

labline

DENTAVANTGART

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INTERVIEW

INSPIRED BY
NATURE:
CHRISTIAN
FERRARI

DR. **VIOLETA BARTALIS ÉP. CLAUS** &
ZTM. **JAN-HOLGER BELLMANN** &
DR. **CARSTEN CLAUS**

A BALANCING ACT
BETWEEN FUNCTION
AND AESTHETICS:
A THIRD DIMENSION
OF A SMILE

DR. **ATTILA BODROGI** &
CDT. **SIMONE MAFFEI**

BESPOKE SMILE
MAKEOVER:
A FACIALLY DRIVEN
APPROACH TO
INDIVIDUALIZED
OUTCOME

DR. **CYRIL GAILLARD** &
CDT. **JÉRÔME BELLAMY**

FULL FUNCTIONAL
AND ESTHETIC
MINIMALINVASIV
RESTORATION
USING IPS E.MAX
CERAMICS

Zirkonzahn[®]

Human Zirconium Technology

100% PRETTAU[®] BRIDGE

MADE BY CAD/CAM

**Occlusally screw-retained maxillary
full-arch rehabilitation using
titanium bases on implants**

DENTAL TECHNICIAN:

Michele Frapporti

(Dentallabor Steger,
Bruneck, Italy)

DENTIST:

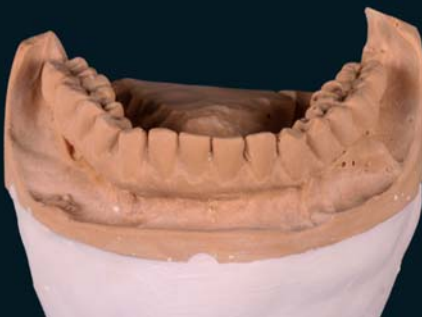
DDS, MS Fernando Rojas-Vizcaya

(Mediterranean Prosthodontic Institute,
Spain)

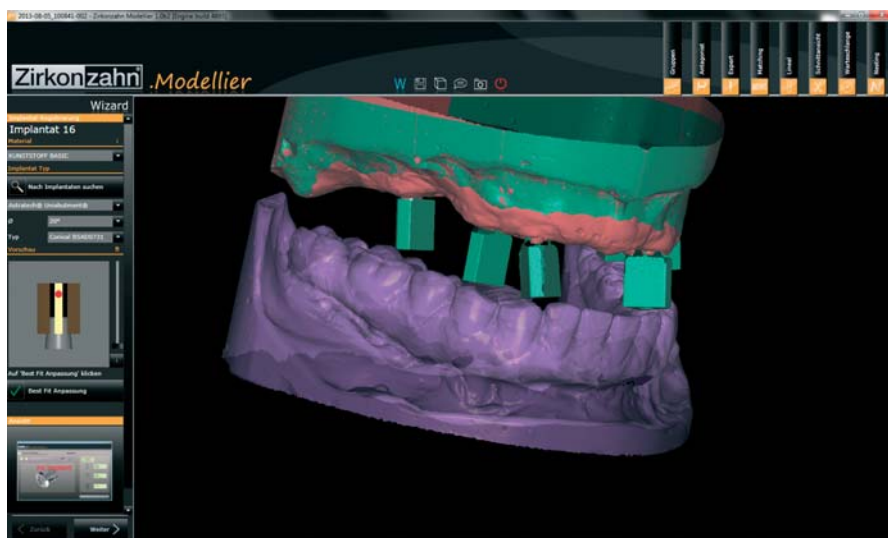
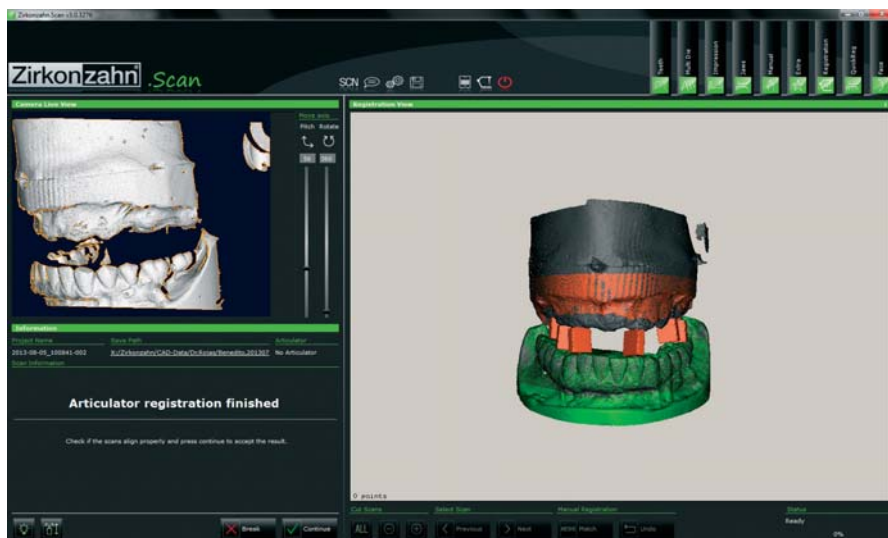
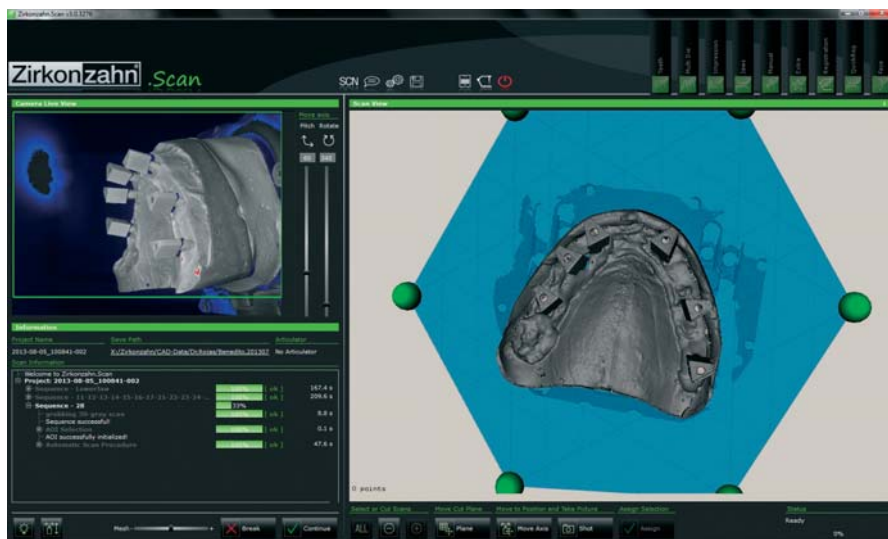


