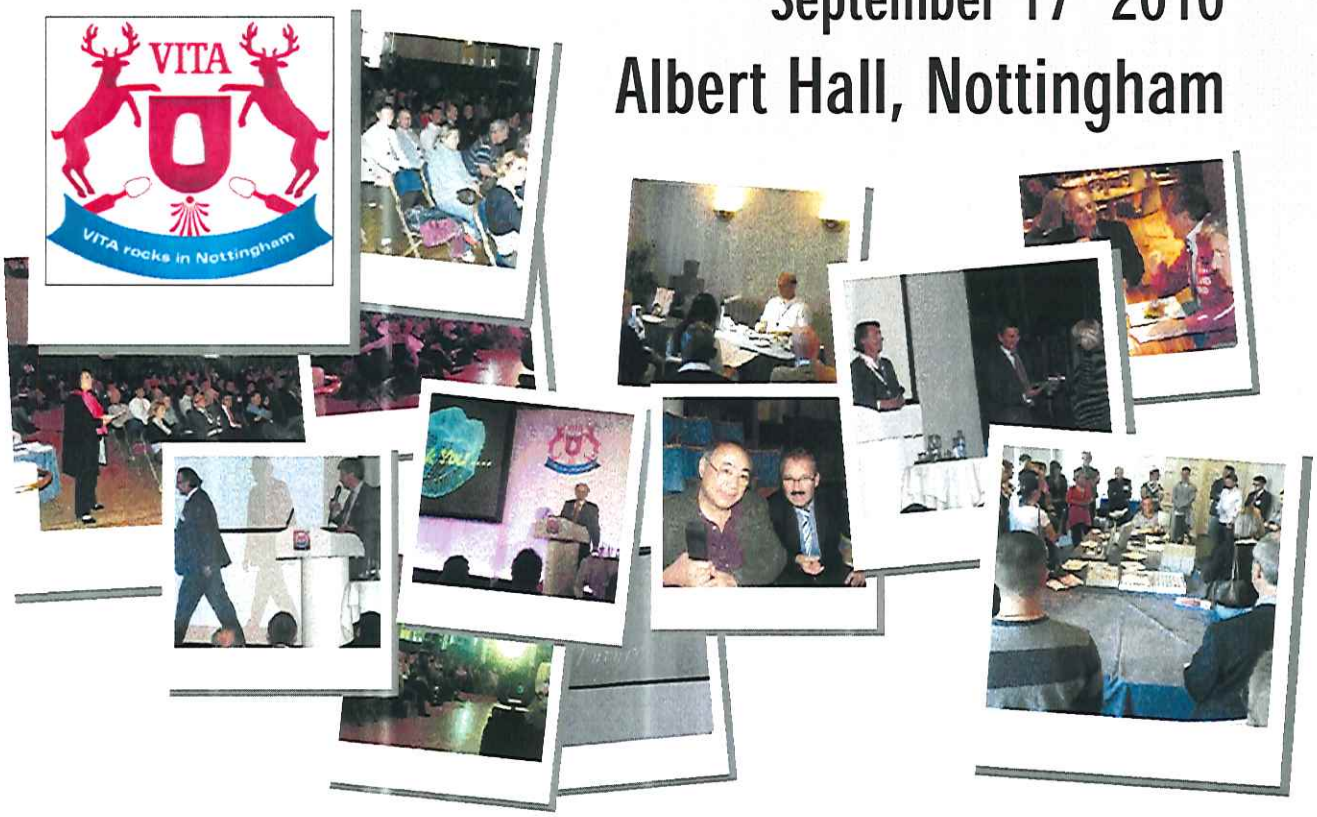
Vita Rocks

September 17th 2010
Albert Hall, Nottingham



On organising an event...

By Dominique Gigante (Sales and Marketing Manager/Panadent)

DT: How long does it take to organise an event like this?
Dominique: The organisation took us virtually a whole year (venue reservation, hotels etc.) We started advertising it in January 2010.

