



## DENTAL SCIENCE MASTER

### NEUROMUSCULAR AND AESTHETIC DENTISTRY



Master course conducted by:

- Full professor Julio Suay Anton
- Professor Cristina Martinez

#### Organization of ECTS credits:

<b>BASIC COURSES:</b>	<b>39 credits</b>
<b>ARTICLES AND SEMINARS:</b>	<b>12 credits</b>
<b>SPECIALTY COURSES:</b>	<b>25 credits</b>
<b>SPECIALTY PRACTICES:</b>	<b>30 credits</b>
<b>MASTER THESIS:</b>	<b>14 credits.</b>
 Total	 <b>120 ECTS Credits</b>

## General outline:

- **Classes are online from October-July. Examinations are carried out online.**
- **Practice locations : ITALY-USA-ROMANIA-CANADA. Location for practice is based on availability and location of attendees.**

Accredited office locations:

1. Dr Fabio Savastano, Piazza Berlinguer 14, Albenga SV, 17031 ITALY
2. Dr. Prabu Raman, 8612 N. Oak Trafficway. Kansas City, MO, USA
3. Dr. Ira L. Shapira, 310 S Greenleaf St., 60031 Gurnee, IL, USA
4. Dr. Konstantin Ronkin, 2184 Washington St., 02021 Canton, MA, USA
5. Dr Florin Constantinescu, piata romana, Bucarest, Romania
6. Dr Curtis Westersund, 801 6th St. SW #255, Calgary, AB T2P 3V8, CANADA

## Introduction

The master's program in Neuromuscular and Aesthetic Dentistry offers an in-depth and practical curriculum tailored for dental professionals seeking to advance their expertise in modern dental practices. This program integrates neuromuscular principles with aesthetic applications, combining rigorous theory with hands-on clinical skills.

Participants will gain expertise in foundational neuromuscular concepts, bioelectrical instrumentation, full-mouth rehabilitation, and orofacial pain management, with an emphasis on the connections between facial posture, aesthetics, and dental health. Utilizing advanced diagnostic tools and interdisciplinary approaches, the curriculum is designed to meet the highest standards of patient care, preparing graduates to address complex functional and aesthetic cases with precision. This program equips dental professionals to enhance their clinical practices and deliver comprehensive, specialized care for a wide range of patient needs.

## Presentación

La Maestría en Odontología Neuromuscular y Estética ofrece un plan de estudios profundo y práctico, diseñado para profesionales dentales que



buscan avanzar en sus conocimientos en prácticas odontológicas modernas. Este programa integra principios neuromusculares con aplicaciones estéticas, combinando teoría rigurosa con habilidades clínicas prácticas. Los participantes obtendrán experiencia en conceptos fundamentales de neuromusculatura, instrumentación bioeléctrica, rehabilitación completa de la cavidad bucal y manejo del dolor orofacial, con un enfoque en las conexiones entre postura facial, estética y salud dental. Utilizando herramientas de diagnóstico avanzadas y enfoques interdisciplinarios, el plan de estudios está diseñado para cumplir con los más altos estándares de atención al paciente, preparando a los graduados para abordar casos funcionales y estéticos complejos con precisión. Este programa capacita a los profesionales dentales para mejorar sus prácticas clínicas y ofrecer una atención integral y especializada para una amplia variedad de necesidades del paciente.

## **First Semester: Basic courses, year 1**

1. Anatomy of the orofacial structures: a comprehensive approach
2. Embryonic development of the face and oral cavity
3. Oral Histology
4. Applied physiology & nutrition
5. Applied oral pathology
6. Osseointegration
7. Microbiology
8. Biochemistry
9. Growth and genetic development
10. Biomaterials and Biostatistics
11. Research methodologies

**Basic courses have been organized to respect subsequent specialty courses in contents and form. If you would like further detailed curriculum information on basic courses, please contact Dr. F. Savastano [savastan@uji.es](mailto:savastan@uji.es)**

**Articles and seminars: each doctor attending the master's course on Neuromuscular and Aesthetic Dentistry must obtain credits from minimum one scientific publication and a congress presentation (poster, lecture etc).**

**Practices are carried out during the second year. Your Tutor will guide and follow you to the end of the master's courses.**

## Specialty Courses, year 2

### NEUROMUSCULAR I: Theory

PROFESSORS

Fabio Savastano (ITALY)

Prabu Raman (USA)

