AAID president-elect named vice dean at Harvard School of Dental Medicine

By Dental Tribune America

NEW YORK, USA: After an extensive nationwide search, AAID President-Elect John Da Silva, DMD, MPH, ScM, AFAAID, has been named vice dean at Harvard School of Dental Medicine. Dean Bruce Donoff stated that Da Silva’s “extensive institutional knowledge and experience in [HSDM’s] three focal areas — research, education and patient care — will be of great value as HSDM continues its strategic planning process.”

Da Silva serves on the board of trustees of the American Academy of Implant Dentistry and is currently the president-elect. He is also chair of the Bylaws Committee and serves on the Education Oversight and Nominating committees. He has received widespread recognition during his academic career, including being named an honored fellow of the American Academy of Implant Dentistry and receiving the HSDM Distinguished Junior Faculty Award.

He has published numerous journal articles and lectured nationwide. Da Silva has made major contributions in research and the area of color science. He has also been involved in curricular changes to improve content on substance-abuse screening and brief interventions.

Da Silva was born in New York City and attended Williams College as an undergraduate. He received his dental degree from the Harvard School of Dental Medicine and his MPH degree from the Harvard School of Public Health. He later returned to the School of Public Health and received a ScM in health policy and management.

Da Silva completed specialty training in implant dentistry and prosthodontics at HSDM in 1992. He has been a faculty member there since 1995.
Planmeca makes CAD/CAM easier than ever

By Petri Kajander

Planmeca's open-interface-based CAD/CAM solutions introduce, above all, quality, cost-efficiency and precision to the daily workflow at dental clinics or laboratories. Petri Kajander, Product Manager for Planmeca's CAD/CAM solutions, explains the revolutionary features of these new products.

State-of-the-art solutions for dentists

Planmeca PlanScan® – super-fast intraoral scanner

The new Planmeca PlanScan® is a digital and powder-free intraoral scanner that scans the patient's dentition quickly and accurately. The scanner produces real-time digital impressions from one-tooth to full-arch scans. Thanks to the open STL file format, the scanned files can be sent to any dental laboratory for design work. This is the world's first dental unit integrated intraoral scanner that can also be connected to a laptop.

“The scanner has only one cable, so it is extremely easy to move from one place to another, for example between different treatment rooms or clinics”, says Product Manager Petri Kajander. “In addition, the scanner is delivered with a laptop, so the device can be flexibly shared between different users. In other words, Planmeca PlanScan offers value for your investment: it is not a device for just one dentist but can be used by the entire clinic.”

The scanner utilizes blue laser technique. It projects a pattern on the surface of the teeth and then analyses it from different directions while calculating distances. In this way, the device is able to calculate a model that is extremely accurate – “You can view the result as a real-time video image. The video recording and the dental surface detection algorithms make the device extremely flexible to use. Thanks to these features, you can pause the scanning at any time and continue later on at any point from where the data is already available.”

The scanner includes a range of exchangeable tips in various sizes, the smallest of these facilitating access to the posterior parts, particularly with small children and trauma patients. The tips can be autoclaved for efficient infection control. In addition, the scanner is extremely durable since it has no other moving parts inside except for a fan that removes warm air. “Thus, the device stays calibrated and is not subject to mechanical wear”, explains Kajander.

Planmeca PlanCAD® Easy – efficient design tool for prosthetics

Planmeca also offers dentists a new kind of open software solution for 3D design. Planmeca PlanCAD® Easy is seamlessly integrated in Planmeca Romexis® software and it is a user-friendly design tool for the design of inlays, onlays, veneers, crowns and bridges.

“The software runs on the so-called floating licence basis. This means that it is not tied to just one computer or workstation. Dentists can use the software without limitations or on multiple workstations simultaneously. Thus, the device stays calibrated and is not subject to mechanical wear”, explains Kajander.

Every dentist designing his or her own prosthetic works will also face cases that require assistance from a dental laboratory. For this reason, Planmeca’s system utilises an open STL file format that allows the work to be sent immediately to a partner via the Planmeca Romexis® Cloud service.