DT: This was a joint venture between Vita and Panadaent: how did you share out the organisation, and did it all go smoothly?
Dominique: We did all the on-site organisation, and Vita organised the speakers.
The speakers are used to doing international presentations for Vita, so there weren't too many problems there. Of course, there were one or two last minute changes in speakers!
We also worked with Vita on the design of the invitations, the Vita Rocks Logo etc.
Of course, it was Panadent who 'recruited' the delegates, and that was a lot of admin (chasing up payments etc...)!

DT: How many people came, would you say the event has been a success?
Dominique: We have had around a 150 delegates.
It has been a great success in that it is the first seminar of its kind, combining lectures and hands on demos. People really liked this, because they got to choose what they wanted to do. For example, in the morning you could go to a hands on demo course on VMK Master, and in the afternoon you could see a top speaker lecture on how he obtains superb results using Vita materials.
There was also a C&B / prosthetics mix: in the morning there were C&B demos and prosthetics speakers, in the afternoon there were prosthetics demos and C&B speakers.
There were also two speakers who everybody came together to see: Prof. Duret, father of CAD/CAM, and Claude Sieber, Master of Light...

DT: So, when is the next one going to be?
Dominique: I swore to myself never again... all that work and stress!
But given the success it has seen, we will certainly organise something in 2012!

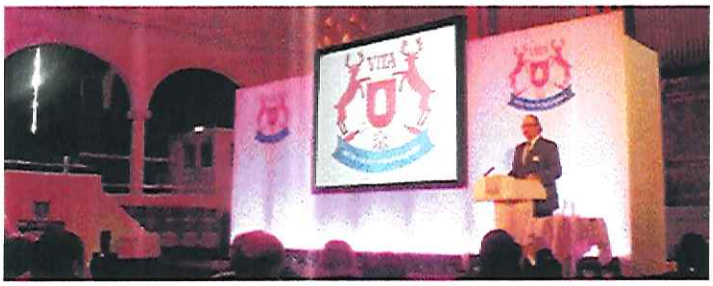
Vita Rocks Symposium

by Somano Luang Phaxay & Poppy Stoddart

I attended the Vita Rocks Symosium in the beautiful Albert Hall in Nottingham. The event was organised by Vita and Panadent, and they have never done anything like this before, so I was curious to see how the day would pan out.

Peter Gowers director of Panadent and Dirk Aubry, Vita's sales manager for Europe welcomed the delegates who came from over the UK and Europe for the event.
Ms Moon Suk then took to the stage to welcome delegates and provide a little entertainment. Vita was not forgotten during her excellent vocal performance as she sang accompanied by a clip of Vita's products. The audience loved it, and it was a great start to the day!
The line up of speakers was excellent, notably featuring Professor Duret, the inventor of CAD/CAM, and Master Technician Claude Sieber.

The event was organised so that delegates could choose to attend the main lectures in the main auditorium, or attend smaller table-top clinics which were more hands on. It is great to have the choice, as this enables you to get the most out of the day by attending what is most relevant and interesting for you.

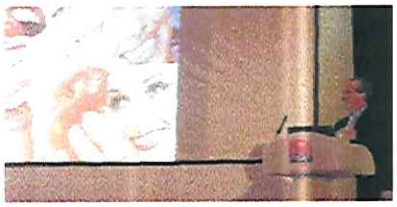


Dirk Aubrey, Vita sales Manager, welcomes delegates

A dazzling vocal performance by Moon Suck

Speed and Aesthetics in full ceramics

Presented by Vanik Jinoian



I couldn't wait to see Vanik Jinoian speak; he is renowned in the dental world especially in ceramics, and was the youngest ever lecturer and demonstrator on ceramics for Vita.

During his lecture he demonstrated his lab's methods when using CAD/CAM, and explained the differences between traditional dentistry and modern CAD/CAM driven dentistry.

In his lab he virtually always uses CAD/CAM now (Cerec), due to the time saved, the superior aesthetic results, the precision, and the excellent quality of the materials available.
Traditional methods do not offer such good results or quality, and are more time consuming. It is true that all the stages of casting the model, inserting pins, doing the wax up, investing, casting, opaquing, ceramic layering and polishing are more laborious when using traditional techniques.
In comparison, with CAD/CAM, the model is cast and scanned (soon it will be normal to print the model using CAD/CAM). The design offers a choice of substructures and materials. Once it is milled the ceramic layering and polishing can be completed...
Vanik clearly demonstrated, through his own day to day working in the lab, with high quality cases, how CAD/CAM systems increase the productivity of dental labs.