#### UNIT 1. INTRODUCTION TO NEUROMUSCULAR DENTISTRY (Fabio Savastano)

- Biotensegrity and fascia
- A new neurobiological model of the human body

#### UNIT 2. THE NEUROMUSCULAR THEORY (Fabio Savastano)

- History
- The Neuromuscular Paradigm

#### UNIT 3. THE APPLICATION OF THE PRINCIPLES OF NEUROMUSCULAR THEORY TO CLINICAL PRACTICE (Prabu Raman)

- Therapeutic goals of neuromuscular dentistry
- Role of NMD within the multifactorial paradigm of TMD

#### UNIT 2. BIOELECTRICAL INSTRUMENTATION: TENS (Prabu Raman)



- Operating principles of Transcutaneous Electrical Neuro Stimulation (TENS) in pain control Vs in neuromuscular dentistry
- Therapeutic benefits of Ultra Low Frequency TENS in NMD
- Classic NMD protocol of ULF TENS
- Prabu Point protocol of ULF TENS

#### UNIT 3. BIOELECTRICAL INSTRUMENTATION: SURFACE EMG (Prabu Raman)

- Operating principles of Needle Electromyography Vs Surface Electromyography
- Benefits of sEMG in NMD
- Diagnostic protocols of sEMG in NMD
- Rationale for choosing muscles groups measured in NMD protocols

#### UNIT 4. BIOELECTRICAL INSTRUMENTATION: COMPUTERIZED MANDIBULAR SCANNING (CMS) (Prabu Raman)

- Operating principles of Computerized Mandibular Scanning
- Optimal protocol for use of CMS in NMD
- Diagnostic protocols of CMS in NMD

#### UNIT 5. INTERPRETATION OF SURFACE EMG & MANDIBULAR SCANNING FOR DENTISTRY (Prabu Raman)

- Rationale for sEMG scans and their diagnostic value
- Rationale for CMS scans and their diagnostic value
- Rationale for CMS + sEMG in diagnosing optimal mandibular position / Bite registration

## **NEUROMUSCULAR II: clinical application**

### **PROFESSORS**

Prabu Raman (USA)  
Curtis Westersund (Canada)  
Konstantin Ronkin (USA)  
Florin Constantinescu (Romania)

#### **UNIT 1. NEUROMUSCULAR DENTISTRY AND FULL MOUTH REHABILITATION (Prabu Raman)**

- Phase 1 Orthotic therapy
- Phase 2 – Maxillary arch optimization – orthopedic / orthodontic treatment
- Mandibular arch optimization – crowding, inclinations
- Smile Design principles
- Soft tissue architecture optimization
- Final confirmation or optimization of mandibular alignment
- Dental laboratory communications
- Tooth preparation principles for optimal aesthetics
- Full mouth restorative preparation
- Full mouth provisional restorations “Trial smile”
- Confirm or enhance smile aesthetics of “Trial smile”
- Adhesive dentistry concepts
- Bonded Full Mouth Ceramic Restorations delivery
- Coronoplasty of restorations for optimal function
- Delivery of Mandibular Repositing Device
- Final photographs of finished case

#### **Step by step procedures and case study**

#### **UNIT 2. FULL DENTURE IN NEUROMUSCULAR DENTISTRY (Curtis Westersund)**

- Problems in finding the bite in edentulism
- Applying ULF-TENS for impressions and mandibular position

- Prosthodontic in-lab planification of full dentures
- Checking full mouth prosthetics: chewing, phonetic, aesthetics

### UNIT 3. PARTIAL FIXED DENTURE IN NEUROMUSCULAR DENTISTRY (Konstantin Ronkin)

- Correcting occlusion with neuromuscular procedures
  - Finishing prosthetics to functional requests
- Selection of fixed denture design according to an integrated approach in the treatment of a patient with concomitant pathology
  - Analog protocol for occlusion transfer during the transition from the therapeutic and diagnostic stage to prosthetics
  - When using a removable orthotic
  - When using a fixed orthotic
- Digital protocol for occlusion transfer during the transition from the therapeutic and diagnostic stage to prosthetics
  - When using a removable orthotic
  - When using a fixed orthotic
  - When using sectional orthotics
- Analog and digital prosthetic protocol in the concept of physiological neuromuscular concept of complex patient treatment.
- Case finishing and neuromuscular micro-occlusion.
  - Features of enameloplasty and individual adjustment of ceramic restorations in the neuromuscular concept
  - Use of analog and digital technologies to create optimal micro-occlusion.

