

# VINCENZO COTECCHIA

## DATE AND PLACE OF BIRTH

March 1, 1925, Naples – Italy

## NATIONALITY

Italian.

## ACADEMIC BACKGROUND

- Associate Professor of Engineering Geology, Faculty of Engineering, University of Bari, from 1950 to 1962.
- Associate Professor of Mineralogy and Geology, Faculty of Agriculture Science, from 1956 to 1974.
- Full Professor of Engineering Geology and Geotechnics, Faculty of Engineering, Bari Technical University, from 1963 to 1994.
- Full Professor of Geotechnics and Professor of Environmental Geo-Engineering, since 1995.
- Head of the Institute of Engineering Geology and Geotechnics, Bari Technical University, from 1963 to 1997.
- Dean of the Faculty of Engineering, from 1972 to 1981.
- Promoter and Dean of the new Faculty of Engineering, University of Basilicata, from 1982 to 1986.
  
- **Professor Emeritus in the Technical University of Bari, since 2001.**

## MAIN AWARDS

- Italian Ministry of Education's Gold Medal for meritorious service to School, Culture and Art.
- André Dumont Medal, International Award for the 1970-1980 scientific decade, received from the University of Liège.
- National Award for Sciences "Italy 1982" from the International Academy of Art and Culture, Rome.
- Title of *Chevalier dans l'Ordre des Palmes Académiques pur services rendus a la culture française*, received from the French Prime Minister, 1998.

- Hans Cloos Medal (IAEG), 2004

## **MAIN STUDY AND RESEARCH APPOINTMENTS**

- Editor of the Scientific Journal “Geologia Applicata e Idrogeologia”, published by the Italian National Research Council (CNR), since 1966.
- Member of “Landslides” working Group of the International Association of Engineering Geology (IAEG), since 1976.
- Head of the Italian National Research Council (CNR) “Landslide Phenomena” Research Project, from 1976 to 1983.
- Member of Ministry of Public Works Advisory Committee for new codes of practice (large dams, geological and geotechnical investigations, tunnels, seismic zonation of the Italian territory), since 1974.
- One of the founders of the Italian Group of the International Association of Engineering Geology (IAEG) in 1972 and President in the periods 1972-1976; 1984-1989 and 1993-1997.
- President of the Scientific Council of the CNR Soil Conservation Institute, from 1970 to 1980 and since 1990 at the Research Institute for Geo-Hydrological Protection (IRPI) in Cosenza (Southern Italy).
- Italian delegate to CERN for examination of stability of sites considered for the 300 GeV protosynchrotron, from 1967 to 1969.
- Head of the Italian National Research Council (CNR) Apulian Water Supply Project, from 1966 to 1972 (Publication no.20 of the Water Research Institute (IRSA)).
- Member of the UNESCO International Hydrological Decade Commission, from 1965 to 1974.
- Head of the National Nuclear Energy Committee (CNEN) “Laboratory for the Application of Radioisotopes to Hydrogeology and Geotechnics”, from 1959 to 1973.
- Member of the CNR Scientific Hydrology Committee, from 1958 to 1971.
- Member of the Scientific Council of the CNR “Institute for the Study of Dynamics of Large Masses”, Venice, from 1980 to 1987.
- General Scientific Supervisor of the “Reclamation Plan” and “Water Plan”

prepared by “Regione Puglia”, and by law enacted, from 1981 to 1983.

- Head of the Italian National Research Council (CNR) “Research Centre on Water Resources and Land Instability (CERIST), since 1985.
- Planner of Research for the exploitation of submarine springs in the Gulf of Taranto and other coastal areas (Southern Italy Development Fund) from 1987 to 1991.
- Member of the National Group for the Protection from Hydrogeological Disasters (GNDCI) of the Ministry of Civil Protection, since 1986.
- Author of the Plan of Apulia Region Energy Resources and of Engineering Geology researches aimed at coal and nuclear power plant siting.
- Representative of the Minister of University and Scientific Research in the Italian National Research Council Committee, from 1988 to 1995.
- Member and President of the Commission of the National Committee for Soil Conservation, law 183, since 1989.
- Member of the Scientific Committee of the “Environment Institute” of Confindustria, Milan, since 1991.
- Coordinator of the European Commission Research Project on “Landslide Evolution controlled by climatic factors in a seismic area”, since 1993.
- Member of the Scientific Council of the Italian National Research Council (CNR), Research Institute for Geo-Hydrological Protection (IRPI), since June 2003.

