

# **ICOI World Congress XXXIII**

## ***Bone, Collagen, & Nature –***

### ***Altering the Base for Dental Implants***

**Barcelona, Spain ~ March 31 – April 2, 2016**

**Barcelona International Convention Centre**

## **Main Podium Speakers Scientific References/Citations**

**Dr. Jaime Jimenez - *Digital Implant Dentistry: Indications and Limitations. Is it Helpful? When and How?***

- Digital versus conventional implant impressions for edentulous patients: accuracy outcomes. Papaspyridakos et al, Clin Oral Implants Res 2015 Feb 13
- In vivo precision of conventional and digital methods of obtaining complete-arch dental impressions. Ender et al, J Prosthet Dent. Nov 6 2015 E-pub
- Computer-guided implant therapy and soft- and hard-tissue aspects. The Third EAO Consensus Conference 2012. Sicilia A, Botticelli D; Clin Oral Implants Res. 2012

**Prof. Hugo De Bruyn - *Dental Implant Solutions Dealing with Reduced Bone Volume, Hampered Bone Morphology or Peri-implantitis Prone Risk Patients***

- Vandeweghe S, De Ferrerre R, Tschakaloff A, De Bruyn H. A wide-body implant as an alternative for sinus lift or bone grafting. J Oral Maxillofac Surg. 2011 Jun;69(6):e67-74. doi: 10.1016/j.joms.2010.12.031. Epub 2011 Mar 21.
- Vandeweghe S, Cosyn J, Thevissen E, Van den Berghe L, De Bruyn H. A 1-year prospective study on Co-Axis implants immediately loaded with a full ceramic crown. Clin Implant Dent Relat Res. 2012 May;14 Suppl 1:e126-38. doi: 10.1111/j.1708-8208.2011.00391.x. Epub 2011 Oct 18.
- Dierens M, Vandeweghe S, Kisch J, Nilner K, De Bruyn H. Long-term follow-up of turned single implants placed in periodontally healthy patients after 16-22 years: radiographic and peri-implant outcome. Clin Oral Implants Res. 2012 Feb;23(2):197-204. doi: 10.1111/j.1600-0501.2011.02212.x. Epub 2011 Jul 6.

**Prof. Nabil Barakat - *Implants and Orthodontics: A Symbiotic Partnership***

- Treatment of a Classic Division 2 Occlusion with Reopening for a Single Tooth Implant, R. Ame J Orthodent Dent Am J, 2001, 119.
- A Comparison of 2nd Premolar Extraction and Mini Implants Total Arch Distablization with InterProximal Stripping. June, MH. Angle Orthodont 2012.

- Chapter 15, Implant and Orthodontics; A Symbiotic Partnership, Barakat Nabil et al Fundamentals of Implant Dentistry - Prosthodontic Principles, Edited by John Beumer III, et al, Quintessence Pub. 2015

**Prof. Dr. Reinhard Gruber - *The Biology of Bone Grafts: History and New Aspects***

- Gruber R, Koch H, Doll BA, Tegtmeier F, Einhorn TA, Hollinger JO. Fracture healing in the elderly patient. *Exp Gerontol.* 41(11):1080-93 (2006)
- Peng J, Nemec M, Brolese E, Bosshardt DD, Schaller B, Buser D, Gruber R. Bone-Conditioned Medium Inhibits Osteogenic and Adipogenic Differentiation of Mesenchymal Cells In Vitro. *Clin Implant Dent Relat Res.* (2014 Epub)
- Gruber R: Basic principles of sinus augmentation, in Watzek G; Percrestal sinus augmentation, Quintessence Publishing Co., Inc. (2012)

**Dr. Matteo Chiapasco - *Dental Implants in the Atrophic Maxilla: A Comprehensive Management from Single Edentulism to Fully Edentulous Cases***