He finished with his view on the future of CAD/CAM – chairside digital impressions which will allow for models to be printed directly or even to design the restoration from this directly on screen. CAD/CAM will continue to evolve and change the way we work.

Back to the future CAD/CAM

A History of CAD/CAM

Presented by Professor Francois Duret

I was really looking forward to seeing Professor Duret, the 'father of CAD/CAM', give his lecture... His thesis on Optical Impression in 1973 is the cornerstone on which Dental CAD/CAM is based. He developed the first ever CAD/CAM systems, developed and taught the first ever CAD/CAM courses, and today continues his work on 3D scanning.

A glance at the major stages in Professor Duret's career (see timeline) will show why he is considered to be the global

A timeline of Professor Duret's Work: From his first theoretical steps to the booming CAD/CAM market as we know it today...

1970:	Francois Duret is a 3rd year Dentistry and Science student. He is 22 years old. He combines two very different procedures, dental impression and dimensional metrology by 3D measures of an object
1973:	Francois presents his thesis on optical impression. It is break-through work.
1976:	Francois presents his work publicly at a conference for the first time, in Tours, France. Nobel Prize winner A. Kestler is very interested in his work.
1980:	The first patent for CAD/CAM is recorded (6 more will follow between now and 1992).
1983 – 1986:	Fabrication of prototypes
1983	Presentation of the first prototype at the 'Entretiens de la Garancières' Paris, France. François' work makes headlines on the news
1985 (November):	The first ever CAD/CAM crown is manufactured at the ADF congress (France) in the presence of more than 800 colleagues. François' work makes headlines on the news again
1986	BBC interview and TV presentation
1986 – 1989	The first university courses for dental CAD/CAM are developed by Francois in French universities
1987	Commercialisation of the first ever CAD/CAM system, the Duret system (Hennson company)
1988 (February)	Manufacturing of the first crown in the USA at the Chicago MidWinter meeting 'on live' with occlusion recording and shade measurement using a spectrocolorimeter, developed in collaboration with Bertin company
1989	The first bridge is manufactured in Berlin
1992	Commercialisation of the Sopha Cadcam (Sopha Bio concept company)
1993 - 2003	Expertise work with the Japanese company GC and the commercialisation of a third CAD/CAM system, (the first Japanese one) GN1. Developed in conjunction with Nikon.
1993 - 1999	Professor and Chairman at University of S. California, USA
1999 - 2003	Visiting Professor, Nippon Dental University, Niigata, Japan
2003 +	Over the past few years, Prof. Duret has resumed his fundamental work on 3D scanning.
2010	Publication of a chapter in the Medico Surgical Encyclopedia, dealing with "impression methods for CAD/CAM

inventor of dental and medical CAD/CAM by his peers.

As the title of his lecture suggests, Professor Duret revisited the past, reviewing the history of how CAD/CAM was developed, including his TV presentation in 1986 on how to make a crown using a camera. He then moved on to look at the future of dentistry, particularly in relation to CAD/CAM. Professor Duret is an inspiration and an exceptional believer – it was a privilege to hear him speak. In his own words: "Inventing is not just imagining something, it is also (and especially) developing it and, if possible, taking it to the market to prove its usefulness, and to share with everybody the comfort that it can bring. Inventing is thus a quick act per se, but the work that follows, and which is a part of it, is very long and complex. It is this way which, for me, represents the invention by nature."

Inspired by this free thinker, Dental Technologies spoke to Professor Duret about his lifelong passion.

The Birth of CAD/CAM: A Visionary Man

by Poppy Stoddart

Eureka!

It all started one December night back in 1970. 22 year old Francois Duret was having dinner with his family. He was discussing some exciting ideas with his uncles, one of whom was a computer scientist, the other a dentist. These ideas had been niggling François for some time – a correlation between a holographic camera shot and a dental impression.

