and assisting rural doctors.

The early years of your medicine degree are mainly about class work and I was really keen to see situations, he said.

There is only one doctor in Blackall so I get to see all the patients in Dr Vinye Jokhi’s clinic as well as in the local hospital. This means lots of hands-on experience. Because it is a small community and we get to go back four times, you start to get to know the patients and their case histories.

You get to see the full impacts of chronic illness, such as diabetes and heart disease, as well as experiencing full-on emergency situations.

While I was in Blackall we had to deal with an emergency delivery of a premature baby, and we had lots of people coming in with bruises and broken bones from falling off motorbikes while musing cattle,” he said.

My experience in Blackall has definitely affected my career choices; I’ve realised the importance of specialist knowledge such as obstetrics and anaesthetics when you are working in the bush.

As part of the John Flynn Placement Program students are encouraged to get involved socially with the local community. Mr Nowlan says he has developed a fondness for the Western Queensland area, and a great empathy for the people who live and work in the region.

“I enjoy going back and meeting the same people and building up rapport with the doctor. I have some good friends out there now and I keep in touch with them throughout the year,” he said.

Extreme emergency

An extreme wilderness location has been used as a backdrop to help UTAS medical students prepare for the real world.

The exercise, for fourth- and fifth-year medical students, was held south of Dover recently as part of a training exercise to prepare the students for remote medical trauma.

Senior lecturer in Emergency Medicine Dr Bryan Waldpole said the exercise was about extending the experience of the students.

“Community involvement and hands-on experience in the bush are critical for learning of our students,” he said.

“We aim to graduate top doctors who can think on their feet and achieve excellent health outcomes. “The Tasmanian community can be assured that if there is a medical emergency in a remote region of the state, UTAS graduates have been trained for these situations.”

The exercise took place over a weekend.

Students recruited “victims” from a mock car crash, with the assistance of the State Emergency Service using their “jaws of life.” They were also presented with a plane crash and an injured father and son lost in the bush.

Eight medical practitioners, including five doctors from the Australian Antarctic Division, helped supervise students during the events.

“Working with professionals in a real-life situation is an invaluable experience for our students,” said Professor Mark Nelson, head of General Practice.

“Students learn to divide a complex task into achievable components and to execute what needs to occur along a defined path. The scenarios provide the students with the opportunity to gain knowledge and understanding of the roles of the police, ambulance and SES in an emergency.”

Med students to the rescue: Victoria Trubody, Abby Gleeson, Sara Teoh, Stephanie Flukes and Portia Spaulding help victims in a mock car crash.
Creatures of the ice

Creatures of the ice: Dr Elizabeth Leane and Dr Steve Nicol’s research will examine the transformation of Antarctic animals into popular icons.

**IY CHERIE COOPER**

From the albatross to the children’s movie blockbuster Happy Feet, Antarctic animals have played an important symbolic role in Western culture. The team will examine the ways in which humans have narrated their encounters with animals in Antarctica over the past two centuries through an analysis of written and visual texts. On one hand it was a lighthearted film aimed at children. On the other, it was a serious critique of human exploitation of the environment. The project, “Creatures of the ice: A cultural analysis of human–animal relations in Antarctica,” is looking at the meanings and values society has attached to animals in the world’s largest and most remote wilderness. Emerging expertise in the humanities and sciences, the team will examine the ways in which humans have narrated their encounters with animals in Antarctica over the past two centuries through an analysis of written and visual texts. Happy Feet, for example, is a text that performed dual roles. On one hand it was a lightweight film aimed at children. On the other, it was a serious critique of human exploitation of the environment. Dr Leane, whose research has spearheaded the entry of literary analysis into the traditionally science-dominated field of Antarctic studies, said the project will draw on both scientific and cultural perspectives. “Our work will investigate the ways in which human–animal interaction reflects and informs attitudes towards the Antarctic environment,” Dr Leane said. “The project will also provide a cultural context through which to understand current attitudes towards Antarctic’s fragile ecosystems.”

**UTASbooks**

**Clinical Cases in Fluid and Electrolyte Balance** by Geoffrey Couser and Justin Walls, UTAS School of Medicine (McGraw Hill, 2009)

Clinical Cases in Fluid and Electrolyte Balance consists of common clinical cases that combine the practice of emergency medicine with the fundamental biomedical science behind fluid, electrolyte and acid–base balance. Key features of each case study include: clinical and physiological learning objectives, a case timeline, clinical and physiological learning objectives, a case timeline, clinical and physiological learning objectives, a case timeline, clinical and physiological learning objectives, a case timeline, and topics for further discussion. The text is the second book in the clinical case series written by the authors. Their first book, Clinical Cases in Emergency Medicine: A Physiologist Approach, has been very successful, having become recommended reading at several Australian medical schools.