Since Planmeca PlanCAD® is integrated in Planmeca Romexis software, soft tissue scans can also be conveniently paired with the patient’s CBCT image. This combined data provides valuable information for im-
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Interview: “Kennedy’s wound was clearly incompatible with life”

Dr. Don T. Curtis speaking at a reveal event on the occasion of the 50th anniversary of the Kennedy assassination. (DTM/Photo Stephanie Price, Pushandale-Plains Historical Museum, USA)

By Dental Tribune International

Few people are granted the opportunity to become an active part of historical events. Seventy-six-year-old Dr. Don T. Curtis, a former dentist from Amarillo in Texas, is one of them. As a resident in oral and maxillofacial surgery at Parkland Memorial Hospital in Dallas, he was one of the first doctors to have performed emergency treatment on U.S. President John F. Kennedy after he was shot on 22 November 1963. Dental Tribune ONLINE had the opportunity to speak with him about that day and the reason he thinks that there was more to the assassination than a lone gunman.

Were you aware of the president being in Dallas on 22 November 1963?

I was not aware of that and was surprised when they brought him to the hospital. I had a surgery scheduled for later that day and was on my way to have lunch. The hospital was closed, however, I required me to leave the building and walk across the parking area to the emergency room, where I noticed police cars and the presidential limousine, which had blood on it and roses that were given to the first lady, Jacqueline Kennedy, when she arrived at the airport.

When a policeman asked me whether I was a doctor, I said yes. He then replied that the president was hurt and escorted me to the trauma room where President Kennedy was.

In what condition was Kennedy when you arrived?

When I got there, it was obvious that the president was in extremis. He tried to breathe but was unable to do so. Dr. Charles James Carrico, a Parkland resident surgeon, had placed an endotracheal tube in an attempt at ventilation. However, that did not work because there was a blockage of the president’s airway, so he decided to do a tracheostomy.

I helped the nurse to undo the president’s tie and remove his shirt to prepare him for the procedure. Then Dr. Malcolm Perry, a senior surgeon, came into the room and it was decided that he should do the tracheostomy. Dr. Carrico assisted Dr. Perry, and I performed a cutdown on the left leg to provide for intravenous replacement of blood.

Where were you aware that the president had been the subject of an assassination attempt?

I was unaware of the nature of the injury to the president because his head was on a pillow and I could not see a wound. I remember the chief of neurosurgery, Dr. William Kemp Clark, rotating Kennedy’s head to the left, revealing that the posterior part of his skull had been radically fractured. He then said, “Stop, this injury is incompatible with life.”

What was the atmosphere in the room?

It became very quiet. Nobody said anything.

In your opinion, was there any chance that the president’s life could have been saved?

Nothing that we did made a difference. Kennedy’s wound was clearly incompatible with life.

According to eyewitnesses, discussions broke out about who was authorized to do the autopsy. Did you notice any of that?

I did not because I left the trauma room soon after the president had been pronounced dead and went back to the clinic to see my patient in the operating room. However, I found that all scheduled surgeries for that day had been cancelled and all patients had been sent back to the ward.

The majority of Americans do not believe that Oswald acted alone by hitting Kennedy with three shots in the back, as concluded by the report of the Warren Commission appointed by the government to investigate the circumstances of the assassination. Did you observe any irregularities between this official version and the events you witnessed?

The Warren Commission’s report reflected what the people wanted to hear, which was that Oswald acted alone and that there was no conspiracy. The doctors of Parkland however when wiping the blood from Kennedy’s neck for the tracheostomy found a single bullet hole that was apparently an entrance wound, which meant that must have been a projectile that entered the president from the front. Of course, the nature, another wound on the back of Kennedy’s head was an exit wound, so there must have been at least two bullets that came through the front.

While all the doctors’ testimonies, including mine, were given to the report, knowledge of the wounds did not have much influence on the Commission’s overall conclusion. Why it was interpreted that way has remained a mystery for the past 50 years.

What do you believe actually happened that day?

My personal belief is that there were of course multiple shooters and that Oswald did not do it alone. This would indicate however that there was in fact a conspiracy.

After the events, you stayed at Parkland Memorial Hospital for another two years. Were the events still discussed by the staff in the aftermath?

We actually never talked about it. This was something we just did not want to discuss. However, I left Parkland in 1965 for an exchange residency in London and Zurich, where I often discussed the events with my colleagues abroad. Particularly in England, there was much interest in U.S. politics and the assassination.

You recently went public with your knowledge after 50 years. What were your reasons for doing so?

Everything that I would say is already in the literature about the assassination but I think there needs to be general knowledge of what people who were actually involved knew.

More than six million pages of classified evidence on the Kennedy assassination are going to be released by 2017. Are you interested in this knowledge, or do you consider that chapter of your life closed?

There is a great deal of speculation about what information these documents actually contain. I do not look forward to it but would be interested to know what could be learned from them.

Thank you very much for the interview.

