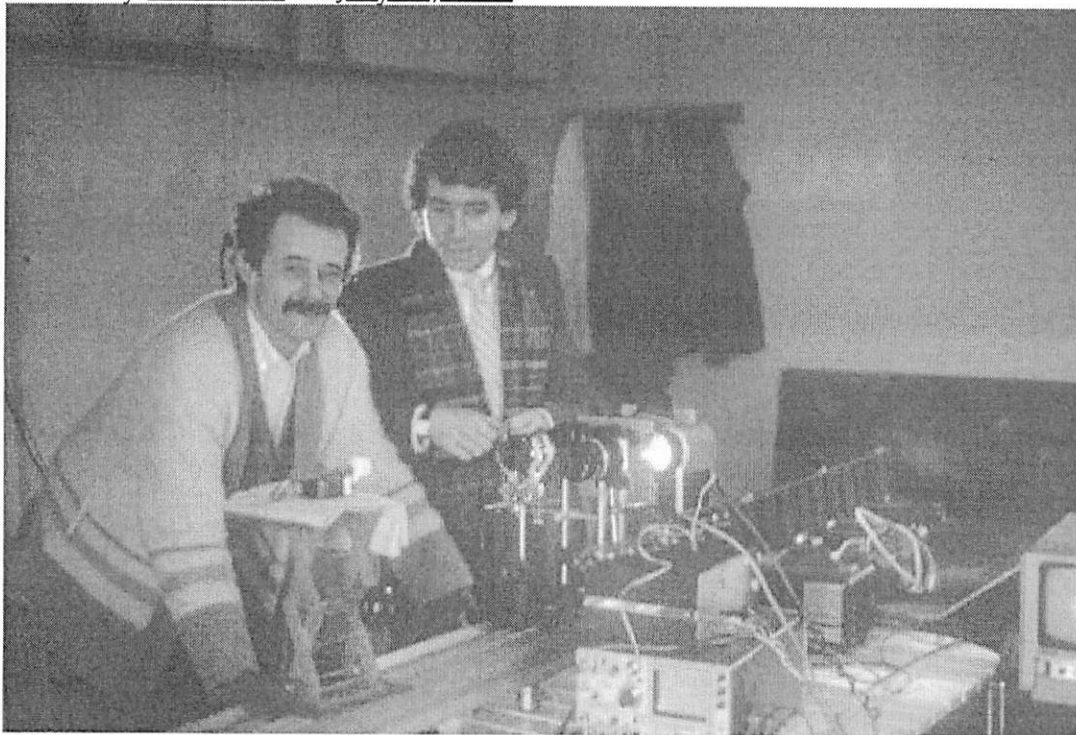


dtg 3d

ideation and imagineering

BRIEF HISTORY OF CAD/CAM

Posted by Eli Ganon on July 22, 2017



Prof. Francois Duret “father of Dental CAD/CAM” on the left at his lab [1979]

Though computer-aided design/computer-aided manufacturing (CAD/CAM) for Dentistry has been available for the past 25-30 years, it's only been within the past decade that the technology has moved from the lab to chairside. Much like radiovisiography technology, dental CAD/CAM technology got its start in Europe in the 1970s and 1980s. However, early versions of CAD/CAM systems were so cumbersome and complicated that they were considered more of a hindrance to practice workflow than an advantage, and were mostly confined to laboratories. Fortunately, advances in the technology over the past few years have made CAD/CAM a more viable option for dentists looking to do restorations in-house.

From the Lab to Chairside—What has Changed?

CAD/CAM systems allow users to Scan, Design, and mill or 3D Print and place a crown in a single appointment. One reason that this system has become much more accessible has been the introduction to the market of intra oral scanners that eliminate both traditional impression materials and the powders and sprays associated with earlier scanners. These powder-free scanners save time and also

create an overall more comfortable experience for the patient. Another advancement within the past few years has been scanners that don't require trolley systems and can simply be unplugged and reconnected to a Laptop or Tablet computer in each operatory.

