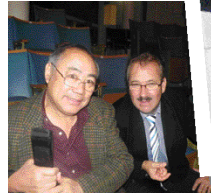


# Vita Rocks

September 17<sup>th</sup> 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 Panadent: 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 Symposium 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 Suk*

## 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.

# Zoom on Removables



## Art of easy denture setting

Course by **Anne Marie Wehrung**

The first course I attended was presented by Anne Marie Wehrung, Vita's denture teeth specialist, who has worked for many years with Dr End. She showed the full range of Vita's teeth for each indication in removable prosthetics (see table for more details).

Her concept on setting the full denture for Physiодens teeth is simple because they have a morphology close to natural dentition with a broad occlusal surface. This guarantees a physiological occlusion with homogeneous points of contact in all set-ups.

### Vita's tooth ranges:

Tooth range	Particularities and indications	Material
<b>PHYSIODENS</b>	<ul style="list-style-type: none"> <li>Designed for excellent aesthetics and function. Precise selection of shades, BIO-logical set-up (based on Dr End's concept) and high-quality.</li> <li>The anatomical occlusal surfaces correspond to that of natural teeth.</li> <li>Specially developed for the BIO-logical prosthetics according to Dr. End in compliance with the laws of neuromuscular mandibular guidance.</li> <li>Premium prosthetics corresponding to natural teeth.</li> </ul>	Acrylic teeth: MRP (microfiller reinforced polyacrylic) material – offers the lowest abrasion values of acrylic teeth.
<b>VITAPAN</b>	<ul style="list-style-type: none"> <li>A classic choice for all common setups.</li> <li>Versatile, with a wide range of anterior sets and two different types of posterior narrow, semi anatomically shaped occlusal surfaces or abraded occlusal surfaces, allowing for personalisation of each case.</li> <li>Mechanical tooth/joint guidance is respected.</li> </ul>	Acrylic teeth: MRP
<b>LINGOFORM posterior teeth</b>	<ul style="list-style-type: none"> <li>Posteriors</li> <li>Anatomically preabraded occlusal surfaces featuring age appropriate design.</li> <li>The functional design of the occlusal areas is the precondition for ideal static alignment of the denture in situ, helps to protect tooth substance and offers excellent wearing comfort.</li> <li>Can be used for all setups - including lingualized setup – in compliance with the laws of mechanic tooth/joint guidance and neuromuscular mandibular guidance.</li> </ul>	Acrylic teeth: MRP
<b>MFT (multi functional teeth)</b>	<ul style="list-style-type: none"> <li>Ideal for economical restorations and temporaries.</li> <li>Remain functional and aesthetic.</li> <li>Slightly broadened tooth neck areas reduce the effort for a true-to-nature and age-specific design of the interdendum.</li> <li>The ideal design of cusps of the upper posteriors brings about the correct centric and provides optimum chewing comfort to the patient. The reduced ridge lap allows for a significant reduction of grinding work and enlarges the surface for safe bonding to the denture base material.</li> </ul>	Fabricated from a high density cross-linked acrylic material. This material is still fairly abrasion resitant.



Anne Marie then showed us an extract of Dr End's film 'Spotlight on Bio-Logical Prosthetics' (see box), about what happens to food when we chew, and followed on from this by discussing the case of a patient with reduced function who was unhappy with her old denture.

She then applied her set up technique to fabricate new dentures for this patient, showing us a live set up of this case.

The result was excellent; function was improved and the patient was happy.



Old denture



Old denture in the mouth



Mounting the anteriors



Mounting the posteriors



Intercuspidation of first molars



Regulating the occlusal set up



Lingual view



New denture in situ

## BIO-LOGICAL PROSTHETICS

As we well know, the collaboration between the dental lab and dentist is a key factor to producing functional, aesthetic, well-made restorations.