Left: Dr. Don T. Curtis as a dental student in 1962. (DTE/Photo courtesy of Baylor College of Dentistry,USA) — Right: US Secret Service agents and local police examine the presidential limousine outside of Parkland Memorial Hospital in Dallas, Texas, as President John F. Kennedy is treated inside the hospital after being shot. (DTE/Photo courtesy of John F. Kennedy Presidential Library and Museum, USA)
design—with the addition of the latest developments in intra-oral laser scanning, materials and computer milling/printing technology—will only enhance the close cooperation and working relationship of the dentist/dental laboratory team (Fig. 1).

The dental laboratory’s primary role in restorative dentistry is not only to copy all of the functional and aesthetic parameters that have been defined by the dentist into a restorative solution. Throughout the entire restorative process, from the initial patient consultation, diagnosis and treatment planning to final restoration placement, the communication routes between the dentist and the laboratory technician require a complete transfer of information. Functional components, occlusal parameters, phonetics and aesthetic requirements are just some of the essential types of information that are necessary for the technician to complete the fabrication of successful, functional and aesthetic restorations.

Today, as in the past, the communication tools between the dentist and the technician are photography, written documentation and impressions of the patient’s existing dentition. The clinical models from these impressions are created and mounted on an articulator that simulates the jaw movements of the mandible (Fig. 2).

The digital laboratory
As restorative dentistry evolves into the digital world of image capture, computer design and the creation of dental restorations through robotics, the dental laboratory must evolve as well. To fully understand this concept, a laboratory must be clearly defined.

At first thought, it may seem that a laboratory is the place where a dentist sends his or her patient’s impressions to (Fig. 3) be processed into restorations, which are sent back to the dentist for adjustment and delivery. This definition fits well with the traditional concept of a laboratory/dentist workflow. However, just as the Internet has forever changed the landscape of communication through related computer technology, the possibility to use CAD/CAM restoration files electronically has provided the catalyst for a significant change in the way we view and structure the dentist/laboratory relationship.

Imagine that the laboratory is not a physical place, but exists only in the software. If we use the handheld image of the patient to plan the restoration (Fig. 4) the steps of those performing the restorative process: the dentist and the technician. The equipment used to create the restoration may be located centrally, remotely or both. The laboratory is essentially a workflow, which is as flexible as the ability of the dentist, the technician and the equipment will allow.

Once the impression is received at the laboratory, the impression can be scanned and data sent to several digital production stations at the same time. This will potentially allow the model, the restorations (both framework and waxup) and the final ceramic restoration to be completed at the same time (Fig. 6).

Digital diagnostic and treatment planning The basis for all long-term success in restorative dentistry is a comprehensive diagnosis and treatment plan. The ability to preview a case from start to finish, communicate and co-diagnose with other specialists and specialties about dental patients via the virtual world is the true power and capability of digital dentistry.

Lee Culp, CDT, is the chief technology officer at DTTI Technologies, where he guides the development of the DTTI digital technologies program and its applied applications to restorative dentistry. Lee is also the editor in chief of Teamwork and associate editor of Spectrum. He is also on the editorial boards of Practical Procedures and Aesthetic Dentistry, Compendium and Inside Dentistry. Culp’s professional memberships include the American College of Prosthodontics, American Equilibration Society, American Academy of Cosmetic Dentistry, Academy of CAD/CAM Dentistry and the American Prosthodontic Society. Culp is an accredited member of the American Academy of Cosmetic Dentistry.

The Proof is in the Numbers

The annual survey of the members of the American Academy of Cosmetic Dentistry, which reflects the current state of the art and trend in the industry, is completed with the final report of 2014.

About the author
Lee Culp, CDT, is the chief technology officer at DTTI Technologies, where he guides the development of the DTTI digital technologies program and its applied applications to restorative dentistry. Lee is also the editor in chief of Teamwork and associate editor of Spectrum. He is also on the editorial boards of Practical Procedures and Aesthetic Dentistry, Compendium and Inside Dentistry. Culp’s professional memberships include the American College of Prosthodontics, American Equilibration Society, American Academy of Cosmetic Dentistry, Academy of CAD/CAM Dentistry and the American Prosthodontic Society. Culp is an accredited member of the American Academy of Cosmetic Dentistry.
Sirona Group receives another Top Employer Award

By Sirona

Since receiving the Top Employer Awards for Germany, Austria and Engineers in 2015, Sirona's excellent human resources policy and very good working conditions have also earned it international recognition in 2014. In an award ceremony in Shanghai, Sirona China was given the “Top Employer China 2014” award in mid-January. The company's German employees have also been successful at the Chinese site.

