1. Monday morning: Biological Science of Bone
   I. Bone cell biology (Monica Mottes, Verona)
   II. Bone molecular pathways (Maria Teresa Valenti, Verona)
   III. Genetics of bone (Giovanni Malerba, Verona)
      a. Physiological condition
      b. Pathological condition
   IV. New applications of the genome editing techniques to discover bone pathways (Donato Zipeto, Verona)
   V. Bone metabolism throughout life (Luigi Gennari, Siena)

1. Monday afternoon: Practical Session
   Laboratory (Maria Teresa Valenti, Verona)
   a. Cellular Biology (Dott. Samuele Cheri)
   b. Molecular biology (Dott.ssa Michela Deana)
      Mesenchymal Stem cells
      Cancer bone cells

Ore 20: meet the expert and share the knowledge

2. Tuesday morning: Anatomy and Physiology
   Anatomia apparato scheletrico
   The morphology of normal bone (Carlo Zancanaro, Verona)
   New insights in bone tissue regeneration (Andrea Sbarbati, Verona)
   Practical applications

2. Tuesday afternoon; Pathophysiology and Diagnostics
   Biochemical evaluation (Gianluca Salvagno, Verona)
   Instrumental diagnostic approach + practical application and new frontiers (Luca Dalle Carbonare, Angelo Pietrobelli, Verona)

3. Wednesday morning: Bone Diseases in the Childhood
   Pathophysiology of bone diseases in childhood (Franco Antoniazzi, Verona)
   Metabolism and nutrition in childhood
   c. Oncologic bone diseases in childhood (Simone Cesaro, Verona)
   d. Nutrition and Bone (Angelo Pietrobelli, Verona)
   e. Rehabilitation and growth (Ermes Vedovi, Verona)

3. Wednesday afternoon: Bone diseases in the Elderly
   Epidemiology of bone diseases in the elderly (Stefania Maggi, CNR, Padova)
   Osteopenia and Sarcopenia in the elderly: two sides of the same coin (Mauro Zamboni, Verona)
   Osteoporosis and sarcopenia in the elderly as a cause of disability (Francesco Fantin, Verona)
   Laboratory: Methods of evaluation of bone composition
   Methods of evaluation of physical performance (Andrea Rossi, Verona)
4. Thursday morning *Metabolic Bone Diseases and Therapy*
   
   Metabolic bone diseases (Roland Chapurlat, Lyon - France)
   
   Immunological bone diseases (Claudio Lunardi, Verona)

*Therapy*

**Medical Therapy**

Vitamin D in children and adults (Attilio Boner, Verona)

Bisphosphonates (Andrea Giusti, Genova)

Anabolic drugs (Bruno Frediani, Siena)

4. Thursday afternoon

**Surgical Therapy**

Orthopedic surgery in children and adults (Bruno Magnan, Verona)

Ore 20 - Dinner lecture (at *Bibliotheca Capitularis*):

New Therapeutic Frontiers in Bone Diseases (Socrates Papapoulos, Leiden - NL)

5. Friday morning: *Physical medicine and rehabilitation in bone dysfunction*

   Effects of movement on bone remodeling (Maurizio Rossini, Verona)

   Rehabilitation of vertebral fractures (Alessio Baricich, Novara)

   Rehabilitation of non-vertebral fractures (Alessandro Picelli, Verona)

5. Friday afternoon

   Bone dysfunction in neurological diseases and rehabilitation

   In children (Antimo Moretti, Napoli)

   In adults (Marco Invernizzi, Novara)

   Specific rehabilitation approaches

   Pain treatment (Vittorio Schweiger/Orazio Codella, Verona)

   Physical Therapy (Marialuisa Gandolfi, Verona)

   Postural correction (Nicola Smania, Verona)