Dr Eugene End, who developed the concept of BIO-Logical Prosthetics, explains:

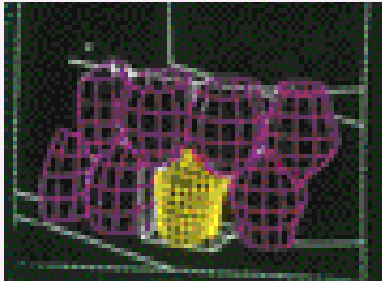
*"In the field of occlusal treatment, the theoretical requirements strongly conflict with the possibility of realization since the individual "doctrines" vary considerably. But just like in many other areas of life nature provides the perfect basis for full dentures. VITA's BIO-Logical Prosthetics (Vita BLP) concept is not based on theoretical indications but is derived from healthy natural, intact and eugnathic dentition. Whereas the classic concepts imply mechanical tooth and joint guidance, BLP postulates mandibular neuromuscular guidance. The laws of natural dentition can be equally applied to fixed, partial, combined and full dentures."*

A DVD is now available demonstrating Dr End's ideas and their application:  
**Spotlight on Bio-Logical Prosthetics.**

# 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...

<b>1970:</b>	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
<b>1973:</b>	Francois presents his thesis on optical impression. It is break-through work.
<b>1976:</b>	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.
<b>1980:</b>	The first patent for CAD/CAM is recorded (6 more will follow between now and 1992).
<b>1983 - 1986:</b>	Fabrication of prototypes
<b>1983</b>	Presentation of the first prototype at the 'Entretiens de la Garancière' Paris, France. François' work makes headlines on the news
<b>1985 (November):</b>	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
<b>1986</b>	BBC interview and TV presentation
<b>1986 - 1989</b>	The first university courses for dental CAD/CAM are developed by Francois in French universities
<b>1987</b>	Commercialisation of the first ever CAD/CAM system, the Duret system (Hennson company)
<b>1988 (February)</b>	Manufacturing of the first crown in the USA at the Chicago MidWinter meeting 'on live' with occlusion recording and shade measurement using a spectrophotometer, developed in collaboration with Bertin company
<b>1989</b>	The first bridge is manufactured in Berlin
<b>1992</b>	Commercialisation of the Sopha Cadcam (Sopha Bio concept company)
<b>1993 - 2003</b>	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.
<b>1993 - 1999</b>	Professor and Chairman at University of S. California, USA
<b>1999 - 2003</b>	Visiting Professor, Nippon Dental University, Niigata, Japan
<b>2003 +</b>	Over the past few years, Prof. Duret has resumed his fundamental work on 3D scanning.
<b>2010</b>	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

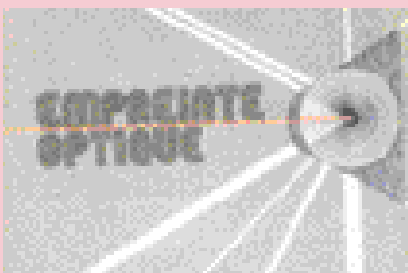
wed and my poor wife was going crazy!’