- Chiapasco M, Casentini P, Zaniboni M: Bone augmentation procedures in implant dentistry. *International Journal Oral & Maxillofacial Implants* (ISSN: 0882-2786) 2009; 24 (suppl) 237-259
- Pjetursson BE, Tan WC, Zwahlen M, Lang NP. A systematic review of the success of sinus floor elevation and survival of implants inserted in combination with sinus floor elevation. Part I: Lateral approach. *J Clin Periodontol* 2008; 35 (Suppl. 8): 216–240.
- Chiapasco M, Brusati R, Ronchi P: Le Fort I osteotomy with interpositional bone grafts and delayed dental implants for the rehabilitation of extremely atrophied maxillae: a 1 to 9-year clinical follow-up study on humans. *Clinical Oral Implants Research* (ISSN 0905-7161); 2007; 18: 74-85

**Dr. Zeev Ormianer - *The Consequence of Implant Macro-Structure and Insertion Torque on Implant Supported Restorations Design and Function***

- Z. Ormianer, A. Ben-Amar, M. Duda, S. Marku-Cohen, I. Lewinstein. Stress and strain pattern of 1 piece and 2 piece implant system in bone: A 3 dimensional finite element analysis. *Implant Dentistry* Vol.21, 2012(pp1-7)
- N. Harel, I. Eshkol-Yogev , D. Piek, S. Livne, D. Lavi, Z. Ormianer. Bone Microstrain Values of One-Piece and Two-Piece Implants Subjected to Mechanical Loading *Implant Dentistry* Vol. 22, 2013 (pp.277-281)
- Rungsiyakull C, Rungsiyakull P, Li Q, Li W, Swain M. Effects of occlusal inclination and loading on mandibular bone remodeling: a finite element study. *Int J Oral Maxillofac Implants.* 2011; 26(3): 37-527

**Dr. Guido Sarnachiaro - *Immediate Implant Placement in the Esthetic Zone: Management of Type 1 Sockets vs Type 2 Socket***

- Immediate Implant Placement into Extraction Sockets with Labial Plate Dehiscence Defects: A Clinical Case Series. Sarnachiaro GO, Chu SJ, Sarnachiaro E, Gotta SL. Tarnow DP. *Clin Implant Dent Relat Res.* 2015 Apr 27

- Flapless postextraction socket implant placement in the esthetic zone: part 1. The effect of bone grafting and/or provisional restoration on facial-palatal ridge dimensional change- a retrospective cohort study. Tarnow DP, Chu SJ, Salama MA, Stappert CF, Salama H, Garber DA, Sarnachiaro GO, Sarnachiaro E, Gotta SL, Saito H. Int J Periodontics Restorative Dent. 2014 May-June;34(3):323-31
- The dual-zone therapeutic concept of managing immediate implant placement and provisional restoration in anterior extraction sockets. Chu SL, Salama MA, Salama H, Garber DA, Saito H, Sarnachiaro GO, Tarnow DP. Compen Contin Educ Dent. 2012 Jul-Aug;33(7):524-32,534

**Prof. Dr. Urs Belser - *Implant Esthetics - From Expectations to Reality***

- BUSER D, CHAPPUIS V, KUCHLER U, BORNSTEIN MM, WITTNEBEN JG, BUSER R, CAVUSOGLU Y, BELSER UC (2013) “Long-term stability of early implant placement with contour augmentation”. J Dent Res 92(12 Suppl):176S-82S. doi: 10.1177/0022034513504949. Epub 2013 Oct 24
- BUSER D, CHAPPUIS V, BORNSTEIN MM, WITTNEBEN JG, FREI M, BELSER UC (2013) “Long-term stability of contour augmentation with early implant placement following single tooth extraction in the esthetic zone: a prospective, cross-sectional study in 41 patients with a 5- to 9-year follow-up”. J Periodontol 84(11):1517-27. doi: 10.1902/jop.2013.120635. Epub 2013 Jan 24
- CARAM SJ, HUYNH-BAH G, SCHOOLFIELD JD, JONES AA, COCHRAN DL, BELSER UC (2014) “Biologic width around different implant-abutment interface configurations. A radiographic evaluation of the effect of horizontal offset and concave abutment profile in the canine mandible. Int J Oral Maxillofac Implants 29(5):1114-22.

