Update
Digital Technology

Friday, June 13, 2014

Tribeca Grand Hotel
2 Avenue of the Americas
New York, New York
**Program**

7:30am Registration/Breakfast

*Welcome*

8:00am **Mary R. Truhlar,** DDS, MS
Interim Dean, School of Dental Medicine, Stony Brook University

*Overview: Dentistry in the Past and Future*

8:15am **David Garber,** DMD
Clinical Professor, Department of Periodontics & Department of Oral Rehabilitation, Medical College of Georgia, School of Dentistry (Atlanta, USA)

*The Evolving Role of Digital Technology in Dentistry*
*Moderator: Richard Greenfield*
Private Practitioner, Prosthodontist (New York, USA)

9:00am **Marcus Abboud,** DDS, PhD
Associate Professor & Chair, Department of Prosthodontics & Digital Technology; Director, Continuing Dental Education, Stony Brook University, School of Dental Medicine

9:45am **Enrico Steger,** MDT
Dental Technician & Founder of Zirkonzahn GmbH (Bolzano, Italy)

10:30am Discussion / Coffee Break

*Digital Technology in Surgical and Prosthodontic Treatment Protocols*
*Moderator: Gary Broussel*
Oral Surgeon, Private Practitioner (New Jersey, USA)

11:00am **Gary Orentlicher,** DMD* & **Leonard Kobren,** DDS**
Private Practitioner, Oral and Maxillofacial Surgeon (Scarsdale, USA)*
Private Practitioner, Prosthodontist (White Plains, USA)**
11:45am **Jose Calvo-Guirado**, DDS, MSc, PhD
Professor & Chairman of Implant Dentistry, University of Murcia, Research Professor, School of Dental Medicine, Stony Brook University

12:30pm Discussion / Lunch

*Concepts of Contemporary Chairside All-Ceramic Restorations*
*Moderator: Farhad Vahidi*
*Prosthodontist (New York, USA)*

1:15pm **Kenneth Kurtz**, DDS, FACP
Associate Director, Advanced Specialty Education Program in Prosthodontics, NYU College of Dentistry

2:00pm **Ali Murat Kokat**, DDS, PhD
Associate Professor, Department of Oral Health and Dentistry, Bayindir Hospital (Istanbul, Turkey)

2:45pm Discussion / Coffee Break

*New Paths in Digital Treatment Planning*
*Moderator: Burney Croll*
*Prosthodontist, Private Practitioner (New York, USA)*

3:30pm **Lars Hansson**, CDT, FICOI
Master Dental Technician (Chesapeake, USA)

4:00pm **Gerhard Stachulla**, MDT
Master Dental Technician & Lecturer on Implantology (Bergen, Germany)

4:45pm **Aldo Leopardi**, BDS, DDS, MS
Private Practitioner, Prosthodontist (Denver, USA)

5:30pm Discussion followed by cocktail reception with live music, cocktails and hors d’oeuvres
Overview: Dentistry in the Past and Future

The initial art and science of dentistry, have evolved into the rapidly expanding digital arena, which now allows dentists to do cogent 3-dimensional CBCT treatment planning, then develop precise surgical guides, followed by digital impressions, stereo lithographic models and CAD/CAM processed restorations.

The traditional workflow has become more streamlined, increasing the rapidity and simplicity of the procedure, while decreasing surgical risks and overall costs.

The sophistication of the different systems make the entire implant procedure much more predictable, efficient, and safer - - - yet easier, and allows for much greater collaboration between the dental team in the initial planning through the execution of the procedures.

Digital planning and processing facilitate dental implants being much less cumbersome and easier to deliver in an expedited manner. It allows clinicians to discern prior to beginning the procedure the pro’s and con’s of any particular technique in the patient specific clinical scenario, and ultimately will deliver more superior dentistry to a larger segment of the population at decreasing cost.

Objectives:
- Develop an understanding of the new streamlined expedited workflow
- Understand the different digital impression making methodologies
Develop an understanding of how CAD/CAM processing is now an integral part of implant & reconstructive dentistry

**Dr. David Garber** is one of the internationally recognized multidisciplinary educators well-known as “Team Atlanta.” Dr. Garber is the recipient of “The 2005 Gordon J. Christensen Lecturer Recognition Award,” “The American College of Prosthodontics Distinguished Lecturer Award,” “The Northeastern Periodontal Society Isador Hirschfeld Award for Clinical Excellence,” “The Greater New York Academy of Prosthodontics Distinguished Lecturer Award,” and “The David Serson Medal of Research.”