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

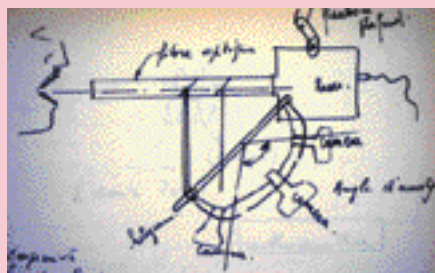


*My CAD/CAM lab at home in 1977*

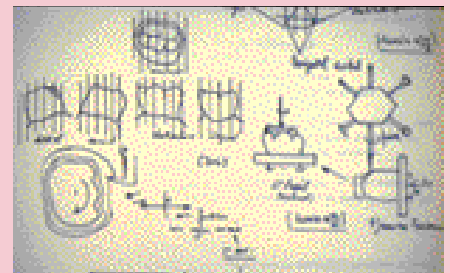
### 1973 – Presentation of Thesis



*Thesis cover*



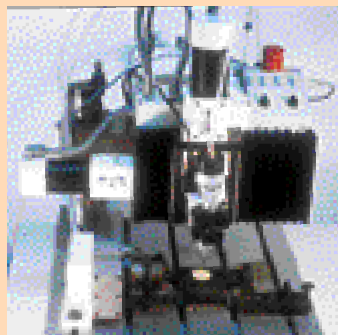
*Diagram of endobuccal camera*



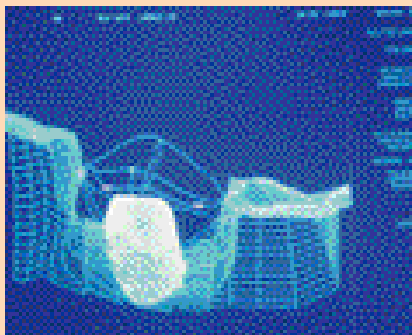
*Diagram of milling*

# Back to the future CAD/CAM

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



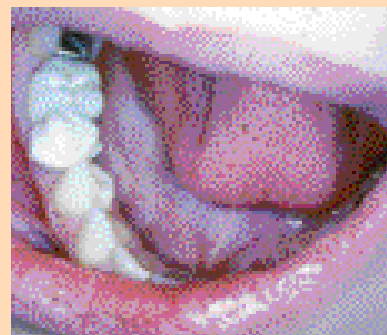
MOCN Hennson 85



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.'

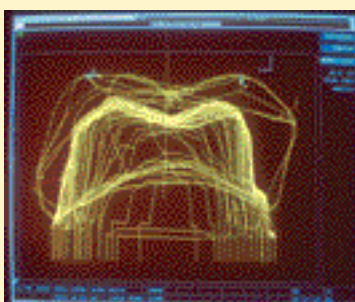


1985: Commercialisation of the first CAD/CAM system, the Duret (Hennson) system

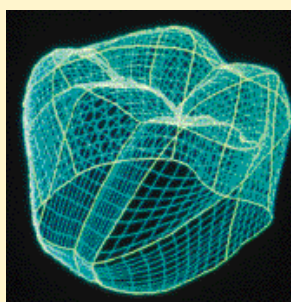
1988: First crown manufactured in the USA



Spectrocolorimeter screen



Adjusting the outer surface

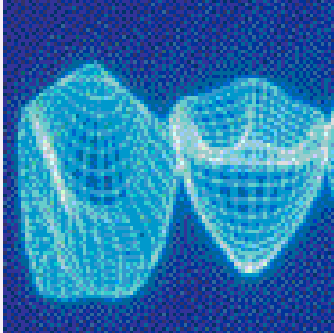


Modelling example

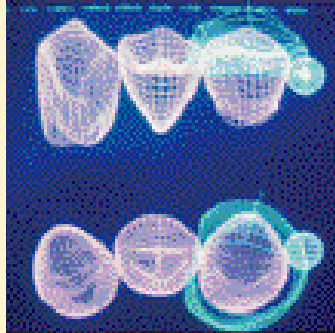


Milling

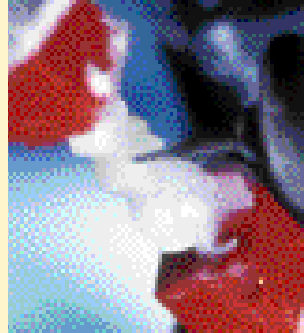
## 1989: Fabrication of the first bridge using CAD/CAM



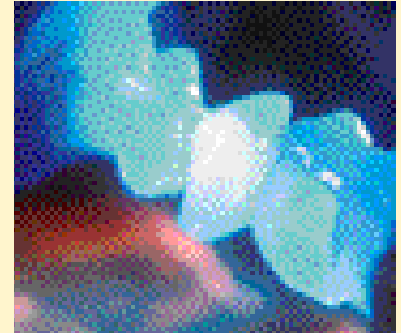
*Modelling the bridge*



*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...



# Claude Sieber

## Art and Experience: The Power of Light

Presented by **Claude Sieber** in the main auditorium

Claude Sieber has lectured extensively throughout the world, but this was his first ever presentation of his work and art in the UK. His original training in fine arts and work in photography really come across; presentation was really inspiring and moving. For me, Claude is one of the world's greatest master ceramists.

He runs a lab in Basel Switzerland, specialising in dental ceramics, especially in the anterior region for the high-end sector. His restorations are all personalised, as he works directly with patients in his lab for optimum results. The restorations presented during the lecture were so natural that they were undetectable, even to a trained eye.