**Dr. Vivianne Chappuis - *Regeneration of the Bone and Soft Tissue Architecture Following Tooth Extraction in the Esthetic Zone of Implant Patients***

- Chappuis V, Engel O, Reyes M, Shahim K, Nolte L-P, Buser D: Ridge alteration post-extraction in the esthetic zone: a 3D analysis with CBCT. J Dent Res 2013; 92: 195-201
- Buser D, Chappuis V, Kuchler U, Bornstein MM, Wittneben JG, Buser R, Cavusoglu Y, Belser UC: Long-term stability of early implant placement with contour augmentation. J Dent Res 2013; 92: 176-182
- von Arx T, Buser D. Horizontal ridge augmentation using autogenous block grafts and the guided bone regeneration technique with collagen membranes: a clinical study with 42 patients. Clin Oral Implants Res. 2006 Aug;17(4):359-66.

**Dr. Marius Steigmann - *Prevention and Treatment of Soft Tissue Failures in Complex Esthetic Cases***

- Perosteal Pocket Flap for Horizontal Bone Regeneration: A Case Series (Int J Periodontics Restorative Dent 2012; 32:311-320) Marius Steigmann, DDS/ Maurice Salama, DDS, MS/ Hom-Lay Wang, DDS, MSD, PhD

- Aesthetic Buccal Flap Design for Correction of Buccal Fenestration Defects (Pract Proced Aesthet Dent 2008, 20(8):487-493
- The Ways and Wherefores of Immediate Placement of Implants into Fresh Extraction Sites: A Literature Review (J Periodontol 1997;68(6):915-923. Schwartz-Arad D, Chaushu G

**Prof. Tord Berglundh - *Peri-implantitis: A Major Challenge in Implant Dentistry***

- Carcuac O & Berglundh T. (2014) Composition of human peri-implantitis and periodontitis lesions. Journal of Dental Research, 93(11):1083-8
- Carcuac O, Abrahamsson I, Albouy JP, Linder E, Larsson L & Berglundh, T. (2013) Experimental periodontitis and peri-implantitis in dogs. Clinical Oral Implants Research, 24, 363-371.
- Derks J, Håkansson J, Wennström J, Tomasi C, Larsson M & Berglundh, T. (2015) Effectiveness of implant therapy analyzed in a Swedish population: early and late implant loss Journal of Dental Research, 94; 44S-51S.

**Dr. Scott Ganz - *Advances in Diagnostic, Surgical, and Restorative Protocols for Bone Grafting, and Implant Procedures***

- Benavides E, Rios HF, Ganz SD, An CH, Resnik R, Reardon GT, Feldman SJ, Mah JK, Hatcher D, Kim MJ, Sohn DS, Palti A, Perel ML, Judy KW, Misch CE, Wang HL. Use of cone beam computed tomography in implant dentistry: the International Congress of Oral Implantologists consensus report. *Implant Dent.* 2012 Apr;21(2):78-86.
- Ganz, SD, "Utilization of Three-dimensional Imaging Technology to Enhance Maxillofacial Surgical Applications" In: Peterson's Principles of Oral and Maxillofacial Surgery. Eds. Miloro, M, Ghali, GE, Larsen, P., and Waite, P. Shelton, CT: People's Medical House-USA, 2012. pp179-200.
- Ganz, SD. Bone Grafting Assessment: Focus on the Anterior and Posterior Maxilla Utilizing Advanced 3-D Imaging Technologies. *Dent Implantol Update.* June 2009 Vol. 20(6): 41-48.

**Dr. Lyndon Cooper - *A Data Driven Approach to Single Tooth Esthetics; A 10 year Journey***

- Cooper LF, Reside G, Stanford CM, Barwacz C, Feine J, Nader SA. Scheyer T, McGuire MK. A multicenter randomized comparative trial of implants with different abutment interfaces to replace anterior maxillary single teeth. *Int J Oral Maxillofac Implants.* 2015;30:622-632
- Cooper LF, Reside GJ, Raes F, Garriga JS, Tarrida LG, Wiltfang J, Kern M, De Bruyn H. Immediate Provisionalization of Dental Implants Placed in Healed Alveolar Ridges and Extraction Sockets: A 5-year Prospective Evaluation. *Int J Oral Maxillofac Implants.* 2014;29:709-717.
- Cooper LF. Objective criteria: guiding and evaluating dental implant esthetics. *J Esthet Restor Dent.* 2008;20(3):195-205.

