On 10 August 2012, the Dental Alumni Society of The University of Sydney hosted a cocktail function where Alumni, Faculty staff and students joined with revered alumni Dr Allan Stewart.

Dr Stewart spoke of his endeavours from his time as a dental student in the 1930s through to receiving his latest degree in 2012, stressing the importance of being a life-long learner.

Students enthused over Dr Stewart’s inspiring words as an admirable example of what we are striving for in our faculty. This is reassuring to hear as we refine our research strategies to address dental health issues in the community and inform our teaching through this research.

To further enable integration of our educational and research activities, we are currently consolidating professional staff. Staff have commendably driven this change to improve the faculty as a whole.

A key to improving dental health lies with informing our teaching with our research which targets existing and emerging oral health obstacles.

To progress our research themes of Chronic Diseases and of Healthy Ageing, we have recruited a number of new research-active staff, namely Christina Adler, Amit Arora, Jinlong Gao, Ramin Mostofi, KyAnh Nguyen and Munira Xaymardan. I feel confident that these bright new appointees will join our strong team to ensure greater research output from not only our faculty members, but our students as well. Please join me in welcoming Amit, Christina, Jinlong, KyAnh, Munira and Ramin on board.

Chris Peck, Dean
LEADING EDGE

Spotlight: Dr Manu Susan David

PhD students in Oral Pathology have unearthed a new cancer mechanism, potentially explaining escape from chemotherapy by some cancer cells.

Earlier work by former Masters student, Alex McEwen, showed cancer cells caused ‘cellular suicide’ in blood vessel endothelium upon contact. Although accounting for aspects of cancer spread, the discovery was controversial because it seemed the opposite of long-established dependence of cancer on vessel growth. When others made similar observations, however, the work became widely accepted.

Supervisor A/Professor Hans Zoellner, thought similar ‘cellular suicide’ might account for destruction of fibroblasts by cancer cells.

This was tested by PhD student Minh Huynh, but, although the fibroblasts did disappear, there was no evidence of actual cell death. The reason was that they had stumbled upon a new biological mechanism in cancer. The cancer cells were donating cell membrane and cytoplasm to fibroblasts, which were not dying but simply starting to mimic cancer cells instead.

Manu David took the work further by studying the exchange process in her PhD. Together with research assistant Libby Kelly, she showed malignant cells harvest both cytoplasm and membrane from normal fibroblasts via ‘cellular sipping’. Importantly, this generates enormous cancer cell diversity without further genetic change. The work has just been published in the leading ‘Journal of Pathology’ identifying a new type of target for cancer therapeutics.

Zoellner says “It’s tough sticking to reproducible but inexplicable data, and I’m so proud of our students and team.”

STUDENTS IN THE WILD

Charging elephants, Soweto slums and the queues of numerous trauma patients at the largest hospital in the southern hemisphere would take most people out of their comfort zone. For three Bachelor of Dentistry students from the University of Sydney, this was certainly the case.

Ramesh Harichandran recalls: “for one month we actively participated in the University of the Witwatersrand International Elective program in Johannesburg, South Africa, based at the Maxillofacial units of Chris Hani Baragwanath and Charlotte Maxeke Johannesburg Academic Hospitals. Packing much into the short time, we found South Africa ideal to experience a wide range of surgery and pathology. After seeing Ameloblastomas the size of a fist, Keratocysts, Nasopalatine duct cysts, squamous cell carcinomas, three fractured jaws a day in a theatre often associated with other head and neck trauma, angle-to-angle bone grafting, reconstructive Maxillo-facial prosthodontics and bi-coronal flap surgery, we were proven right. This point was probably exemplified when we observed the entire treatment for a facial gunshot wound in the dental chair.

Also having the chance to visit some of the country’s natural wonders such as Kruger National Park and Table Mountain made for one the most rewarding experiences in our dental degree.

We would like to thank previous staff member, A/Professor Elaine Blignaut who, on returning to her native South Africa, facilitated our placement and greatly enhanced the experience.”

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SPOTLIGHT: Christina Adler, continued from page 1

Christina, who joined the Faculty of Dentistry this year as an Associate Lecturer, says: “I developed this technique during my PhD (awarded January 2012) with colleagues at The Australian Centre for Ancient DNA, University of Adelaide. This information is being used to improve our current understanding of what constitutes a healthy mouth in terms of bacterial makeup”.