Some CAD/CAM systems even allow dentists to take traditional impressions if they so choose and then use an existing CBCT unit to scan the mold. This kind of flexibility is a key factor in why more and more dentists are choosing to bring their restorations in-house. When you have the option to use equipment you're already using anyway, why not?

New advancements in design software also give dentists more control over the outcome of their restorations—guaranteeing consistent results for patients. Some software design automated 3D models that require almost no manipulation from the doctor and the design can be completed in just minutes.

Finally, compact and vibration-free milling machines can mill crowns, inlays and onlays in as little as 15 minutes. Some machines are only the size of a desktop printer, meaning practices don't have to sacrifice valuable real estate for new equipment. Also contributing to the recent uptick of in-house restorations has been an expansion in the kinds of materials that can be used to mill crowns, such as all-ceramic, hybrid ceramic or resin-based materials. This means doctors can work with their preferred materials and it's easier than ever to create natural-looking results for patients.

The Future of CAD/CAM Technology

Having been used by dentists for a few years now, CAD/CAM is experiencing yet another evolution. Orthodontists are finding the intraoral scanners used to create restorations are perfect for orthodontic applications.

Powder-free scanners make it easy to create digital models and orthodontic-specific design software can take basic distance measurements including overjet, overbite, pressure map, arch length, tooth size, crowding measurement and more, to further improve doctors' diagnostic capabilities. Digital models eliminate the need to make and store physical plaster models, saving valuable time and space for practices. This environmentally friendly solution also ensures that patients' models are not damaged, lost or mixed-up over time. Plus, digital models can be easily shared with third-party labs to produce orthodontic appliances.

From heavy machinery hidden in the back of labs to scanners easily portable from operatory to operatory, CAD/CAM technology has come a long way, and different specialties are continuing to reappropriate it to meet their practices' needs.

When was the first time you saw CAD/CAM in action? Where do you see CAD/CAM going in the future?

Author(s): Caresstream Team

Infographic(s): FrancoisDuret.com


Source(s) Carestream.com

AdChoices

PUBLICITÉ

RE : Re: RE : FW: RE : FrancoisDuret: Photo use permission

Francois Duret <francois.duret798@orange.fr>

mercredi 14 août 2019 à 23:21 

À : Cassandra Young

Good morning Cassandra (beautiful and famous first name in french literature !)

Thank you for your information. It's a great, great honor for me and my family.
I am very proud to be there ... in the most prestigious Dental academy (I am a member from 1992).
King regard.

François

Le : 14 août 2019 à 15:04 (GMT +02:00)
De : "Cassandra Young" <cassandra@mdg.agency>
À : "francois.duret798@orange.fr" <francois.duret798@orange.fr>
Objet : Re: RE : FW: RE : FrancoisDuret: Photo use permission

Good morning, Mr. Duret!

Thank you for that information. There is not a publication/lecture, your photo was just used for the International Association for Dental Research (www.iadr.org) online timeline to celebrate the milestones and achievements of the Association throughout the past 100 years – as they are celebrating its Centennial anniversary in 2020.

Best,

Cassandra

Please note my new email address: cassandra@mdg.agency.

.....
cassandra young, account manager

1904 association drive

reston, va 20191

o) 703.674.1097

www.mdg.agency.

[Facebook](#)) [LinkedIn](#)) [Twitter](#)) [Inner Circle](#)

From: Francois Duret <francois.duret798@orange.fr>
Reply-To: Francois Duret <francois.duret798@orange.fr>
Date: Wednesday, August 14, 2019 at 8:36 AM
To: Cassandra Young <cassandra@mdg.agency>
Subject: RE : FW: RE : FrancoisDuret: Photo use permission

Dear Mr Young

Yes, of course no problem and with pleasure

could you send me a copy of your publication/lecture ?

Just one remarque, Please read on my web "www.francois-duret.com" my thèse 1970-1973, my first document DDS on dental cad cam and especially (I will really appreciate if you do) the chapter 9, and "conclusions" of each chapter.