### UNIT 4. FULL MOUTH REHABILITATION WITH IMPLANTOLOGY AND NEW 3D SOFTWARE (Florin Constantinescu)

- Update on new hardware/software for dentistry
- CBCT and software integration for planification of implant dentistry procedures
- 4D Digital Workflow
- 4D Diagnosis and Treatment planning
- Comprehensive solutions for personalized treatment, materials and methods

### UNIT 5. FACE AND SMILE AESTHETICS AND OCCLUSAL FINISHING (Stanislav Blum)

- Material selection for frontal and posterior teeth
- Composite protocol: treatment option in adult patients
- Aging process in cranio-mandibular region and occlusion

- Main principles of occlusal modeling
- Periodontal intervention for front teeth aesthetics
- Front teeth anatomy software planification
- Evaluation of smile aesthetics and facial soft tissues

## SCIENCE IN CRANIOFACIAL PAIN / OROFACIAL PAIN / TMD

### PROFESSORS

Dr. Ira L. Shapira (USA)

Dr. Konstantin Ronkin (USA)

#### UNIT 1. ANATOMY AND PHYSIOLOGY OF THE MASTICATORY SYSTEM (Ira L. Shapira):

- Stomatognathic System
- Muscle Function and occlusion
- Dynamics of mandibular movements
- Neuroanatomy of the stomatognathic system including cervical tract
- Reflexes of the stomatognathic system

#### UNIT 2. TMD. (Ira L. Shapira):

- Physiology of Pain
- TMD: Orofacial Pain
- Literature Review

#### UNIT 3. TREATMENT OF TMD: (Ira L. Shapira):

- The orthotic
- Pharmacology
- Psychology
- Multidisciplinary approach

#### UNIT 4. NEUROBIOLOGY OF PAIN AND ANALGESIA. (Ira L. Shapira):

- SPG blocks
- Alternative methods of pain treatment

#### UNIT 5. SLEEP DISORDERS AND TREATMENT (OSAS) (Dr. Konstantin Ronkin)

- Prevalence pathophysiology and comorbidities (all ages)



- Upper airway evaluation: diagnostic measurements
- Sleep apnea, TMD, bruxism: literature review Role of Neuromuscular Dentistry in OSAS (Obstructive Sleep Apnea Syndrome)
- Treatment procedures: CPAP-SURGERY-REMOVABLE APPLIANCES
  - Classification of intraoral appliances
  - Types of MAD devices and features of their use
  - Management of patients with OSAS in combination with TMD within the framework of the neuromuscular concept

## **BODY POSTURE AND FACIAL BEAUTY**

### **PROFESSORS**

Dr Curtis Westersund (USA)  
 Dr Stanislav Blum (ISRAEL)  
 Dr Roberto Rinaldi (ITALY)  
 Dr Piero Silvestrini (ITALY)

#### UNIT 1. OSTEOPATHY AND CHIROPRACTIC (Curtis Westersund)

- Atlas Subluxation Complex
- Correcting C1-C3
- Treating the whole body to stabilize Occlusion.

#### UNIT 2. RADIOLOGY (Curtis Westersund)

- Importance of Radiology for the diagnosis of cervical impairment
- Diagnostic Radiology Procedures
- CBCT Findings of a Normal and Compromised Cervical-Cranio-Fascial Anatomy

#### UNIT 3. OPHTHALMOLOGIST (Curtis Westersund)

- Ocular Torticollis
- Vision and head posture
- The Importance of Binocular Vision

#### UNIT 4. NOSE-MOUTH-THROAT SPECIALIST (Curtis Westersund)

- Lymphatic tissue obstruction
- Nasal resistance

- Inner ear and head posture

#### UNIT 5. DEPRESSION TESTS FOR IN-OFFICE USE: PSYCHOLOGICAL SUPPORT (Curtis Westersund)

- Montgomery and Asberg Depression Rating Scale (MADRS and MADRS-S)
- Hamilton Depression Rating Scale (HDRS)

#### UNIT 6. ASSESSMENT AND CORRECTION OF MANDIBULAR POSTURE TO IMPROVE FACIAL AESTHETICS (Stanislav Blum)

- Relationship between face, neck and body posture aging
- Digital facial asymmetry analysis: CBCT, face scanner and digital models
- Mandible posture recording
- Assessment of spinal correction
- Evaluation of facial aesthetic improvements

#### UNIT 7. CASE DOCUMENTATION, PHOTOGRAPHY-PRESENTATIONS. (Dr. Roberto Rinaldi-ITALY)

- Equipment
- Intra and extraoral photography
- Creating a quality presentation

#### UNIT 8. HEAD AND BODY POSTURE IN RELATION TO OCCLUSION (Piero Silvestrini)

- Literature review on link between body posture and mandibular posture.
- Methods of postural analysis
- Treatment modalities