**Dr. Hom-Lay Wang - *Implant Positioning for Implant Long-term Stability***

- Hsu Y, Wang H-L. Ideal Implant positioning. Journal of Taiwan Academy of Periodontology 2013 18(2) 64-72 (Best literature Review for J Taiwan Perioodnotlogy , 2013)
- Su C-I, Fu J-H, Wang H-L. The role of implant position on long term success. Clin Adv Periodontics, 2014; 4(3):187-193.
- Monje A, Galindo-Moreno P, Tozum T, Suarez F, Wang H-L. Into the paradigm of implant position as an etiologic factor for peri-Implant disease. Accepted for publication in Int J Oral Maxillofac Implants, March 2015.

**Dr. Fred Bergmann – *Multiple Treatment Options and Prosthetic Concepts for the Edentulous and Atrophied Alveolar Ridge***

- “Maxillary Sinus Augmentation.” Dent Clin North Am. 2015 Apr;59(2):375-388. doi: 10.1016/j.cden.2014.10.001.Epub 2014 Dec 26.Mohan N1, Wolf J2, Dym H3; “Incremental, “Transcrestal Sinus Floor Elevation with a Minimally Invasive Technique in the Rehabilitation of Severe Maxillary Atrophy. Clinical and Histological Findings From a Proof-of-Concept Case Series. “2015 May;73(5):861-88. Doi 10.1016/j.joms.2014.12.009.Epub 2014 Dec 17. Trombelli L1, Franceschetti G2, Trisi P3, Farina R4; “Two-stage closed sinus lift: a new surgical technique for maxillary sinus floor augmentation. “2015 Mar 10. Krasny K1, Krasny M, Kaminiski A.
- “Rehabilitation of the edentulous mandible with osseointegrated dental implants: 10 year follow-up.” Aust Dent J. 1995 Feb;40(1):1-9.Henry PJ1, Bower RC, Wall CD.; “CAD/CAM technology and esthetic dentistry: a case report.” 2013 Nov-Dec;34(10)”764,766,768 passim.Santos GC Jr1, Boksman LL2, Santos MJ3.
- “Total rehabilitation of maxilla using a tooth-to-implant restoration: case report.” de Vasconcellos AA, Feitosa SE, Girundi FM.; “The effect of implant number and position on the stress behavior of mandibular implant retained overdentures: A three dimensional finite element analysis.” 2015 Mar 20. pii:S0021-9290(15)00175-X. doi:10.1016/j.jbiomech.2015.03.006. Topkaya T1, Solmaz MY2.

**Dr. Luca Cordaro – *How Technical Innovations Influence our Treatment Plan***

- Digital technologies to support planning, treatment, and fabrication processes and outcome assessments in implant dentistry. Summary and consensus statements. The 4th EAO consensus conference 2015. Hämmmerle CH, Cordaro L, van Assche N, Benic GI, Bornstein M, Gamper F, Gotfredsen K, Harris D, Hürzeler M, Jacobs R, Kapos T, Kohal RJ, Patzelt SB, Sailer I, Tahmaseb A, Vercruyssen M, Wismeijer D. Clin Oral Implants Res. 2015 Sep;26 Suppl 11:97-101. doi: 10.1111/clr.12648.
- Rehabilitation of an edentulous atrophic maxilla with four unsplinted narrow diameter titanium-zirconium implants supporting an overdenture. Cordaro L, Torsello F, Mirisola di Torresanto V, Baricevic M. Quintessence Int. 2013 Jan;44(1):37-43. doi: 10.3290/j.qi.a28745.

