

## Personal information form for Fellow members of EAMBES

### Personal Info



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**Name:** Claudio Cobelli

**Year and place of birth:** 1946; Bressanone (BZ), Italy

**Present affiliations and functions:** Professor of Biomedical Engineering, University of Padova, Padova, Italy

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**Webpage address:** <http://www.dei.unipd.it/~cobelli/>

### Short CV

#### 1. Education/training:

- 1970 Laurea Degree in Electronic Engineering, University of ## up to last education
- 1976-1977 NATO Fellow, Laboratory of Theoretical Biology, NCI, NIH, Bethesda, MD

#### 2. Professional affiliations

- 1970-1973 Research Scientist, Institute of System Science and Bioengineering, CNR, Padova, Italy
- 1973-1975 Associate Professor of Biological Systems, University of Firenze, Firenze, Italy
- 1975-1981 Associate Professor of Biomedical Engineering, University of Padova, Padova, Italy
- 1978 Visiting Professor, Northwestern University, Evanston, IL
- 1980 Visiting Professor, The City University, London, UK.
- 1981-present Full Professor of Biomedical Engineering, University of Padova, Padova, Italy
- 2000-2010 Affiliate Professor with Bioengineering, University of Washington, Seattle, WA, USA

#### 3. Other experience and major activities

- 1982-1999 Member, Ph.D. Program on Bioengineering, Polytechnic of Milano, Milano, Italy
- 1983-2008 Mathematical Biosciences (Ass Editor)
- 1984-1997 American Journal of Physiology, Modeling in Physiology (Ed. Board)
- 1985-present Member, American Diabetes Association (ADA)
- 1985-present Member, European Association for the Study of Diabetes (EASD)
- 1985-present Member, Institute of Electrical and Electronics Engineering (IEEE)

- 1986-1994 Member, IMEKO Technical Committee on Measurement in Biology and Medicine
- 1988-1995 Diabetes, Nutrition and Metabolism (Ed. Board)
- 1990-1996 Control Engineering Practice (Ed. Board)
- 1990-1996 Chairman, IFAC Technical Committee on Modeling and Control Biomedical Systems
- 1990-2005 Senior Member, Biomedical Engineering Society (BMES)
- 1991-2009 American Journal of Physiology, Endocrinology and Metabolism (Ed. Board)
- 1993-1996 Diabetologia (Ass Editor);
- 1993-1999 Advisory Board Children Nutrition Research Center, Baylor College of Medicine, Houston, TX
- 1997-2002 Senior Member IEEE
- 1997-2003 Chairman, Italian Biomedical Engineering Group (GNB)
- 2000-2009 Chairman, Graduate Programs on Biomedical Engineering, University of Padova, Padova, Italy
- 2000-2011 Chairman, Ph.D. Program on Bioengineering, University of Padova, Padova, Italy
- 2003-present Steering Committee Member of GNB
- 2003-2011 IEEE Transactions on Biomedical Engineering (Ass Editor)
- 2003-2008 Member of IEEE Award Committee
- 2005-2011 Reviewer Strategic Program Nuovi Sviluppi dell' Industria Biomedicale, PNR,MIUR
- 2006-2013 J. Diabetes Science & Technology (Ed. Board)
- 2007-2008 IEEE EMBS AdCom Member
- 2007-2010 Member Steering Committee Scuola Galileiana di Studi Superiori
- 2007-present Member Steering Committee of IEEE Trans on NanoBiosciences
- 2008-present Representative of IEEE EMBS to IEEE Trans on Comp Biol & Bioinf
- 2009-present Member Scientific Committee Tecnomed, University of Milan Bicocca
- 2009-present Member Scientific Committee Consorzio Veneto di Ricerca
- 2011-present Chairman of the Steering Committee of the Trieste University Hospital, Trieste, Italy
- 2011-present J. Healthcare Engineering (Ass Editor)
- 2012-present Member of the Evaluation Group GEV 09 for assesment of MIUR Research 2004-10
- 2013-present Medical & Biological Engineering and Computing (Ed. Board)
- 2014-present J. Diabetes Science & Technology (Ass. Editor)
- 2014-present Diabetes Technology & Therapeutics (Ed.Board)
- 2015-present IEEE Transactions on Biomedical Engineering (Ass Editor)

#### **4. Major scientific interest**

Mathematical modeling of physiological systems, in particular the glucose-insulin system; identification of physiological systems; control of physiological systems; diabetes; artificial pancreas; glucose sensors.

## 5. Bibliographical Data

Scopus reports 591 publications in the period 1972-2015 quoted 15960 times with an Hirsch (h-index) of 67.