At the time, Francois was a 3rd year student in Science and Dentistry. His dual specialisation gave him an understanding of two very different techniques - dental impression and dimensional metrology by 3D measurement of an object. By combining them, he developed a revolutionary idea on optical impression. He went on to develop the very first CAD/CAM system, but he had to go against tradition and struggle alone for 20 years to do so.

Francois quickly came to the conclusion that impressions were not enough – that it would be possible to use a computer to model a 3D image of a restoration. Would it not then be possible to connect a tooling machine to the computer in order to produce the 3D image in real life?

François admits, 'It took me two and a half years to verify each step – to make sure that each part of this concept was possible and not just ideas. Some things – like connecting the computer directly to a tooling machine, were not possible, and I had to rethink it.

In the end, I locked myself up in a room for six months – I was newly wed and my poor wife was going crazy!'

At the time this was a completely off the wall concept, and when he presented his thesis on optical impression in 1973 it was break-through work. Indeed, the term 'Optical Impression' was one he coined himself by using it as the title for his thesis 'Impression Optique'.

My CAD/CAM lab at home in 1977

1973 – Presentation of Thesis

Thesis cover

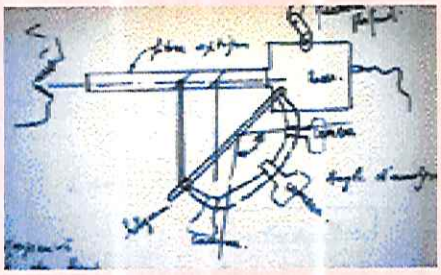


Diagram of endobuccal camera

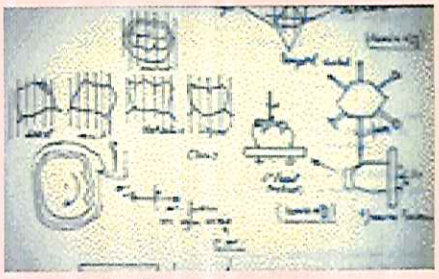
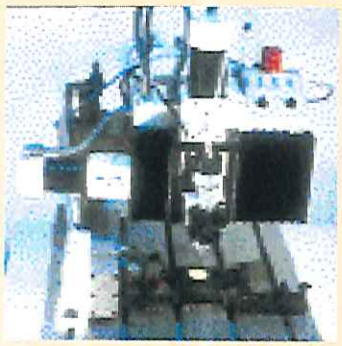


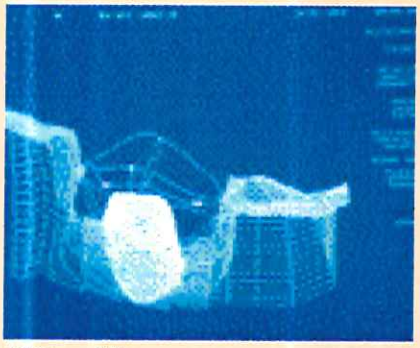
Diagram of milling

Back to the future CAD/CAM

1985: First ever crown milled at the ADF Congress in Paris, France



MOCN Hennson 85



CAD modelling

Modelling the crown

Finished crown in situ

Mad Scientist?

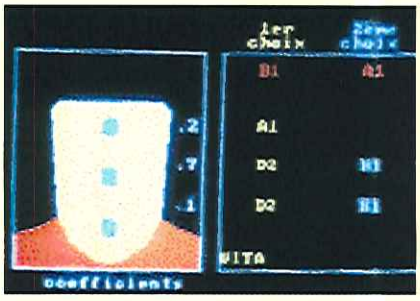
His thesis produced very mixed reactions. Whilst the majority of scientists found his work laudable, the academy dentists, who were his peers, said he was mad. He forfeited his post as teacher at the Dental School because he maintained ideas that were considered 'irresponsible' – ideas which, today, are the cornerstone of digital dentistry.

Raymond Songelo was the only one of his colleagues to support him at the dental school during this difficult period. His peers in America were much more supportive, and offered him a job in New York in 1987.