He is a past president of the American Academy of Esthetic Dentistry and has served on the boards of both the AAED and the American Academy of Fixed Prosthodontics.

Dr. Garber is dual trained clinician and professor in the Department of Periodontics as well as in the Department of Oral Rehabilitation at the Medical College of Georgia. He is a Clinical Professor in the Department of Prosthodontics at Louisiana State University and a Clinical Professor in the Department of Restorative Dentistry at the University of Texas in San Antonio.

He is past editor of the *Journal of Esthetic Dentistry*, co-author of *Porcelain Laminate Veneers, Bleaching Teeth, Porcelain and Composite Inlays and Onlays, and Complete Dental Bleaching*, and has published in excess of 60 articles and textbooks chapters.
The Evolving Role of Digital Technology in Implant Dentistry

We are in the midst of a professional change. Technology intrudes into biology and dental specialties. Boundaries shift or disappear. A new world is emerging at the intersection of classic dentistry and digital technology, and everything we think we know might just be incomplete.

This lecture demonstrates and reviews the latest advances in digital technology and wants to challenge us to pause and rethink modern dentistry. It provides the dentist and dental technician not only with the background information on the rapidly changing digital dental technologies like CAD/CAM, but focuses on how to implement these technologies in our daily operation. It presents a contemporary workflow created around these digital tools. The lecture allows you to make a decision on which technology is a perfect fit for you, how to use it and how to gain the greatest benefit by efficient implementation.

The presentation will highlight important stand-alone solutions, but the highest efficiency is achieved by integrated digital solutions. Using fully integrated digital solution based on several technologies opens up new avenue for clinical treatment and can result in benefits like reduced treatment time, more predictable results and a reduced redo rate. Cutting edge biomimetic products blending digital technology with organic tissue clearly mark the latest developments in this segment.
Objectives:
♦ the advantages & limitations of CAD/CAM technology
♦ how to choose the right digital technology for your office or dental laboratory
♦ the potential of fully integrated digital solutions

**Dr. Marcus Abboud** graduated from University in Bonn/Germany in 1996 and worked in the Department of Prosthodontics at University in Bonn from 1997-2001. In 2000, he received the Doctorate in Prosthodontics Award. From 2001-2003, he worked in the Department of Material Science until he did his Oral Surgery residency from 2003-2007 at the University of Bonn. He worked in the Oral Surgery Department until 2011. In 2010, he received his Expert Certification in CBCT Technology. Dr. Abboud is Chair of the Department of Prosthodontics & Digital Technology at Stony Brook University in New York since 2011.
One of the most important goals of restorative dentistry is naturalness — naturalness in terms of aesthetics as well as function. Patient expectations are constantly on the rise. The dental restorations should be as individual as possible while being indistinguishable from natural dentition.

The Face Hunter 3D facial scanner has been created with the aims to develop a fully integrated system which is able to transfer elaborate tooth extensive designs to the corresponding milling software environment unaltered and to match the received data and the corresponding coordinates in three-dimensional space. The 3D-digitisation of patient’s faces makes it possible to create a photorealistic 3D image; the dentist is given an almost photorealistic preview of the final result and the patient gets a more concrete idea of what the final work will look like.

This allows to generate a maximum of planning reliability and satisfaction for dental technicians, dentists and patients alike. Both the practitioner and the patient can get an impression of what the planned restoration will look like long before the first milling cutter has started turning, allowing change requests to be incorporated. In his lecture, Mr Steger will not only discuss in detail the opportunities and advantages of work based on the patient’s physiognomy, but will also deal with forthcoming developments by showing inspiring solutions.
Objectives:
♦ Near-photorealistic preview of the definitive restoration for final restorations
♦ How to align restorations with the patient’s physiognomy
♦ How to add a layer of reliability to the treatment-planning process

**Mr. Enrico Steger** is the inventor of the manual milling machine for the production of zirconium dental prostheses. After five years of High School at the Institute for Dental Technicians in Bolzano/South Tyrol and various jobs as a dental technician throughout Europe, in 1981 he set up his own dental laboratory. In 1986, with the publication of his book “The Anatomic Chewing Surface” he attracted attention and so he started publishing papers in specialist journals and became guest speaker in conferences in Korea, Iceland, Norway, Spain, South Africa, USA and Mexico. In 2003 Steger had a revolutionary idea to develop the manual zirconium milling machine based on the functioning principle of the pantograph and the company Zirkonzahn Srl was founded. As the inventor of the manual milling system for zirconia, the CAD/CAM System 5-TEC, the Prettau® Zirconia and Prettau® Bridge he is one of the world’s leading experts and trendsetters in the dental sector.
Digital Technology in Surgical and Prosthodontic Treatment Protocols

The use of Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) and digital technologies in restorative dentistry and dental surgery are no longer concepts for the future. These technologies are being commonly used in practice today. The use of CT Guided dental implant surgery has greatly expanded over the last decade as concepts and techniques have become more refined and more implant manufacturers have adapted their implant systems to this new technology. The use of these technologies, in combination with conventional and digital restorative dental techniques, allows both the surgeon and restorative dentist to treat partial and full-arch patient cases in a predictable, restoratively driven, and truly multi-disciplinary team approach.