In a multi-phase analysis and auditing process, the Top Employer Institute (formerly CRF Institute) designates outstanding employers around the world every year. Some of the key criteria include excellent working conditions, promoting talent, and continuous development of human resource management. Sirona China was given the highest award “Top Employer China 2014” along with 40 other employers. Michael Elling, Vice President Corporate Human Resources of the Sirona Group, expressed his satisfaction: “Our employees are the heart of our company. The Top Employer Award for Sirona China is an acknowledgment of our local and global efforts to support our employees. It is part of our global growth strategy, it increases our attractiveness as employers, and it motivates our employees to work at Sirona in Germany and abroad.”

Growth and development at Sirona China

In 2006, Sirona began to develop the business in China with just 30 employees. To day, eight years later, there are more than 150 employees here – a success story, also with respect to personnel development. “Employee satisfaction is the basis of our success at Sirona China. This is why we find it important to have an excellent team, promote team spirit, and motivate continuing development among our employees. It is rewarding to see how many employees successfully climb the career ladder,” explains Henning Müller, Vice President China and South East Asia.

A strong growth that is reflected in the market, Sirona China is the number one German company for dental treatment chairs. Digital dentistry and CAD/CAM products have also made significant gains in the past two years.

Employee success stories

Sirona offers many opportunities and promotes young talent among students as well. For example, the German student Verena Schütter spent four months at Sirona in Asia during her International Business studies at Baden-Württemberg Cooperative State University. There she became familiar with the international site and the Shanghai location, and she helped develop the Singapore location that was opened in November 2013. A career opportunity open to all employees at Sirona fostered by the Talent Excellence Program encompasses individual advanced training, project assignments across positions and locations, and targeted international postings and career advancement in one of its worldwide subsidiaries.

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So saliva collected at a constant flow rate for 2 minutes will have a different composition from saliva collected at the same flow rate for 10-15 minutes.

- **Nature of the stimulus – Different stimuli have an effect on salivary composition, mainly because of their effect on the rate of flow.** Acid is the most potent stimulus for saliva. The rate and duration of stimulation from saliva interact in different ways with the dentition to protect the teeth. Patients who lack sufficient saliva suffer from many oral diseases, of which caries is only one. To alleviate discomfort they are advised to use saliva stimulants and substitutes which have the function of lubricating the oral surfaces. Chewing gum is increasingly being viewed as a delivery system for active agents that could potentially provide direct oral care benefits, as it promotes a strong flow of stimulated saliva.


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**References**

Biological and conservative root canal instrumentation with BT-Race file system

By Drs Gilberto Debelian & Martin Trope

Root canal instrumentation is one of the major tools for ensuring the long-term success of root canal therapy. The aim is to mechanically disrupt as much biofilm as possible so that with the addition of irrigants and/or intra-canal medicaments a very low microbial count can consistently be achieved before the filling of the root canal. Another aim or challenge of root canal instrumentation is to achieve the microbial reduction goals mentioned above without unnecessarily weakening the root by over-instrumentation, for example through the reduction of the dentinal wall thickness. Preservation of native structure, especially in the cervical region of the tooth has been demonstrated to correspond to better long-term survivability from a loading and restorative standpoint. It is well established that as the remaining dentine thickness decreases so does the root’s resistance to fracture.

In evaluating anatomical studies, it is striking that they are consistent. Figure 1 best summarises the anatomical aims for a mandibular molar. The mesio-vestibular and mesio-lingual canals are at the 1mm measurement from the apical foramen, which corresponds most closely to the dentino-cemental junction. In the mesiodistal direction, the diameters are 0.21 and 0.28mm respectively, thus finishing at a 25/0.04 taper. However, when we look in the buccolingual direction, the correct file sizes are between 35 and 40. For the distal canal, a size 35 will appear adequate on the radiograph (mesiodistal view) but the correct size would be 50.

In order to achieve the goals mentioned above, we should aim for 35, 40 or 50 apical sizes with no more than a 0.04 taper. These biological sizes with the addition of an adequate irrigation protocol will ensure a consistently low microbial count for maximal success.