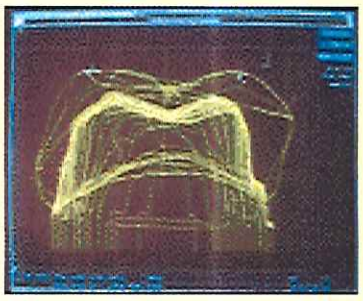
Francois says, 'It makes me feel good to talk about this. I feel very alone sometimes; I work alone and I fought alone for 20 years to get these ideas recognised. It was not easy for my family, but this was my combat. People forget that I had to finance it all myself.'

1985: Commercialisation of the first CAD/CAM system, the Duret (Hennson) system

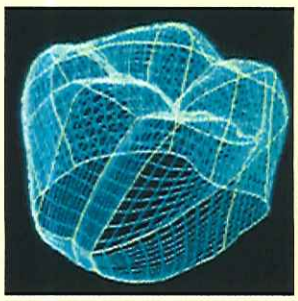
1988: First crown manufactured in the USA



Spectrocolorimeter screen

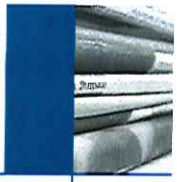


Adjusting the outer surface

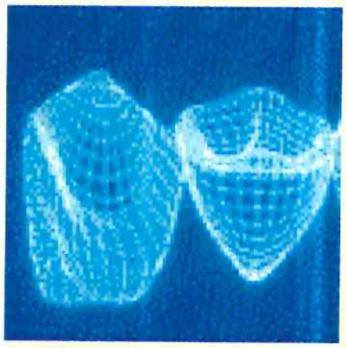


Modelling example

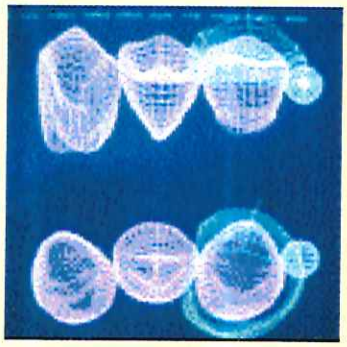
Milling



1989: Fabrication of the first bridge using CAD/CAM

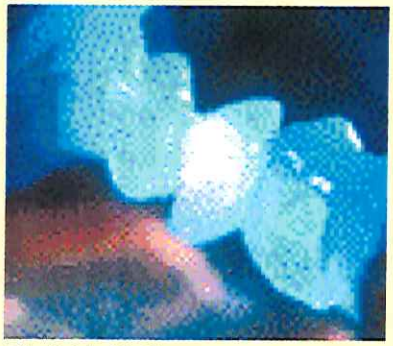


Modelling the bridge



Calculating the milling trajectory

Milling the bridge



The finished bridge

The Big Buzz

Even so, it took until 1990 for the big buzz to finally hit. Francois remembers 'Suddenly everyone was saying, "We can do this!" This was really the beginning of the CAD/CAM market.'

'I am very happy to have changed the face of dentistry – I am 63 now, and it has been a long time coming. It is a great joy to share my ideas and to speak at conferences and lectures. I feel that dentistry has finally understood that for scientific evolution, we need new technology – dentistry needs to be digital – computers are like a locomotive pulling dentistry forwards.'

1992 Sopha Cadcam

1999 GC System

Look to the future

Francois firmly believes that there is no future for labs that do not use CAD/CAM.

Those labs that do not take to CAD/CAM will simply lose clients in a price war. Yet CAD/CAM will become cheaper as time goes by, and smaller labs will be able to survive. There are also other possibilities, such as labs grouping together to share a milling machine.

'It is wrong to see your neighbouring lab as an enemy – the real danger for labs in the west is from outsourcing. Sharing a milling machine is just like several companies sharing a big printer. Laboratory owners should see this, they are more business orientated than dentists are.'

Of course, there will be a future for around 10% of ceramists who specialise in art and aesthetics. Francois admires ceramist artists, 'One of my prize possessions is a bridge signed by Willi Geller that I keep in my office...' But goes further, 'Dental art is about mimicking nature, like a realist painting. The day a master ceramist makes a red tooth, and it looks good in the mouth, he or she will have taken dental art to another level – that of the abstract.'

A revolutionary thinker...

With many thanks to Prof. Duret for his time and the use of his website: www.francois-duret.com