Complete list of journal papers: <http://www.ncbi.nlm.nih.gov/pubmed/?term=cobelli%20c>

Books:

1. Albergoni V., Cobelli C., Francini G.: Biological Systems. An Engineering Approach to Physiology. Pitagora Editrice, Bologna, 1974, pgg. 118.
2. Cobelli C., Bergman R.N., eds.: Carbohydrate Metabolism. Quantitative Physiology and Mathematical Modelling. Wiley, Chichester, 1981, pgg. 440.
3. Carson E.R., Cobelli C., Finkelstein L.: The Mathematical Modeling of Endocrine-Metabolic Systems. Model Formulation, Identification and Validation. Wiley, New York, 1983, pgg. 394.
4. Cobelli C., Mariani L., eds.: Modeling and Control in Biomedical Systems. Pergamon Press, Oxford, 1990, pgg. 665.
5. Cobelli C., Bonadonna R., eds.: Bioingegneria dei Sistemi Metabolici. Patron, Bologna, 1998, pgg. 445.
6. Cobelli C., Foster D., Toffolo G.: Tracer Kinetics in Biomedical Research: From Data to Model. Kluwer Academic/Plenum, London, 2001.
7. Carson E., Cobelli C.: Modelling Methodology for Physiology and Medicine, 2<sup>nd</sup> Ed, Elsevier, Oxford, 2014, pgg.564
8. Cobelli C., Carson E.: Introduction to Modelling in Physiology and Medicine. Academic Press, San Diego, 2008, pgg 324.
9. Cobelli C, Carson, E: Introduzione alla Modellistica in Fisiologia e Medicina. Patron Editore, Bologna, 2013.

Patents:

1. Sparacino G., Facchinetti A., Cobelli C.: Method and device for processing glycemia level data by means of self-adaptive filtering, predicting the future glycemia level and generating alerts, 2009.
2. Kovatchev B.P, Breton M.D, Cobelli C., Dalla Man C.: Method, system and computer simulation environment for testing of monitoring and control strategies in diabetes, 2009.
3. Cobelli C., De Nicolao G., Facchinetti A., Guerra S., Sparacino G.: Method to recalibrate continuous glucose monitoring data in real time, 2010.
4. Magni L., De Nicolao G., D.M.Raimondo D.M., Cobelli C., Dalla Man C.: Predictive control based system and method for control of insulin delivery in diabetes using glucose sensing, 2010.

5. Guerra S., Facchinetti A., Sparacino G., Schiavon M., Cobelli C.: Alert system for hypo and hyperglycemia prevention based on clinical risk, 2011.
6. Kovatchev B.P., Cobelli C., Dalla Man C.: system, method and computer simulation environment for in silico trials in pre-Diabetes and type 2 diabetes, 2012.
7. Facchinetti A., Del Favero S., Sparacino G., Cobelli C.: Alert System fro hypo and hyperglycemia prevention based on clinical risk, 2012.
8. Dalla Man C., Schiavon M., Basu A., Kudva Y., Cobelli C.: Estimation of insulin sensitivity from CGM and subcutaneous insulin delivery in type 1 diabetes, 2012.
9. Facchinetti A., Del Favero S., Sparacino G., Cobelli C.: Method to Improve safety monitoring in type-1 diabetic patients by detecting in real-time failures of the glucose sensor-insulin pump system. US provisional patent application, 2012.
10. Cobelli C., Facchinetti A., Sparacino G., Zecchin C., Bhavaraju N.C., Hampapuram, Kamath A.U., Leigh Rack-Gomer A. Systems and methods for providing sensitive and specific alerts, 2012.
11. Del Favero S., Facchinetti A., Sparacino G., Cobelli C.: Retrospective retrofitting method to generate a continuous glucose concentration profile by exploiting continuous glucose monitoring sensor data and blood glucose, 2013.

## 6. Four references to papers you find most important and relevant

1. Bergman R.N., Ider Y.Z., Bowden C.R., Cobelli C.: Quantitative estimation of insulin sensitivity. Am. J. Physiol. 236: E667 -677, 1979.
2. Cobelli C., Dalla Man C., Sparacino G., Magni L., De Nicolao G., Kovatchev B.P.: Diabetes: models, signals, and control. IEEE Rev. Biomed. Eng. 2:54-96, 2009.
3. Cobelli C., Renard E., Kovatchev B. P., Keith-Hynes P., Ben Brahim N., Place J., Del Favero S., Breton M., Farret A., Bruttomesso D., Dassau E., Zisser H., Doyle F. J., Patek S. D., Avogaro A.: Pilot studies of wearable outpatient artificial pancreas in type 1 diabetes. Diabetes Care 35: e65-e67, 2012.
4. Cobelli C., Dalla Man C., Toffolo G., Basu R., Vella A., Rizza R.: The oral minimal model method. Diabetes 63:1203-13, 2014.

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### Recognitions:

#### *Honors and awards*

- 2003 Fellow Institute of Electrical and Electronic Engineers (IEEE)
- 2003 Correspondent Member Accademia Galileiana di Scienze, Lettere e Arti
- 2005 Fellow Biomedical Engineering Society (BMES)
- 2010 Fellow American Institute for Medical and Biological Engineering (AIMBE)
- 2010 Artificial Pancreas Award, Diabetes Technology Society
- 2014 Fellow EAMBES



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