- Sanz M, Donos N, Alcoforado G, Balmer M, Gurzawska K, Mardas N, Millinkovic I, Nisand D, Rocchietta I, Stavropoulos A, Thoma DS, Torsello F. Therapeutic concepts and methods for improving dental implant outcomes. Summary and consensus statements. The 4th EAO Consensus Conference 2015. Clin. Oral Impl. Res. 26 (s11), 2015, 202–206 doi: 10.1111/clr.12674

**Dr. Irena Sailer - *The Digital Era - New Technologies, New Materials, Unlimited Options***

- Sailer I, et al. 2015 Dent Mater 31:603-623
- Pjetursson B, et al. 2015 Dent Mater 31: 624-639
- Zembic A., et al 2014 Clin Impl Dent Rel Res

**Prof. Joao Carames - *Full Arch Rehabilitation of Severely Compromised Maxilla and Mandible: Surgical and Prosthetic Solutions for Predictable Results***

- Del Fabbro M, Bellini CM, Romeo D, Francetti L. Tilted implants for the rehabilitation of edentulous jaws: a systematic review. Clin Implant Dent Relat Res. 2012;14(4):612-21
- Menini M, Signori A, Tealdo T, Bevilacqua M, Pera F, Ravera G, Pera P. Tilted implants in the immediate loading rehabilitation of the maxilla: a systematic review. J Dent Res. 2012;91(9):821
- Esposito MI, Worthington HV. Interventions for replacing missing teeth: dental implants in zygomatic bone for the rehabilitation of the severely deficient edentulous maxilla. Cochrane Database Systematic Review . 2013 Sep 5;9:CD004151.

**Prof. Christer Dahlin - *Current Trends in Guided Bone Regeneration***

- Guided Bone Regeneration: biological principle and therapeutic applications. Retzepi M, Donos N. Clin Oral Implants Res. 2010 Jun;21(6):567-76. doi: 10.1111/j.1600-0501.2010.01922.x. Review.
- Comparative maxillary bone-defect healing by calcium-sulphate or deproteinized bovine bone particles and extra cellular matrix membranes in a guided bone regeneration setting: an experimental study in rabbits. Turri A, Dahlin C. Clin Oral Implants Res. 2015 May;26(5):501-6. doi: 10.1111/clr.12425. Epub 2014 Jun 21. PMID: 24954120
- Horizontal bone augmentation by means of guided bone regeneration. Benic GI, Hämmeler CH. Periodontol 2000. 2014 Oct;66(1):13-40. doi: 10.1111/prd.12039.

**Dr. F. Javier Gil Mur - *New Strategies for the Development of Dental Implants with Antimicrobial Properties and Enhanced Osseointegration***

- Antifouling coatings for dental implants: Polyethylene glycol-like coatings on titanium by plasma polymerization  
Judit Buxadéra-Palomero, Cristina Canal, Sergi Torrent-Camarero, Beatriz Garrido, Francisco Javier Gil, Daniel Rodríguez. Biointerphases 10, 029505 (2015); doi: 10.1116/1.4913376.
- “Implant-abutment connections: influence of the design on the microgap and their fatigue and fracture behavior of dental implants”. Journal of Materials Science:materials in