#### **CONGRESS ORGANIZER AND GENERAL REPORTER**

- Organizer and General Reporter of the Symposium regarding “Land Erosion”, of The International Association of Scientific Hydrology, Bari 1962.
- Organizer and General Reporter of the X “Meeting on Geotechnics” Italian Geotechnical Association, AGI, Bari 1970.
- Reporter at the Second International IAEG Congress, Sao Paulo, Brazil, 1974
- Reporter at the Meeting for the “Centen. de la Soc. Geol. de Belgique”, Liège, 1974.
- General Reporter at the 69<sup>th</sup> Congress of the Italian Geological Society (SGI) on: “Slope development, mass movements and the control thereof”(CNR, Project “Soil Conservation – Landslide Phenomena”), Perugia, 1978.

- General Reporter at the Congress on “Subsidence problems in physical planning and soil conservation” organized by the Emilia Romagna and Tuscany Regional Administrations, Pisa, 1978.
- General Reporter at the International Conference on: “Modern approach to groundwater resources management”, Capri, 1982.
- President and Chairman of the Organizing Committee of the 8<sup>th</sup> “International Salt Water Intrusion Meeting” (SWIM). Bari, 1983.
- Organizer, President of the Organizing Committee of the IAEG International Symposium on “Engineering Geology Problems in Seismic Areas” and General Reporter, Bari, 1986.
- General Reporter at the IAEG International Symposium on “The Engineering Geology of Ancient Works, Monuments and Historical Sites”, Athens, 1988.
- General Reporter at the International Symposium on “The conservation of monuments in the Mediterranean Basin”, Bari, 1989.
- General Reporter at the XVIII Italian Geotechnical Association (AGI) National Congress on “Opere in Sotterraneo e Ambiente” (Underground Works and Environment); Rimini, 1993.
- Expert Meeting on Seawater Intrusion into coastal aquifers in the Mediterranean Basin and the near east-Keynote paper “Seawater intrusion into karstic coastal aquifers and techniques for sustainable water development” FAO, Cairo, 1993.
- Organizer, President and General Reporter of the 1<sup>st</sup> Meeting of the “Engineering Geology National Group” with the participation of the IAEG in The Symposium “The Fragile Town in Italy”, Giardini Naxos (Messina), 1995.
- President of Scientific Committee and General Reporter of the Intern. Congress “Prevention of hydrogeological hazards: the role of scientific research”, CNRIRPI Torino, Nov. 1996.
- President and Chairman of the Congress GEOBEN 2000 on Geological and Geotechnical aspects of the historic and cultural heritage conservation”, on Behalf of the Italian National Research Council (CNR), Turin June 2002.

## **SCIENTIFIC PUBLICATIONS**

Professor V. Cotecchia is the author of about 300 scientific publications in the fields of Engineering Geology, Hydrogeology, Geotechnics, Environment Protection and Soil Conservation.

See enclosed list.

## **MAIN CONSULTING ACTIVITIES ON BEHALF OF INTERNATIONAL ORGANIZATIONS**

- Various advice assignments for the United Nations Special Fund involving geological, hydrogeological, engineering geological and geotechnical problems in the Third World (Egypt, Saudi Arabia, Jemen, Grecia, Togo, Daomey, Peru Equador) (1965-1980).
- Permanent consultant and designer of the large works of the Apulian Aqueduct Board.
- Engineering Geological and Geotechnical consultant in many important enterprises (“Costruzioni Girola”, “Fiat Impresit”, “Montubi”, “Vianini Costruzioni”, “Ing. Lodigiani”; “Swiss Boring”, “Rodio”, “Italstrade”, ecc.) since 1960.
- Engineering Geology Consultant on Perù Government about Mantaro dam on ..... river (A...) and the preliminary plan of Mantaro tunnel (18 Km) for one of the Biggest electric power stations of Latin America.
- Geotechnical Consultant to the “Chorafas-Ladopoulos” Consulting Engineering Company, Athens, since 1971.
- Geotechnical Consultant to the “Hadjidakis ETME” Consulting Engineering Company, Athens, since 1960.
- Geotechnical Consultant to Italconsult, Rome, since 1960.
- Engineering Geology, Geotechnics and Hydrogeology Consultant to the Southern Italy Development Fund (Cassa per il Mezzogiorno) and Special Project n. 14.
- Permanent geological and geotechnical consultant to the Apulian Water Supply Board, since 1958.
- Geological and Geotechnical Consultant to Electroconsult, Milan, since 1958.
- Geotechnical consultant since 1952 to:

