POLITECNICO DI MILANO

POLO TERRITORIALE DI MANTOVA

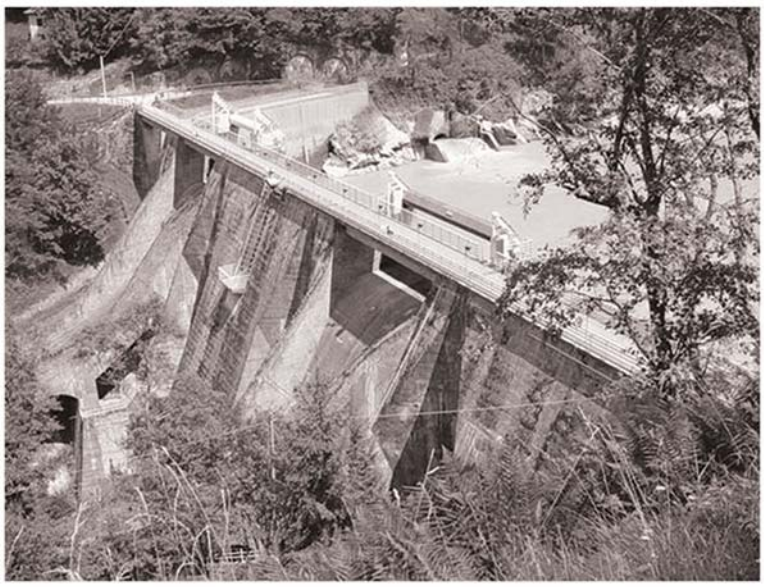
Ordine degli Ingegneri della Provincia di Mantova

Diagnosi di strutture e caratterizzazione meccanica di materiali

Motivazioni e prospettive di alcune attuali ricerche

prof. Giulio Maier

lunedì 19 novembre 2012 ore 17.00
Aula A02, P.zza d'Arco 3, Mantova



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Prof. Giulio Maier

Professor Emeritus of Structural Engineering at the Politecnic of Milan, Italy

BIOGRAPHICAL RÉSUMÉ

Education: master in mechanical engineering, University of Trieste; "specialization" (Ph.D.) in aerospace engineering, University of Rome, both "cum laude".
Research contributions to: mechanics of elastoplastic structures: shakedown theory, computational methods and extremum properties of solutions; structural design optimization by mathematical programming; constitutive parameter identification by inverse analyses, in particular by Kalman filters; boundary element methods, in particular based on Galerkin symmetric formulations; quasi-brittle fracture mechanics; diagnostic analysis of structures based on non-destructive testing and simulation; mechanics of composites; structural engineering problems, in particular concerning tension structures, offshore pipelines and concrete dams.
Publications: author or co-author of about 270 papers; co-author or co-editor of 9 monographs and books.
Editorial board member of 16 international scientific journals. Former Editor of "Meccanica" and Associate Editor of "European Journal of Mechanics A/Solids".
Honors: Member of: National (Italian) Academy ("Lincei"), Rome; National (Italian) Academy of Sciences ("dei XL"), Rome; "Istituto Lombardo Accademia di Scienze e Lettere", Milan; "Istituto Veneto di Scienze, Lettere ed Arti", Venice; "Accademia Udinese di Scienze, Lettere e Arti", Udine; "Accademia delle Scienze", Torino.
Foreign Member of: Polish Academy of Sciences, Warsaw; Hungarian Academy of Sciences, Budapest; Russian Academy of Engineering, Moscow; National Academy of Engineering of the United States, Washington DC; Polish Academy of Sciences and Arts, Krakow; Portuguese Academy of Sciences, Lisbon; Royal Society of South Africa; Honorary Visiting Professor, Tsinghua University, Beijing.
Fellow of: American Society of Civil Engineers (ASCE); American Society of Mechanical Engineers (ASME); International Association of Computational Mechanics (IACM); American Academy of Mechanics (AAM); Polish Association of Theoretical and Applied Mechanics. "Member At-Large" of the General Assembly of International Union of Theoretical and Applied Mechanics (IUTAM).
Awards:Honorary doctoral degrees from: University of Thessaloniki, Greece; Faculté Polytechnique de Mons, Belgium; State University of Saint Petersburg, Russia; University of Ho Chi Minh City (Saigon), Vietnam; University Medal from University of Colorado, Boulder, USA.
Copernicus Medal from Polish Academy of Sciences.
Feltrinelli Prize from Italian National Academy "Lincei". Warner Koiter Medal 2000, from American Society of Mechanical Engineers (ASME). O. C.
Zienkiewicz Medal from Polish Association for Computational Mechanics. Ritz-Galerkin Medal from the European Community of Computational Methods in Applied Sciences (ECCOMAS). Life-Time Achievements Medal at the International Conference on Computational & Experimental Engineering and Sciences (ICCES'11), Nanjing, China; Blaise Pascal Medal in Engineering 2011 from European Academy of Sciences (EAS), Liege, Belgium.

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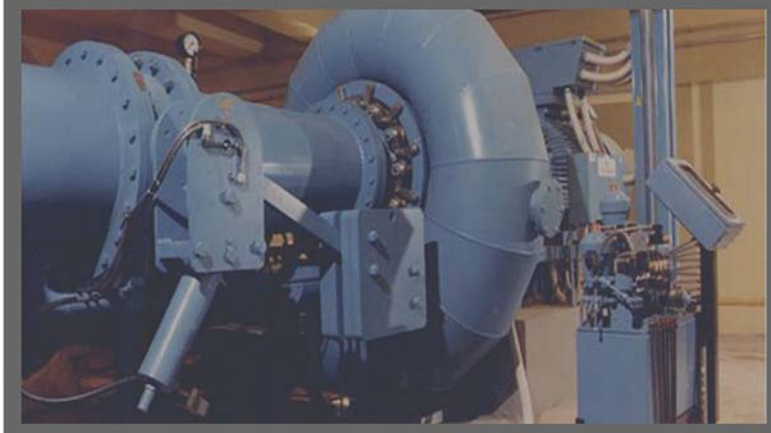
seminario a cura del prof. Luigi Biolzi, Politecnico di Milano



Tra gli argomenti di ricerca orientati ad innovazioni di interesse pratico ed economico nell'ingegneria, particolare interesse presenta attualmente "l'analisi inversa".
Tale metodologia concerne procedimenti atti a fornire informazioni quantitative (per esempio su proprietà dei materiali) in base a misure sulla risposta di sistemi ad azioni esterne. Si tratta di sinergistiche combinazioni di esperimenti (in particolare "prove non distruttive") e di loro simulazioni matematico-computazionali.
Questa conversazione è intesa ad illustrare brevemente alcuni metodi di analisi inversa, per diagnosi di possibili deterioramenti in componenti di impianti dell'industria petrolifera e idroelettrica (dighe in particolare) e per caratterizzazioni meccaniche di materiali dell'edilizia e di fogli sottili per vari impieghi industriali.