We had provided the patient with a full-arch rehabilitation of the mandible made of Prettau® Zirconia in 2013, which had been inserted and was occlusally screw-retained screwed on the implants. To support a maxillary rehabilitation, six MUA 20° implants by Astra Tech were inserted at sites 16, 14, 13, 22, 25 and 27. The treatment goal was the complete rehabilitation of the patient.

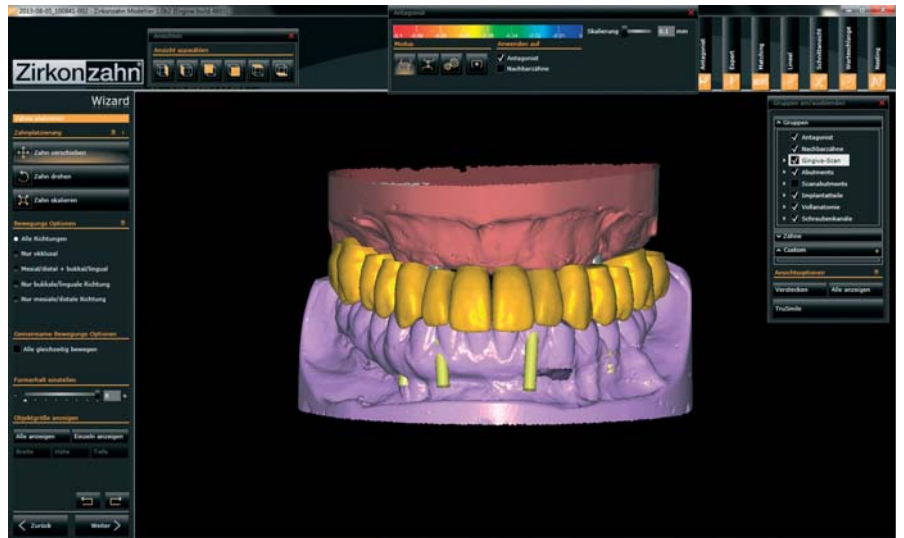
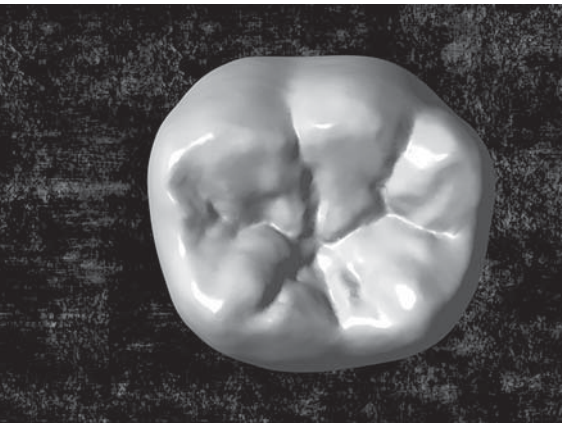
The treatment plan called for an occlusally screw-retained full-arch structure made of Prettau® Zirconia with Titanium bases on six implants for the upper jaw. The challenge inherent in this case was, inter alia, to match the shade of the mandibular structure to that of the already delivered mandibular bridge despite the fact that the dentist and the dental laboratory were 1000 kilometres apart. Shade keys and photographs helped select a suitable shade. The basic shade of the denture was produced using Colour Liquid Prettau® Aquarell, while the custom staining was performed using the stains ICE Zirkon Malfarben by Enrico Steger.



