

# GAIO PARADOSSI

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h-index: 21 from ([www.scopus.com](http://www.scopus.com))  
24 from Google Scholar

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## EDUCATION

Maturità classica (Liceo Ginnasio Statale Augusto, Roma) Highschool Diploma, July 1974  
Dottore (laurea) in Chimica with honors, Doctor in Chemistry (110/110 e lode), December 1979

## PROFESSIONAL EXPERIENCE

**Weizmann Institute, Polymer Research Department, Rehovot, Israel. Dr. Alex Silberberg, mentor.**

Visiting Scientist, January 1980 - May 1980

**University of California, Department of Chemistry, Irvine, USA. Dr. David A. Brant, mentor.**  
Postdoctoral fellow, June 1980 - December 1982

**Centre de Recherches sur les Macromolécules Vegetales (C.E.R.M.A.V.) - CNRS, Grenoble, France. Dr. Henry Chanzy's group.** Research Associate, May 1982 - December 1982 and June - September 1984 (army service in Italy between the two periods).

**Università di Naples, Dipartimento di Chimica, Napoli, Italy.** Assistant Professor of Physical ,  
**Università di Roma Tor Vergata, Dipartimento di Scienze e Tecnologie Chimiche. Roma, Italy.** Assistant Professor of Physical Chemistry from November 1990 to 1999.

**Kyoto Institute of Technology.** Visiting Professor from January 1999 to April 1999.

**Università di Roma Tor Vergata, Dipartimento di Scienze e Tecnologie Chimiche. Roma, Italy.** Associate Professor of Physical Chemistry from November 1999 to now.

## PARTICIPATION TO EUROPEAN AND NATIONAL PANELS

National representative to COST action P1: Physics of Soft Condensed Matter (1999 – 2002)

Ministero delle Attività Produttive, evaluator industrial projects PIA 2003-2010

Member of the European Technology Platform (ETP): NANOMEDICINE (from 2008)

EPA Ireland (2005-2009): Reviewer of projects in the area of chemistry, biophysics

FIRB 2011: "Futuro in Ricerca" project reviewer for the Ministry of Education and Research

ERA-NET external expert (2012)

Member of the panel QNano European infrastructure

Referee VQR for scientific products 2004 - 2010

## HONORS AND AWARDS

**2005:** The GEMI Fund research award grant. Stockholm, Sweden.

## Author or Coauthor of 120 papers

## **PATENTS**

- 1) International Patent Application : Microbubbles as drug delivery device PCT/EP2007/006886 (2007)
- 2) National Patent “Microbolle di alcol polivinilico atte al rilascio di NO” nr BO2008A 000224 (2008)
- 3) National patent “Metodo per la preparazione di Microbolle comprendenti un agente di contrasto” nr RM (2011)
- 4) National Patent “Microbolle Biodegradabili ad elevata Stabilità” 2013.

## **INVITED LECTURES**

Università di Padova, Dipartimento di Fisica, July 2010.

Università di Parma, Dipartimento di Fisica, March 2001

National Chemical Laboratory, Pune, India, March 2009

Macro 2010, New Delhi, India, December 15 -17, 2010

Università di Torino, Dipartimento di Tecnologie Farmaceutiche, June 5, 2012

## **ORAL COMMUNICATION AT NATIONAL AND INTERNATIONAL MEETINGS**

### **Euresco Conferences “Interfaces and Colloidal Systems”, Maratea 2001:**

*Recent results on the Incoherent Quasi-elastic Neutron Scattering Study of chemical hydrogels based on Poly (vinyl alcohol)*

### **International Conference on “Advances of Biomaterials for Reconstructive Medicine”,**

Capri, Italy, 2002:

*Poly (vinyl alcohol) as versatile biomaterial for “soft matter” applications*

### **XXXIII National Congress of the Italian Chemical Society, Naples, Italy, 2004:**

*Multifunctional Polymer devices for biomedical applications: micro bubbles and microspheres in microfluidics*

### **European Colloid and Interface Society, XX conference, Budapest, Hungary, 2006**

*Polymeric micro bubbles as multifunctional Ultrasound Contrast Agents: Design, Properties, and Ultrasound Behaviour.*

**6<sup>th</sup> International Workshop on Drug Delivery Systems for Nanomedicine. Nanostructures and their biomedical applications.** Czech Republic, October 3-6, 2009.