For highly aesthetic anterior restorations, he uses a very translucent material such as alumina spinell from Vita, which allows the light to circulate in the tooth structure, mimicking natural dentition. The veneering

material he works with is the VM7, which has an excellent colour tone and translucencies. I also had the privilege to have an inspirational conversation with him – what really comes across is his passion for his work.

Somano Luang Phaxay

### INTERVIEW with CLAUDE SIEBER

**Dental Technologies:** *You studied art at college prior to becoming a Dental Technician in 1971 – what attracted you to the industry?*

**Claude Sieber:** I loved art, but you will always have work as a dental technician, so I decided to try it. My first four years as an apprentice were difficult, I didn't get to work as a ceramist. I decided to travel and work in South America, and I learned a lot about culture and life. But it was not until 1981 that I got to work on porcelain at last. It was not easy, as I had never done it

before. Willi Geller was like a mentor to me – I aspired to work like him.

**DT:** *How do you believe art influences dental ceramics?*

**CS:** I have background as an artist and my father was a painter. The meaning of art is different in our profession. We are copyists rather than artists. The best example I can think of was when I went to Japan to be a member of a jury to judge 300 restorations. The work was incredible – I couldn't reproduce the same level of anatomy and

detail. The Japanese are great copyists, but in general they are less creative than Europeans – their culture is less individualistic. Occasionally we will do art if we are compensating in the mouth, but in general we have to work with a specific colour range for reproducing teeth – the essential thing is to have a good hand and a good eye.

People who have no skill think that machines can reproduce teeth the same. But even the best camera needs a great photographer to produce beautiful photos.

**DT:** *You are renowned for your beautiful photography, both within the industry and as an artist.*

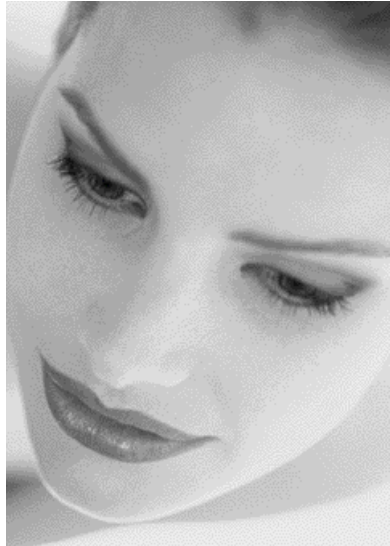
**CS:** I also do portraits and landscaping. This gives balance to my work. Many technicians only see teeth. I need to relax and see the whole picture. Teeth belong to the face as a whole. I also specialise in the photography of cross sections. This is a very personal thing. Not everyone enjoys my lectures – they come expecting a recipe for success. But for me, it is about the global picture.

**DT:** *What advantage is there to using photography in dental restorative work?*

**CS:** Photography teaches us to see and to observe light. If there is no light, there is no picture. Photos can guide you through your work. I also take before and after photos so that I can learn from my mistakes. More and more people are taking photos. Photography is a great communication tool; digital technology is improving all the time, and we will be able to communicate on screen with dentists, this is even more useful for long distance communication.

Our profession is changing all the time – we have to be flexible and accept new techniques. I remember the advent of digital photography. Many of my photographer friends resisted

this at the time, but now film has almost disappeared. New techniques offer us new possibilities.



**DT:** *Your shade taking and porcelain layering techniques are famous, what principles do you apply in order to make restorations that mimic nature?*

**CS:** I was one of the first to use all-ceramic. Very quickly, I felt that this was the way forward. For me, light is essential. You have to use all-ceramics correctly, and apply the right techniques to capture and reflect light. Value and translucency are the most important factors for me; very slight shade differences are less important, and can even give variation in the mouth, as long as the value and translucency are respected. The form and surface aspect are also important and will

help to forgive a slight difference in colour.