- Capitanata Land Reclamation Agency, Foggia.
  - Sibari and Crati land Reclamation Agency, Cosenza.
  - Bradano Valley Land Reclamation Agency, Matera.
  - Fossa Premurgiana Land Reclamation Agency, Bari.
  - Consolidated Land Reclamation Agencies of Catanzaro.
- Permanent geological and geotechnical consultant to the South Italy Regions Irrigation Agency, since 1952.

**MAIN CONSULTING AND DESIGN ACTIVITIES IN THE FIELDS OF  
ENGINEERING GEOLOGY, GEOTECHNICS, HYDROLOGY AND  
HYDROGEOLOGY**

- Make up of the “Rehabilitation Plan” (by Merli law) and “Water Plan” (Groundwater Planning in Apulia), on behalf of the Apulia Regional Administration, 1980-1982.
- Geotechnical Consultant for the International Competition to restore the hydrogeological equilibrium of Venice Lagoon and to remove the threat of flooding in the Historic Centre (Della Morte-Vianini-Fondedile Group of Contractors), 1976.
- Coordinator of studies and engineering designs for Special Project 14 (Water Supply for the Apulia and Lucania Regions) on behalf of the Southern Italy Development Fund, since 1974.
- Hydrogeological Consultant for groundwater investigations in the Sana’a and Hodeida regions of Yemen, for Italconsult, 1972.
- Hydrogeological Consultant for groundwater exploration on Bahrain Island, for Italconsult, 1971.
- Final design for picking up groundwater in the Idume Springs area, Lecce (Irrigation Agency), 1971.
- Hydrogeological Consultant for water investigations in the Ergene Basin, Turkey, Italconsult, 1970.
- Hydrogeological Consultant for groundwater exploration in the Sinni Valley, for the Metaponto and Bradano Land Reclamation Agency, 1970.
- Groundwater exploration for water supply to development areas in Togo (UNItalconsult), 1964.

- Groundwater resources of the Pampas de Olmos, Peru (Italconsult) from 1963 to 1965.
- Groundwater exploration for industrial supplies to the Pirelli factory in Sicily, from 1962 to 1964.
- Groundwater exploration in Wadi Jizan Plain, Saudi Arabia (Italconsult), from 1962 to 1964.
- Groundwater studies in Argos Plain, Greece (Greek Ministry of Public Works), from 1960 to 1961.
- Studies and investigations on springs in the Sele Basin (EAAP), from 1959 to 1963.
- Groundwater exploration in various parts of Egypt (for Italconsult), from 1959 to 1963.
- Groundwater exploration in the Sibari Plain, Calabria (Southern Italy Development Fund and “Opera Sila”), from 1958 to 1962.
- Groundwater investigations in the Apulian “Tavoliere” on numerous occasions (for the Southern Italy Development Fund and various Land Reclamation and Irrigation Agencies), since 1958.
- Various studies on the characteristics of springs and methods of recharge of the deep aquifer in the Salento Peninsula (Apulia and Lucania Irrigation Agency, EAAP), since 1958.

## **MAIN DESIGN AND ADVICE ACTIVITIES**

### **1. Dams, Reservoirs, Irrigation Schemes, Marine Works, Water Supply Systems**

- Co-design of the earth dam of Campolattaro on the Tammaro river ( $110 \times 10^6 \text{ m}^3$ ) (Campania – Italy).
- Co-design of the earth dam along the Locone waterstream ( $105 \times 10^6 \text{ m}^3$ ) (Apulia – Italy).
- Co-design of the earth dam on the Lampeggiano river ( $5 \times 10^6 \text{ m}^3$ ) (Basilicata – Italy).
- Design of the earth dam along the Saggioccia river ( $2 \times 10^6 \text{ m}^3$ ) (Apulia – Italy).
- Design of the earth dam of Conza of Campania along the Ofanto river ( $70 \times 10^6 \text{ m}^3$ ) (Campania – Italy).