This course will introduce the clinician to the workflow and techniques necessary to treat patients undergoing partial and full-arch restorations.
using these state-of-the-art digital technologies. These workflows lead to more accurate and precise implant placement, frequently with a flapless technique and immediate loading with provisional restorations, while minimizing patient pain and swelling, and clinician stress. Different immediate load restorative options will be discussed at length.

Objectives
- To provide the clinician with a basic understanding of the workflow necessary to treat patients using digital technologies.
- To provide the clinician with an understanding as to why incorporating digital technologies into their practice is beneficial to both the patient and the clinician.
- To instruct clinicians on the techniques and instrumentation necessary to successfully utilize these technologies in their practices.
**Dr. Gary Orentlicher** graduated from the University of Medicine and Dentistry of New Jersey and completed his residency in oral and maxillofacial surgery at Long Island Jewish Medical Center. He has authored many publications and book chapters. Recently he was Editor of a textbook, published by Elsevier, entitled “Digital Technologies in Oral and Maxillofacial Surgery”. He has lectured extensively on subjects such as patients with temporomandibular joint disorders and dentofacial deformities, bone grafting, CT guided implantology, CT scan use in dentistry, and new dental implant innovations. Dr. Orentlicher has given numerous courses on new techniques and technologies for dental implant planning and placement and has been involved with CT Guided treatment planning for dental implant placement for over 17 years. Dr. Orentlicher is Chief of the Division of Oral and Maxillofacial Surgery at White Plains Hospital Center. He is a Diplomate of the American Board of Oral and Maxillofacial Surgery, a Fellow of the American Association of Oral and Maxillofacial Surgeons, and is a member of many regional and national dental and oral and maxillofacial surgery organizations. He is in private practice and a partner at New York Oral, Maxillofacial, and Implant Surgery in Scarsdale, NY.

**Dr. Leonard Kobren** is a Board eligible prosthodontist. He is the Vice Chair of the American College of Prosthodontists Education Foundation, a Fellow and Past President of the Northeastern Gnathological Society, and a Fellow of the Greater NY Academy of Prosthodontics. He is the Chair of the Ninth District Dental Association’s Annual Restorative Conference, and serves on the Advisory Board of the New York City College of Technology. He maintains a private practice limited to Prosthodontics in White Plains, NY.
Nowadays advances in clinical techniques and biomaterials have facilitated a great expansion in the indications for dental implant treatment options. Teeth replacement using dental implants has proven to be a successful and predictable treatment procedure. Reductions in the number of surgical interventions, a shorter treatment time, an ideal three dimensional implant positioning, the presumptive preservation of alveolar bone at the side of the tooth extraction and soft tissue aesthetics have been claimed as the potential advantages of this treatment approach. The survival rates of post-extraction implants are high and comparable to those of implants placed in healing sites, like many authors.

On the other hand, the morphology of the side, the presence of periapical pathology, the absence of keratinized tissue, thin tissue biotype and lack of complete soft tissue closure over the extraction socket have been reported to adversely affect in immediately placed implants. Digital technologies in research animal models could improve the success and also reduce the possible complications in failing implants. Technological prosthetic devices and starting wax up developed related to teeth replacement could be useful in bone and implant healing.

The first classification described the timing of implant placement as mature, recent, delayed or immediate depending on soft tissue healing and predictability of Guided Bone Regeneration (GBR) procedures, however further classifications based on hard and soft tissue healing and treatment time approach were subsequently described by many authors. Several reviews reported that the immediate implant treatment using autogenous bone grafts or xenografts may improve the process of bone
formation between the implant and the surrounding socket walls as well as survival rates. They observed that several studies have suggested that small gaps between implants and extraction sockets would fill with bone grafting procedures or without them.