**DT:** *You have been working as a consultant to Vita for 20 years and have contributed to the development of numerous Vita products such as spinell porcelain, akznt stains, interno colour effects and the new porcelain systems VM7, VM9 and VM13. What attracted you to Vita, and what do you most appreciate about their products?*

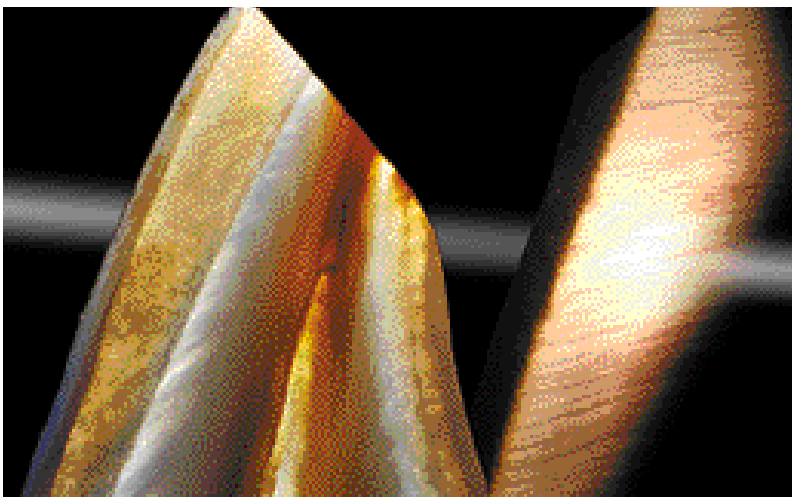
**CS:** Vita offered me a good opportunity. I started doing lectures and courses with them, and then quite quickly I started to work on Omega porcelain with the engineer Dr. Teel. Now most companies are developing new porcelain systems. 20 years ago, Vita was working on new generations of porcelain, and it was an exciting time. They also liked my photography and understood my need to communicate visually – words cannot express everything.

**DT:** *What is it like being a consultant for product development and what do you do?*

**CS:** I think about the future, and I tell them what I would like to have, and what I don't like. This is very individual and artistic, but I have to express what I feel. There is always compromise – Vita have to think about the economic side and sales, and there is always a difference between my ideal and the big market.

**DT:** *You have been called 'one of the greatest ceramists of our time'.*

**CS:** I know a lot of very skilled technicians who work in their labs and who do not want to be well-known. There are a lot of skilled ceramists. I don't believe you can say I am one of the best. But I like sharing my work and having an influence – it makes me happy.



# Claude Sieber

**DT:** *Up to now, are you satisfied with how your work and your career have evolved?*

**CS:** I am happy with where I am today, but I couldn't have done it without my wife – we work as a team.

I am very proud to have people coming to my courses, especially when they come back!

The biggest joy for me is the friends I have made around the world; money and success can be here today and gone tomorrow.

**DT:** *What advice could you give to new generations of technicians wanting to succeed like yourself?*

**CS:** You have to believe in what you do. You have to enjoy it. You have to do it with emotion. If you really have passion you can succeed.

Observe the industry. The young technicians I know who are talented still have work despite the crisis.

Other technicians are looking for something different; I have seen technicians in America who are just stuck behind a computer.

**DT:** *How do you balance passion with pressure?*

**CS:** Many people have said to me that if they had the time I



have then they would also be able to produce beautiful work. It was a long and hard route for me to impose the way I wanted to work! I didn't have much money but I preferred to work the way I wanted, and this sometimes caused fights with clients!

Now I have a good base of dentists. We discuss things. I can make decisions, and they will accept them.

Working as a photographer gives me balance – ceramics are great but they are not the most important thing in the world – thinking 24/7 about making teeth is not good for you! I have other perspectives too, and that is important.

**DT:** *How do you see the future of our industry?*

**CS:** The industry is changing and it is hard to say where we will go. But I don't think it will be as hard as they say. Also, the number of female dentists is going up – this is interesting. How will this influence the future?

I just got back from the Greater New York Dental Meeting. Many Americans think the profession will shrink. Some colleagues are frustrated that now all technicians do is push a button. But dentists need and want an able technician. Some people still want or need unusual work. We will not lose all individuality and emotion from our work; there is still room for high-class, top of the range cases. We still need to use our hands. We still need to observe nature to reproduce it.

My presentations do not give figures and techniques, they are very emotional; this does not please everyone. But sometimes people are moved to tears. This shows that our profession still has a lot of feeling in it.



Poppy Stoddart