*Drug delivery by microbubbles. Potentialities and drawbacks.*

**XXIII National Congress of the Italian Chemical Society, Sorrento, Italy, 2009**

*Novel Polymer shelled microballoons fro diagnostic and therapeutic purposes*

**7<sup>th</sup> EBSA, European Biophysical Congress, Genova, Italy, 2009:**

*Soft Matter for biomedicine: Two case studies.*

**MACRO 2009, Chennai, India, 2009**

*A Novel Temperature Sensitive Hydrogel Microdevice based on Poly(vinyl alcohol)/Poly(methacrylate-co-Nisopropyl acrylamide)*

**First World on Nanomedicine and Drug Delivery, WCN 2010, India 2010:**

*Novel Polymer shelled microballoons fro diagnostic and therapeutic purposes: new outcomes from the European project SIGHT*

**MACRO 2010, New Delhi, 2010**

*“Smart thermoresponsive Micro/nanogels based on Dextran/poly (MAMNiPAAm)”*

**Workshop 2010: Polysaccharides for Pharmaceutical and Biomedical Applications.**

Controlled Release Society, Rome 2010.

*“Polysaccharides as main tool for designing drug vectors”*

National PhD School for Pharmaceutical Science, Arcavacata di Rende, Università della Calabria. September 2013.

*“Bolle per vederci chiaro”*

**European Polymer Federation Congress 2011, June 2011, Granada (Spain).**

*“Dextran based Micro-/Nano-gels as Injectable Device for Controlled Release System”*

**Radio3Scienza del 22 Febbraio 2012**

Intervista su: Nuovi farmaci e pillole - kamikaze

[www.radio3.rai.it/dl/radio3/programmi/puntata/ContentItem-e3add8ba-c700-4b26-9959-03b328ff362b.html](http://www.radio3.rai.it/dl/radio3/programmi/puntata/ContentItem-e3add8ba-c700-4b26-9959-03b328ff362b.html)

## **GRANTS RECEIVED**

European Commission, 7<sup>th</sup> Framework Programme (2013 – 2018) “**Microbubbles driven multimodal imaging and theranostics for gliomas**” – TheraGlio.

European Commission, 7<sup>th</sup> Framework Programme (2010 - 2012) “**Three modality contrast imaging using multi-functionalised microballoons**” - 3MICRON

European Commission, 6<sup>th</sup> Framework Programme (2006 - 2009) “**Systems for in situ theranostics using microparticles triggered by ultrasound**” - SIGHT. Scientific coordination

FIDIA Farmaceutici, Italy 2006 - 2011 “**Physical and chemical characterization of viscosupplements based on hyaluronic acid**”

Collaborative national project PRIN 2007 “**Polymeric biomatrixes: Physico chemical characterization**”

LINDE GAS, Sweden 2004 - 2006, “**Gas carrier microballoons with diagnostic and therapeutic features**”

National project PRIN 2004 “**Dynamics and structural features in poly- and oligosaccharide matrixes**”

Collaborative national project FIRB 2001 “**Study, realization and experiment on microsystems for controlled drug delivery in situ.**”

Collaborative national project PRIN 1999 “**From Biodiversity to Industry**”

## **PROFESSIONAL SOCIETIES**

American Chemical Society (ACS)

Società Chimica Italia (SCI)

Associazione Italiana delle Macromolecole (AIM)

Control Release Society (Italian Chapter)