The efficacy of GBR therapy employing autogenous and non-autogenous particulate materials combined with various membranes to regenerate alveolar bone at the time of tooth extraction has also been demonstrated. Concomitant placement of regenerative materials has been shown to result in predictable, high levels of osseointegration with the use of porcine bone. With regard to the gap between the socket wall and the implant, it was reported that if the jumping distance is over 2mm, grafting is recommended. Smaller distances could heal spontaneously.

The purpose of my lecture is to answer the following questions:
♦ Do immediate implants have a significant effect on soft tissue recession outcomes?
♦ Does the gap treatment minimize crestal bone loss?
♦ Does the biomaterial play an important role in crestal bone preservation?
♦ Does the implant design have an influence on bundle bone resorption?

Objectives:
♦ New implant treatment plan for gap reduction
♦ The implant which really Works in postextraction implants
♦ The correct selection of biomaterials for gap filling
♦ New technologies for implant success

**Dr. Jose Calvo-Guirado** graduated from National University of Cordoba Argentine/1989. In 2001 he received the PH Doctorate from Murcia University, Spain. He received the Board in Oral Surgery by EFOSS in 2002. Dr. Calvo-Guirado is Professor and Chairman in General and Implant Dentistry and Biomaterials at Murcia University in Spain since 2007. He is also a Visiting Professor of Oral Surgery and Implant Dentistry at International University of Catalunya, Spain, Visiting Professor of Oral Surgery at Belgrade University in Serbia and Research Professor at School of Dental Medicine at Stony Brook University in NY. Professor Calvo-Guirado is part of the Board I the Clinical Oral Implant Research Journal and ITI Speaker and ITI Director of Murcia ITI Study Club, Spain.
Digital workflow now allows same day fabrication of indirect all-ceramic restorations. This precludes the necessity of two appointments as the impression and prosthesis fabrication can be made in one appointment. Additionally, fabrication of a provisional restoration is avoided, saving invaluable chairtime in the private practice setting. Details of the types of systems presently available will be reviewed.

Objectives
- Identify compatible intraoral scanning systems
- Review available in-office fabrication systems
- Discuss practicality of utilization
**Dr. Kenneth S. Kurtz** is a graduate of the NYU College of Dentistry (NYUCD). After 12 years of general dental practice, he returned for prosthodontic training at Montefiore Medical Center/AECOM and subsequent maxillofacial prosthetic training at the Bronx VAMC/ Columbia University School of Dental Medicine. Additionally, he completed the NYU Surgical Implant Fellowship in 2009. Presently he is the Associate Director, Advanced Education Program in Prosthodontics at NYUCD, Director-Maxillofacial Prosthetics, Graduate Prosthodontics New York Hospital-Queens and serves as the Director of Prosthodontic Research in the graduate prosthodontic program at Montefiore Medical Center. He also serves as the Chair, ACP Research Committee.
Concepts of Contemporary Chairside All-Ceramic Restorations

Esthetics in dental applications are the most popular issues in daily practice. Highly demanding procedures like porcelain veneers and smile reconstructions have become major challenges in contemporary dentistry. The key to success is a proper planned treatment by all means of developing technologies and materials. Evidence based treatment procedures based on a thorough understanding of indications and new standards is the scope of this lecture.

Optical impression and chairside manufacturing by CAD/CAM opened a new era in dental applications. Rebuilding our daily practice with updated knowledge and techniques is an avoidable necessity in today’s world.

In this lecture, the material selection based on indications will be combined with treatment strategies and reconstruction of esthetics by new technologies in an evidence based manner. The interaction between technician and the dentist will be exclusively presented as the remote designing and 3D printing contribute to the profession more than ever.

Objectives:
- The participant will learn how to combine chairside applications via CAD/CAM with remote designing and 3D printing to produce restorations in a straightforward and accurate way.
Dr. Ali Murat Kokat was born in Samsun, Turkey in 1976. After finishing Hacettepe University, Faculty of Dentistry in 1998, he started his PhD program in prosthodontics. He received his PhD in 2004 and became an Associate Professor of Prosthodontics in 2012. After spending years as ITI Scholar in the Department of Oral Surgery in Rheinische Friedlich Wilhelms University in Bonn, Germany, he started to work in his private practice primarily focused on implant dentistry and esthetics. Dr. Kokat is an ITI Fellow and Director of ITI Samsun Study Club. He is currently giving courses on Implantology and porcelain laminate veneers both nationally and internationally. His main interests are CAD/CAM technologies, all ceramic restorations, porcelain laminate veneers and implantology.
New Paths in Digital Treatment Planning
Digital dentistry has changed the landscape for dental laboratories and the analog challenges have become digital challenges. Both large and small laboratories can take advantage of the digital CAD CAM revolution by outsourcing and the laboratories that can afford and want can take on the in-house scanning and milling. Changes don’t come without challenges and changes in protocols. There are limitations to digital dentistry and the team planning and communication have become more important than ever before.