BT-Race system

BT-Race files (FKG Dentaire) are sterilised in individual blisters so that sterility is maintained for every file. The biological sizes mentioned above can be achieved with three files every time once a glide path has been established. The system was designed in such a way that these sizes are attained with minimal removal of dentine coronally to maintain the strength of the root. Moreover, the Race file has a non-screw-in design and triangular cross-section to increase flexibility and cutting efficiency. It is also electropolished to decrease the effects of torsional and cyclic fatigue (Fig. 2). The Booster Tip (BT, Fig. 5) is the key feature of these files however. It allows them to follow curvatures in canals without undue stress on the file or the root.
The BT starts as a non-cutting tip from 0–0.15mm diameter and the cutting edges start from 0.15mm and upwards on the file (Fig. 4). Essential steps for the successful use of the BT-Race sequence are the following:

**Glide path**
In order to guarantee a minimal number of file breakages, a glide path to size 15.02 is essential. Hand files can usually achieve this aim. However, if a 6 or 10 file is extremely difficult to take to working length, ScoutRace files allow one to achieve this requirement more quickly.

**Speed of 800–1,000 rpm**
A high speed reduces the risk of breakage due to torsional fatigue. As the glide path is established, file breakage from cyclic fatigue is also reduced.

**BT1 (10.06 file)**
This file (Fig. 5) establishes the final glide path and determines the coronal diameter. In any canal in which a 15.02 glide path has been established, the file will contact mainly the coronal third of the canal at 12mm from the working length, the diameter will be 0.82mm. These files have no BT, since the tip diameter is already 0.10mm and smaller than the glide path established with a 15.02 K-file.

**BT2 (parallel 35 file with BT)**
The BT2 file (Fig. 5) is used to prepare the apical third of the canal. It is extremely flexible owing to its non-tapered design, yet penetrates into the narrow canal easily and efficiently with the BT.

**BT3 (35.04 file with BT)**
This file (Fig. 5) is used to join the coronal and apical preparations created by the BT1 and BT2 files and thus create a 35.04 final shape that allows maximal irrigation and a tight cone fit. The file is able to go to working length with minimal stress, since the coronal third has been cleared with the BT1 file and the apical third with the BT2 file. Importantly in this canal, the maximum diameter at the 12 mm level is 0.85 mm. Consequently, the removal of coronal dentine is minimal, allowing for the strongest root possible after restoration.

**BT-Race xL: BT 40 (40.04 file) and BT 50 (50.04 file), 600–800 rpm**
These two instruments (Fig. 6) enable finishes at ISO 40 and 50 when adequate apical sizes require larger sizes. If even larger apical preparations than ISO 50 are required, the Race range of instruments is recommended in the required sizes, preferably with a small taper of 0.02. With this unique file system, all canals can be conservatively instrumented to the correct biological sizes while maintaining maximum cervical tooth structure.

The BT ensures that the original canal shape is maintained, thus keeping even the larger files centred in the canal. Through this advantage, in addition to the minimal taper required to achieve these biological sizes, the canal is maximally cleaned without weakening or stressing the root.

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KaVo Dental GmbH: Success at AEEDC

By KA VO

Dubai, UAE: For 5 consecutive days, KaVo Dental GmbH MEA took part in the 18th Edition of AEEDC Dubai 2014. We displayed a brand new Patient simulator for Universities that will be launched in spring 2014 as well as the complete range of ESTETICA treatment units. Guests were also invited to gain valuable hands-on experience with the new Leica M520 microscope with full HD integrated camera with Mrs. Natalia Lebedeva, Commercial Manager for Leica Microscopes.

And to further demonstrate the high tech product range of KaVo, the CAD/CAM systems, Arctica and Everest were also showcased by our product manager, Mr. Mohammad Abdallah, KaVo Dental GmbH Middle East & Africa.

We also hosted several exciting lectures with Dr. Heinz-Theo Laebbers, head of the Dental Radiology Dpt. of the University of Zurich; who enlightened us about CBCT technology. As part of our dental imaging portfolio, we showcased the Gendex GXDP-700 3D machine with Pan + Ceph, Pan + 3D, and Pan + Ceph + 3D, options that make it suitable for any dental imaging purpose.

In addition, Dr. Thorsten Wegner from Germany introduced the DIAGNOcam for modern caries detection without X-ray, which has recently received an innovation award from the German magazine “ZahnarztWoche” and Pluradent.

The stand attracted the attention of a diverse crowd of professionals in the dental industry and it was a pleasure for us to meet all of them.

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View of the stand

KaVo DIAGNOcam

Mr. Anwar Dagher, Sales Director Middle East & Africa
KaVo Dental GmbH, Mrs. Ulrike Nagorr, Product Trainer
KaVo Dental GmbH, Ms. Alexia Valera, Sales & Marketing Communication Manager Middle East & Africa KaVo Dental GmbH

View of the stand

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