- Design of the Pappadai dam ( $13 \times 10^6 \text{ m}^3$ ) (Apulia – Italy).
- Design of the rehabilitation works for the earth dam of Rendina ( $25 \times 10^6 \text{ m}^3$ ) (Basilicata – Italy).
- Geological and geotechnical advice for the desing of the 25 million  $\text{m}^3$  Alaco Reservoir in Calabria, 1980.
- Geological and geotechnical studies to identify sites for Nuclear Poewer Plants in Apulia (for Apulia Regional Administration), 1979.
- Geological and Geotechnical advice for national Nuclear Energy Committee on soil-structure interactions at the Spille Plain Nuclear Power Plant, Tarquinia, 1978.
- Geological and Geotechnical advice for the final engineering design of the Baxiniedha Dam on the Pardu River (Southern Italy Development Fund), 1977.
- Geological and Geotechnical advice for the final engineering design of the dam on the Belice River (Lodigiani Contractors), 1976.
- Geological and Geotechnical advice for the final engineering design of a dam on the Acera River (Irrigation Agency), 1976.
- Geological and Geotechnical advice for the final engineering design of the Santa Maria Dam on the Fortore River (Capitanata Land Reclamation Agency), 1975.
- Geological and Geotechnical advice for the final engineering design of reservoirs on the Celone rivers, Foggia (Capitanata Agency), 1972-1975.
- Geological advice for Muro Lucano Reservoir (National Electricity Authority), 1971.
- Geological and Geotechnical advice on the Padule di Massacciuccoli soils for the reconstruction of the embankments along the lake (Land Reclamation Agency), 1969.
- Geotechnical consultant to Italconsult for the design of Pisayambo and El Rosario dams in Ecuador, 1968-1970.
- Geotechnical consultant to Italconsult during the construction of Malaki Dam, Saudi Arabia, 1967-1970.
- Geological and Geotechnical advice for soils affecting the eingeering works envisaged for the final design of the irrigation and river training schemes in the Bradano-Galaso area (Stornara e Tara Agency), 1967.



- Geological and Geotechnical advice for improvement of Saetta Dam (Irrigation Agency), 1966.
- Geological and Geotechnical advice for the design of the Civitella Licinia Dam on the Titerno River, Benevento (80 m high rockfill dam creating 90 million m<sup>3</sup> reservoir) (Southern Italy Development Fund), 1965-1967.
- Geology, Engineering Geology and Geotechnics for final engineering design of the dam on the Melito River, Catanzaro, (110 m high rockfill dam creating 90 million m<sup>3</sup> reservoir) (Southern Italy Development Fund), 1964-1967.
- Consultant of Sade for the study of the Vajont Landslide, 1964-1966.
- Geotechnical advice for the design of the Lamparan Dam (Olmos-Peru) (Italconsult), 1963-1965.
- Geological and Geotechnical consultant for the preliminary design of Limon Dam (Peru) (Italconsult), 1963-1965.
- Geological and Geotechnical advice for the design of Sallique Dam (Peru) (Italconsult), 1963-1965.
- Geotechnical advice for the preliminary design of Mano de Leon Dam (Peru) (Italconsult), 1963-1965.
- Geological and Geotechnical advice for the choice of a dam site on the Sinni River to create a 500 million m<sup>3</sup> reservoir (Southern Italy Development Fund), 1963-1965.
- Geotechnical advice for preliminary and final designs of Malaki Dam (Saudi Arabia) (Italconsult), 1962-1966.
- Geological advice for the final engineering design of the Marana Capacciotti Dam (40 m high earth dam creating an 80 million m<sup>3</sup> reservoir) (Capitanata Land Reclamation Agency, Foggia), 1961-1966.
- Advice for preliminary design of a reservoir on the Aractors River (Greece) (ETME – Athens), 1961-1962.
- Geotechnical consultancy for the feasibility study of several reservoirs in the arequipa district of Peru (Markes Master Plan), for the Peruvian Government (Electroconsult), 1961.
- Geological and Geotechnical consultancy during construction of a dam on the Oseito River, 1960-1963.