Dr Allan Stewart, BDS 1936, with Faculty of Dentistry students at the Faculty/Dental Alumni Cocktail
PhD student Rohana Ahmad’s breakthrough research, recently published in the leading dental journal in Implant Dentistry, ‘Clinical Oral Implants Research’, explores the effect of overdentures retained by two implants on mandibular bone remodelling over a period of one and two years.

A novel technique to quantify bone remodelling in three-dimension was developed using cone beam computed tomography and medical imaging programs. Quantified bone remodelling found a large variation, with most study participants demonstrating a degree of bone loss and few demonstrating some bone gain.

Dr Ahmad has found that although implant-retained overdentures have been recommended as the minimum standard of care for edentulous patient, the findings of her clinical study suggest that implant-retained overdentures are highly beneficial in individuals with mandibular denture predicament who have a large gonial angle and thick mucosa as these individuals are less likely to suffer from extensive bone loss. An individual with a low gonial angle and thin mucosa is more likely to experience substantial bone loss and therefore, maybe better off with an implant-supported overdenture or if cost is a limiting factor, an implant-retained overdenture that is permanently soft-relined. This is due to the close association between biting pressure and bone loss. An individual with a small gonial angle tends to have a higher bite force which results in higher pressure and subsequently more bone loss. Thicker mucosa has been found to be protective against bone loss as it provides a cushioning effect and prevents excessive chewing force from acting upon the underlying bone.

Says Dr Ahmad “Implants are not for everyone and overdentures retained by two implants should not be the minimal standard of care for edentulous patients. This research is significant in that it will have an impact in the provision of removable implant-integrated prostheses”
A LIFELINE TO STUDENTS

Current BDent Year 3 student, ‘KJ’, second-time recipient of a Waterman Scholarship, says:

‘Receiving this scholarship has made a huge impact on my life and studies. Most importantly of course, is that it will enable me to become a better dentist.

A dental student must get a great deal of practice to perfect clinical technique, and that requires resources. For example, you need to experience drilling a cavity around 20-30 times to gain reasonable proficiency and for this you require teeth, so, at a cost of ~ $4 per tooth, adds up to around $1,000 a year. Likewise, doing intricate precision work requires good vision and so, the ability to afford loupes and a light (at an additional cost of ~ $2,500-$3,500) makes for a much better outcome. It is not a question of enjoying the luxury of going to movies, because the course doesn’t give you much time for that, but it does contribute to petrol for my car to get me to and from my classes at Westmead.

The extra money has improved my diet so that I am no longer living on staples but eating healthily and it allows me to regularly exercise either at a gym or joining group sports via the University.

The Waterman Scholarship has given me the extra breathing space to concentrate on my studies and removed the stress and angst that come with financial woes.”

When asked whether there was anything else he needed KJ said “I would love to find an alumnus to bounce ideas off, who is willing to provide mentoring over the next few years, to advise and steer me on the do’s and don’ts and possible pitfalls facing a newly-graduated dentist. I am also keen to work in a rural or regional area.”

The generosity shown me during this exciting time in my life is something I value and which I will, in turn, give back by supporting student once I graduate and am in a position to do so.”

Faculty Development Officer, Ene Juurma, says, “It is wonderful to hear in our students’ own words how important scholarship assistance received this year has been to their personal wellbeing and their studies. Our young people are committed to, and excited about, their future working as dentists in the community and want to put their best efforts into their studies. Scholarships are the enablers for this. Thanks to people at very different times of their lives this financial support has been provided to Dentistry.

The donor who established the Waterman scholarships is committed to helping others as had been the family ethos and enjoys the opportunity to have a personal link to the people who benefit from the fund.

The Schweitzer scholarships available to Final Year Dentistry students have been provided in perpetuity through a generous bequest in memory of Dr Friedrich Schweitzer, a dentist and who trained initially in Europe and was somewhat of a “father figure” to his much-younger fellow students at Sydney.

WOMEN IN DENTISTRY: A JOINT SUDA/DASUS EVENT
7PM FRIDAY 19 OCTOBER 2012

Please join this event to mingle, network, offer and receive advice and mentoring between colleagues, alumni, industry partners.

Special guest speaker, Dr Michelle Heffernan, will speak of her own challenges, career choices and accomplishments on leaving dental school.

Please go to suda.org.au/event-registration for ticket purchase.

Tickets at $20 for students and $30 for non-students include drinks and finger food.