- Medicine. (2014) FJ.Gil, M.Herrero, P.Lázaro, J.V.Rios. Doi:10.1007/s10856-014-5211-7. Volume 25, Issue 7 (2014), Page 1825-1830
- "A novel peptide-based platform for the dual presentation of biologically-active peptide motifs on biomaterials" C. Mas-Moruno, R.Fraioli, F. Albericio, JM.Manero, FJ.Gil. ACS Applied Materials & Interfaces. (2014).
  - "Silver deposition on titanium surface by electrochemical anodizing process reduces bacterial adhesion of Streptococcus sanguinis and Lactobacillus salivarius". M. Garcia-Godoy, A.Rodríguez-Hernández, L.Delgado, JM.Manero, F.J.Gil, D.Rodriguez. Clinical Oral Implant Research. 2014. Doi: 10.1111/clr.12422.
  - Covalent immobilization of hLf1-11 peptide on a titanium surface reduces bacterial adhesion and biofilm formation.
  - Maria Godoy-Gallardo, Carlos Mas-Moruno, María C. Fernández-Calderón, Ciro196. Fatigue life of bioactive titanium dental implants treated by means of Grit Blasting and Thermo-Chemical treatment192. Fibroblast adhesion and activation onto micro-machined titanium surfaces. J.Guillem, L.Delgado, M.Godoy-Galardo, M. Pegueroles, M.Herrero, FJ. Gil. Clinical Oral Implants Reserach. 00, 2012, 1-11 DOI. 10.1111/j.1600-0501.2012.02451.x
  - FJ.Gil, E.Espinar, JM.Llamas, P.Sevilla. Clinical Implant Dentistry and Related Research. DOI 10.1111/j.1708-8208.2012.00468.x
  - Pérez-Giraldo,José M. Manero, Fernando Albericio, Francisco J. Gil,Daniel Rodríguez. Acta Biomaterialia. (2014), <http://dx.doi.org/10.1016/j.actbio.2014.03.026>. 206. Biomimetic treatment on dental implants for short -term bone regeneration.
  - FJ.Gil, N.Manzanares, A.Badet, C.Aparicio, MP.Ginebra. Clinical Oral Investigations 18 (1) (2014) 59-66. DOI: 10.1007/s00784-013-0953-z.
  - Novel Peptide-Based Platform for the Dual Presentation of Biologically Active Peptide Motifs on Biomaterials Carlos Mas-Moruno, Roberta Fraioli, Fernando Albericio,JoséMaría Manero,F. Javier Gil. | ACS Applied Materials and Interfaces. (2014) [dx.doi.org/10.1021/am5001213](http://dx.doi.org/10.1021/am5001213).
  - Fibroblast adhesion and activation onto micro-machined titanium surfaces. J.Guillem, L.Delgado, M.Godoy-Galardo, M. Pegueroles, M.Herrero, FJ. Gil. Clinical Oral Implants Reserach. 00, 2012, 1-11 DOI. 10.1111/j.1600-0501.2012.02451.x
  - Adsorption of fibronectin, fibrinogen, and albumin on TiO<sub>2</sub>: Time-Resolved Kinetics, Structural Changes, and Competition Study. M.Pegueroles, C.Tonda-Turo, JA.Planell, FJ.Gil, C.Aparicio. Biointerphases 7:48 (2012). DOI:10.1007/s13758-012-0048-4.
  - Fatigue life of bioactive titanium dental implants treated by means of Grit Blasting and Thermo-Chemical treatment. FJ.Gil, E.Espinar, JM.Llamas, P.Sevilla. Clinical Implant Dentistry and Related Research. DOI 10.1111/j.1708-8208.2012.00468.x

#### **Dr. Mauricio Araujo - Management of the Alveolar Socket**

- Araujo, M.G. and Lindh, J. Dimensional ridge alterations following tooth extraction. An experimental study in the dog. J Clin Periodontol 2005,32:212-218.
- Araujo, M.G., Silva, C.O. Misawa, M. & Sukekava F. Socket healing with and without immediate implant placement. Periodontol 2000 2015,68:122-134.

- Araujo, MG, da Silva JC, de Mendonca AF, Lindhe J. Ridge alterations following grafting of fresh extraction sockets in man. A randomized clinical trial. Clin Oral Res. 2015 26:407-12.

**Prof. Dr. Georgios Romanos - *Long Term Success of Immediately Loaded Implants Placed in Different Bone Qualities and Quantities***

- Romanos, G.E., Malmstrom, H., Feng, C., Ercoli, C., Caton, J. Immediately loaded platform-switched implants in the anterior mandible with fixed prostheses: a randomized, split-mouth, masked prospective trial. Clin. Implant Dent. Related Res. 2014;16(6):884-92.
- Romanos, G.E., May, S., May, D. Implant-supporting telescopic maxillary prostheses and immediate loading. Clin. Impl. Dent. Related Res. 16: 412-418, 2014.
- Romanos, G.E. Bone quality and the immediate loading of implants. Critical aspects based on literature, research and clinical experience. Impl. Dent. 18: 203-209, 2009.