For the implementation of the planned restoration, our laboratory had received the plaster casts of the restored mandible and of the maxilla with implants inserted.



A project was first created in the Zirkonzahn.Archiv software, followed by documenting the positions of the implants. The maxillary cast was provided with scan markers and scanned with the scanner S600 ARTI. The scan markers allowed the software to detect the exact implant positions and orientations. The maxillary and mandibular casts were then placed in the virtual articulator. The Zirkonzahn software comes with data for a wide range of articulators available on the market, so that the laboratory can be flexible in its work. The scanned models were now ready for modelling in Zirkonzahn.Modellier.



The tooth set chosen for the maxilla was the Hermes set from the virtual tooth library Heroes Collection by Zirkonzahn. This decision was of course mainly informed by the teeth in the previously restored mandible.

The next step was to position the teeth correctly in the upper jaw.



A temporary restoration based on this digital model was milled from the resin TEMP Basic, polished to a high lustre with Composite Polishing Paste and veneered with Gingiva Composites.



Next, As-Mua titanium bases by Zirkonzahn were placed in the framework. We recommend the use of titanium bases for implant-supported structures, as these can reduce the forces acting on the zirconia framework and the implant alike.

The dentist in charge received the resin provisional from our laboratory for an intraoral try-in and made some minor manual adjustments to the design to accommodate the patient's wishes. The dentist then sent a duplicate of the prosthesis to our laboratory in the form of a plaster cast. Based on this plaster cast, a digital wax-up was created and used for designing the definitive prosthesis.



The structure was then milled in Prettau® Zirconia and separated from the zirconia blank, then manually finished and reduced in the anterior region in the non-sintered state. One of the next steps involved veneering the structure with ceramics. Ceramic chipping can be avoided using a proven special technique in our laboratory. This technique preserves the anatomy of the contact surfaces, so that during masticatory function, zirconia will contact zirconia or natural tooth structure; the veneer is never involved.



The framework was coloured with Colour Liquid Prettau® Aquarell, followed by sintering and ceramic and stain firing cycles. A guide to staining with our Colour Liquids can be found on our website, www.zirkonzahn.com





As previously with the provisional, As-Mua titanium bases by Zirkozahn were placed in the definitive restoration. Ahead of use, the titanium bases for the definitive rehabilitation were anodized to a golden colour using Zirkozahn's Titanium Spectral-Colouring Anodizer. This allowed the bases to be optically concealed under the zirconia structure. This process leaves the excellent biocompatibility of the titanium material essentially unaffected. The use of titanium bases also allowed complete passivation of the zirconia structure.

The seat of the finished zirconia structure was inspected on the cast and in the articulator. The finished structure was then sent to the dentist, who delivered it to the patients using screw connections with the implants. The patient and dentist were completely satisfied.



FERNANDO ROJAS VIZCAYA, DDS, MS

- Doctor of Dental Medicine (1989) at the Javeriana University of Bogotá; three additional degrees at the Complutense University of Madrid and at the Gregorio Marañón Hospital, Madrid in the following years.
- DDS degree (2000) from the Complutense University of Madrid.
- Master of Science in Prosthetics studies (2004) and postgraduate specialty degree (2005) at the University of North Carolina, Chapel Hill.
- Fellowship in Oral Implantology (2006) at the University of North Carolina, Chapel Hill.
- Diplomate and Master of the ICOI-IPS.
- Major research interests include aesthetic management in complex dental implant cases in immediate placement and immediate loading protocols.



MICHELE FRAPPORTI

- Born in Venice (Italy)
- Training to become a dental technician at the Istituto professionale per l'industria e l'Artigianato "Michelangelo Buonarroti" in Verona (1987)
- Dental technician in two different dental laboratories in Verona (1989–2009)
- Own dental laboratory in Verona (2009–2013)
- Dental technician in the dental laboratory Steger at Brunico, course instructor in the Zirkozahn Education Center (since 2013); special field ceramics and Prettau® Zirconia

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