Objectives:
This lecture will highlight the importance of Team communication, laboratory technology in the digital world and the protocols for single tooth implant restorations to full arch Zirconium restorations. Complications and successes. What makes a predictable restoration.
Mr. Lars Hansson is currently the head of Bay View Dental Laboratory implant department located in Chesapeake, Virginia. He has over 25 years of experience in the field of dental technology. He has studied and worked with many of the leaders in the cosmetic and implant world including: Drs. Per-Invar Branemark, Pete Dawson, John Kois, Lloyd Miller, Carl Misch, Charles English, Avishai Sadan, Robert F. Faulkner, John Cranham and many more.

Lars is a board certified and master dental technician from Malmö, Sweden. He is an active committee member and has lectured for the Academy of Osseointegration and is the chair of the Allied Staff and the organizer of the Academy of Osseointegration Dental Laboratory program. He is a Fellow member in the International Congress of Oral Implantologists and has been involved with the Misch International Implant Institute and lecture regularly for the Mid-Atlantic Center for Advanced Dental Studies. Lars is also a special consultant to several Implant manufacturers, teaches and is experienced with all of the major implant systems. He has lectured extensively nationally and internationally on implant dentistry, cosmetic dentistry and communication and has published several articles in Dental journals and Dental technician journals, Lars is an Xpert for Dental XP and one the editorial advisory board for IDT (Inside Dental Technology). Lars regularly assist clinicians on chair side immediate load procedures and work directly with the surgeons on All on Four protocols starting with the CBCT scan planning to final delivery. Lars is also a clinical Faculty at the Virginia Commonwealth University (VCU).
New Paths in Digital Treatment Planning

The concept of “team implantology” becomes more and more important in pre-surgery diagnostic. The team of dentists, surgeons and dental technicians must now more than ever represent the challenge to put an implant with maximum functionality and aesthetic harmony. By consistently maintaining an implant-sequence protocol, failures can be avoided. Only a common consciousness for the necessity of an interdisciplinary cooperation with a timely inclusion of all team members will lead to optimum results.

The current possibilities for computer-aided implantology, with 3D diagnostics, planning and navigation, are demonstrated using examples of highly complex cases.

Objectives:
The planning, surgical treatment, temporary prosthetic restoration and the possibility of immediate prosthetic restoration are demonstrated step by step. The pathways for converting the planning are done today in both, analog and digital. The benefits are shown and discussed critically.
Mr. Gerhard Stachulla was born in 1952 in Augsburg, Germany. He became a Master of Dental Technician in 1984 and has been an owner of a dental lab until 2011. He is a lecturer for Implantology with the focus for interdisciplinary cooperation. He has authored numerous national and international articles as well as traveled extensively providing lectures. He is a member of various development groups in the field of guided Implantology. He is a member of ICOI, DGI and DGÄZ.
Digital Technology in Surgical and Prosthodontic Treatment Protocols

The utilization of digital technologies in Dental Implant tooth replacement protocols is increasingly facilitating the integration of surgical planning and placement with pre-determined prosthodontic outcomes in mind. In this new era of advanced imaging and CAD/CAM technologies, a fundamental grasp of conventional treatment planning and the clinical process is critical. Dr. Aldo Leopardi's objective for his presentation is to discuss the role these technologies play in the modern private dental practice to enhance treatment outcomes and streamline the laboratory process. This discussion will include practical advice for restorative protocols that complement the digitally devised treatment plan while still adhering to basic prosthetic design principles.

Objectives:
- Have an improved understanding of the digital and analog work flow in private practice.
- Discuss the role of digital planning and how to translate this into surgical facilitated outcomes.
- Discuss incorporation of CAD-CAM in prosthetic fabrication.
Dr. Aldo Leopardi received his dental training from the University of Adelaide, South Australia and University of Detroit Mercy (UDM), Michigan. In 1993, he received his specialist training and master’s degree in combined fixed, removable and implant Prosthodontics, at the University of North Carolina, at Chapel Hill (UCH-CH). He was faculty at UNC-CH, UDM, and Colorado Health Sciences School of Dentistry. Since 1999, he has been in full-time private practice limited to Prosthodontics in Denver, Colorado. Today he lectures nationally on subjects involving fixed, removable and implant dentistry, and is involved in clinical research. He is also the founder and President of the Denver Implant Study Club and The Knowledge Factory.
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