- Geotechnical consultancy for the study of several reservoirs in the Peloponnese, Greece (reservoirs of Taka, Nastaani, Nemea, Rakani, Silimma, Piana, Pheneos and Stinphalia), during the course of a feasibility project for harnessing Peloponnese water resources (Electroconsult, Milan) (ETME – Athens), 1960-1961.
- Geological and Geotechnical consultancy for a dam on the Fortore River (about 200 million m<sup>3</sup>), 1956-1958.
- Geological and Geotechnical consultancy for the final engineering design of a dam on the Osento River (Irpinia) (40 m high earth dam creating a 20 million m<sup>3</sup> reservoir), 1956.
- Geological consultancy for the preliminary design of a hydroelectric plant on the Lower Anapodiaris River (Greece) (Studio Tecnico Hydro), Milan), 1955-1958.

## **2. Roads, Railways and Hydraulic Tunnels**

- Motorway along the lower valley of the Sele River (III stretch, some 12 Km long, located between Calabritto and Lioni crossing).
- Pavoncelli second tunnel (11 Km) of the Apulian Aqueduct main channel (Campania – Italy).
- Miglionico railway tunnel along the Matera-Ferrandina stretch (6,5 Km) (Basilicata – Italy).
- Connecting road between Pisticci and the Basento National Road (2,5 Km, 1,5 Km of which as a tunnel) (Basilicata – Italy).
- Basento-Ofanto hydraulic tunnel between 16,200 m ad 21,333 m, close to Acerenza (PZ).

## **3. Land Reclamation**

- Restoration work design of the underground main canal (a 110 Km tract), Apulian Aqueduct Board. (1991-1996)
- Pavoncelli tunnel second track design, Apulian Aqueduct Board. (1983-1999)
- Study and design for Val Pola (Valtellina) landslide stabilisation and restoration of flow into Adda river (under way).
- Geological, hydrogeological and geotechnical advice in the landslide archeological area of Scolacium, Calabria Region (2000-2002)
- Geological, hydrogeological and geotechnical advice and design of the

stabilization works of the Great Landslide of Ancona on 13.12.1982 (1994-2000)

- Geotechnical advice for the monitoring network of the landslides in Lucera (Italy) urban area (1999)
- Geotechnical advice for the Petacciato (Italy) landslide, Abruzzo Region (1996-2000).
- Design of the stabilization works of the sea coast in Campo di Mare (Italy) area, Apulia Region (1997).
- Geological and geotechnical advice and design criteria for the stabilization works of 21 urban areas in Basilicata Region (1989-1990).
- Design of stabilization and land reclamation works in the landslide area of the Temples Valley in Agrigento, Sicily Region (1999-2002).
- Design of stabilization works in the Island of San Nicola in the Tremiti archipelago, Apulia Region (2001).
- Design of coastal defence works in Mattinata, Gargano promontory, Apulia Region (2001).

#### **4. Environmental Protection**

- Design of an industrial wastes dump inside the Cementir quarry in Taranto-Italy (1985-1996).
- Design of an industrial wastes dump inside the Enichem plant in Manfredonia-Italy (1987).
- Design of an industrial wastes dump inside the Lepetit plant in San Pancrazio Salentino-Italy (1989).

#### **5. Territorial and Natural Resources Planning**

- Coordinator of the Work Group on behalf of the Italian Ministry of Public
- Works for the updating of the General Plan of the Apulian Aqueducts (1986-1995).
- Coordinator of the Work Group on behalf of the Apulia Region for the Regional Planning of Quarrying Activities (1984-1990).
- Coordinator of the Work Group on behalf of the Sicily Region for the Regional Planning of Quarrying Activities (1998-2001).
- Member of the Work Group on behalf of the Apulia Region for the regional

Urbanistic and Territorial Planning (1987-1993).

- President of the Commission on behalf of the Sicily Region for the Protection of the Temples Valley in Agrigento.
- Member of the Work Group on behalf of Agrigento Municipaly Authority for the Urbanistic Plan (1997-199).