I will really appreciate because lot of dentist and writer forgot the start and where come from, for example, the dental library do do the outside of the crown ... (chapter 6) or the additive technology for dentistry (chapter 8)

Unfortunately, I am not American (my second patry) and for me it is very difficult to speak and explain the truth story in english ... and now I am old ...

With my very best regard

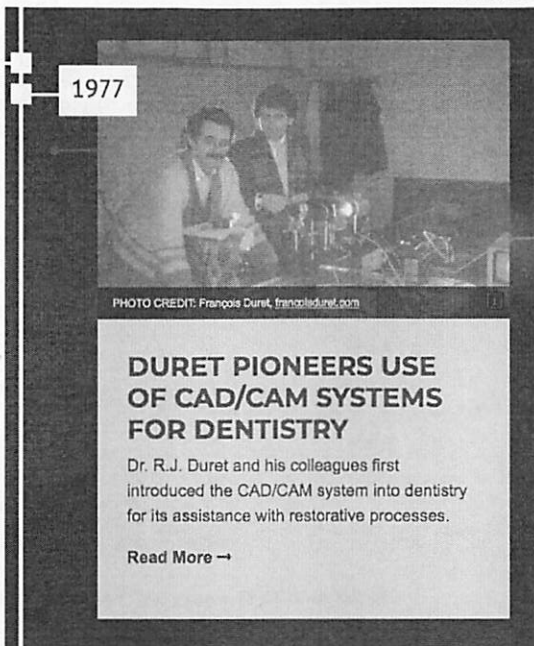
François

Le : 12 août 2019 à 22:42 (GMT +02:00)
De : "Cassandra Young" <cassandra@mdg.agency>
À : "francois.duret798@orange.fr" <francois.duret798@orange.fr>
Objet : FW: RE : FrancoisDuret: Photo use permission

Hi François – I hope this email finds you well!

I wanted to touchbase and let you know that the photo you granted us permission to use is live now live on the iadr100.org timeline. Please see below a screenshot.

Thank you again for your permission to use this photo!



All of my best,
Cassandra

Please note my new email address: cassandra@mdg.agency

cassandra young, account manager
1904 association drive
reston, va 20191
o) 703.674.1097
www.mdg.agency

[Facebook](#)) [LinkedIn](#)) [Twitter](#)) [Inner Circle](#)

On Friday, March 29, 2019, 4:06 AM, Francois Duret <francois.duret798@orange.fr> wrote:

Dear Amy

Thank you very very much

This absolutely perfect;



Just two desires if it is possible for you (I will really appreciate because at 72 years old time is short ...):

" ... strat in europe in 1970 (www.francoisduret.com) and 1980s (Hennson and Cerec). However ..."




If you can send me some copy at the end for my family ...

Thank you very much again

François

Prof. François Duret  

B.S.M., D.D.S., D.S.O., Ph.D., M.S., M.D., Ph.D.²
Académicien (ANCD) Docteur d'Etat (Médecine/B Humaine)

 francois.duret798@orange.fr
 www.francoisduret.com
 Chateau de Tarailhan - FR 11560 Fleury d'Aude

Le : 28 mars 2019 à 20:47 (GMT +01:00)
De : "Amy McNaul" <mcnaul324@yahoo.com>
À : "francois.duret798@orange.fr" <francois.duret798@orange.fr>
Objet : FrancoisDuret: Photo use permission

This is an enquiry e-mail via <http://francoisduret.com/Accueil/> from:
 Amy McNaul <mcnaul324@yahoo.com>

Good Afternoon-

I am reaching out on behalf of the International Association for Dental Research (www.iadr.org), which will be celebrating its Centennial anniversary in 2020, and will be launching an online timeline to celebrate the milestones and achievements of the Association throughout the past 100 years.

We are interested in including one of your photos on our timeline:
<https://eliezerگانon.wordpress.com/2017/07/22/brief-history-of-cadcam/>

We would of course include a photo credit with your name and URL included. Can you please let us know as soon as possible if we have permission to use the photo, or if you require any additional information/clarification?

Thank you,
 Amy
 mdg