## **REVIEWER OF JOURNALS**

*Nature*

*Biomacromolecules*

*Biomaterials*

*Journal of the American Chemical Society*

*Journal of Applied Polymer Science*

*Journal of Biomedical Materials Research*

*Journal of Controlled Release*

*Journal of Pharmaceutical Sciences*

*Journal of Polymer Science-Polymer Chemistry*

*Journal of Polymer Science-Polymer Physics*

*Langmuir*  
*Macromolecules*  
*Macromolecular Bioscience*  
*ACS Nano*  
*Chemical Communications*  
*Journal of Materials Chemistry B*  
*Journal of Materials Chemistry C*  
*RSC Advances*  
*Chemistry of Materials*

### **COURSES TAUGHT**

From 1999: Physical Chemistry 1: Thermodynamics and kinetics for Chemistry and Material Science (Instructor rating available since 2005: 4/5)

From 2000: Polymer Chemistry for Chemistry and Material Science

1984-1999: Laboratory of Physical Chemistry 1 for Chemistry.

From 2005: Biomaterials for Material Science.

### **PARTICIPATION TO EXAMINATION COMMITTEES FOR PhD**

2004 University College of Dublin. Chemistry

2008 University of Manchester. Faculty of Medical and Human sciences

2010 University di Trieste. School of Molecular Biomedicine

2009, 2014 University di Roma Sapienza. Chemistry

2010 University of Naples, Chemistry

### **POSTDOCTORAL FELLOWS**

Dr. Shivkumar V. Ghugare(2010 – 2012)

Dr. Alice Lonardi (2011)

Dr. Anca Mateescu (2013 – 2014)

### **PAST AND PRESENT TUTORSHIPS (Master and PhD thesis)**

1993/94 Francesca Cavalieri

Polysaccharide based chimica hydorgels: cross-linking methos and physico-chemical characterization

1995/96 Deborah Pinoci

Novel chemical hydrogels based on poly (vinyl alcohol) for biomedical applications

1996/97 Antonella Miano

Study of the interactions between D- and L- enantiomers of poly(lysine) and pectate in aqueous solution

1997/1998 Chiara Spagnoli

Synthesis and characterization of beads based on polyelectrolyte complexes

1998/1999 Nicoletta Scione

Study of the interactions between polyelectrolyte in aqueous solution: conformational state of the polysaccharide pectate with poly(lysine)

1998/1999 Paolo Barretta

Dynamic and structural characterization of poly (vinyl alcohol) based hydrogels

1999/2000 Marzia Grassi

Study of the structure and of the interactions of the algal polysaccharide “ulvan” with ions in aqueous solution

1999/2000 Alessandro Turtù

Chemical and physical hydrogels: Study of the dynamics of water in PVA based matrixes and characterization of synergic gels

2000/2001 Valeria Ponassi

Formulation and characterization of micro/nano particles based on new polymer biocompatible matrixes.

2004/2006 Ali M.M. Elhamassi

Polymeric Soft matter: formulation and characterization of case systems for biomedical applications

2005/2006 Donatella Carroccio

Synthesis and characterization of polymeric hydrogels exploitable for cell adhesion and proliferation

2005/2006 Andrea Ciccacci

Study of the behaviour in aqueous solution of amphiphilic macromolecules

2005/2006 Gilda Sabetta

Study on the aggregation of partially hydrophobized PVA in water

2007/2009 Ivana Finelli

Study on the structure and on the dynamic behaviour of polysaccharidic hydrogels for the formulation of new biomedical devices.

2009/2010 John N. House

Study on diffusive processes in polymeric matrixes for biomedical applications

2008/2010 Shivkumar Ghugare

Thermoresponsive microgels for drug delivery in cancer therapy: structure, dynamics and release process around the volume phase transition (to be discussed in November 2010)

2010/2013 Letizia Oddo

Multimodality imaging polymeric devices

2010/2013 Silvia Margheritelli

New methods for the synthesis of polymeric microbubbles

2010/2013 Barbara Cerroni

Biointerface characterization of synthetic biocompatible devices.

20110/2013 Sharad Pasale

New hydrogels based on controlled radical polymerization methods and click chemistry

Letizia Oddo

Silvia Margheritelli

Sidhendra Kupal



Shikumar Ghugare

Barbara Cerroni

Alice Lonardi

Ester Chiessi

Ivana Finelli

Gaio Paradossi