**Tropical Fish Otoliths: Information for Assessment, Management and Ecology** Series: Reviews: Methods and Technologies in Fish Biology and Fisheries, v. 11 by Bridget Green, Tasmanian Aquaculture and Fisheries Institute; Bruce Mapstone, Antarctic Climate and Ecosystems Cooperative Research Centre; Gary Carles, Tasmanian Aquaculture and Fisheries Institute; and Gavin A. Begg (eds) (Springer, 2009)

Tropical Fish Otoliths is a comprehensive description of the current status of knowledge about otoliths in the tropics. It has contributions from leading experts in the field, encompassing a tropical perspective on daily and annual ageing in fish and invertebrates, microchemistry, interpreting otolith microstructure and using it to back-calculate life history events.

**Crimes Against Nature: Environmental Criminology and Ecological Justice** by Rob White, UTAS School of Sociology and Social Work (Wlan Publishing, 2008)

Environmental issues have increasing prevalence in the media lately and are now impacting on those concerned with criminal justice and crime. These factors have led to a “green criminology.” This book, which is international in scope, provides a comprehensive overview of the emerging field of green criminology. It charts out new directions for future thinking and research, and sets out the nature of, and responses to, environmental crime. The text deals with transgressions against humans, environments and animals. It utilises detailed case studies, illustrations and analysis.

**Technoliteracy, Discourse and Social Practice: Frameworks and Applications in the Digital Age** by Darren Lee Pullen, UTAS Faculty of Education, Christina Gitsaki and Margaret Baguley, UTAS Faculty of Education (Information Science Publishing, 2009)

In the digital age of technology, the nature of the educational system is becoming increasingly more complex and globally focused. Technoliteracy, Discourse and Social Practice: Frameworks and Applications in the Digital Age utilises a range of technologies and multiliteracies to support the development of challenging social conventions and expectations of behaviour. A defining body of research, this publication provides unique and significant insights into the diverse approaches and implementation of technology in various contexts.
The work

Bill Hart’s multimedia exhibition The Conditions of Ambient Cognitivism, which featured in the foyer window of the Morris Miller Library last month, was a mesmerising display. The Conditions of Ambient Cognitivism formed part of Dr Hart’s submission for a Doctorate of Philosophy in 2008, which involved focusing on real-time computer graphics and generative systems. The multimedia exhibition consisted of four component works that follow processes of cognition and being perception, sensation, communication and action. In Dialectic Sequest Dr Hart takes two opposing statements on the fundamentals of language and subjects them to a series of mechanical translations through different languages and back into English. Transcendental Jitters makes a connection between the denotitius of the body, the stuff (skin, hair and bacteria) that we constantly shed and exchange with our environment. It uses Brownian motion, the jittery motion of microscopic particles in fluid, to animate nail clippings. Faith in Reason is a meditation on the Enlightenment belief in the power of pure logic to act upon the world. The work features e-glyphs, which are hand-drawn symbols from the Roman and Greek alphabets, and includes other common fundamental symbols. Ontological Drift explores ontology, which is the branch of metaphysics that explores the nature of being. In computer science it is the representation of a set of concepts and their relationships with a specific area of interest or field of study: a domain. The words featured in Ontological Drift come from two lists of words — a list of words ending in -ism (3487) and words ending in -ology (4094). Words ending in -ism relate to an ideology, denoting a subjective belief or doctrine, but can also refer to psychological conditions. Words ending in -ology denote a branch of knowledge. There are many more -isms than -ologies in use in the English language. The text of Ontological Drift contains an inventory of labels for subjective practice and objective study: belief and rationality. Dr Bill Hart (1963–) was born in Launceston and studied at the University of Tasmania, completing a BSc (Hons) in theoretical physics in 1984. He worked for the CSIRO Division of Oceanography from 1985 to 1993 as a numerical modeller and network manager, returning to the University of Tasmania to study art between 1990 and 1992. He commenced work at the Tasmanian School of Art in 1994 developing the academic program for Computing in Art, which later combined with Video to become E-Media. His exhibited work encompasses video, digital prints and reactive animations, with work shown both nationally and internationally. Dr Hart is currently coordinator of Teaching and Learning and lecturer in Electronic Media at the Tasmanian School of Art.