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Curriculum vitae

Roberto Visentin

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Personal Information

Surname,name	Visentin, Roberto
Date of birth	March, 3rd, 1984
Nationality	Italian
Home address	Via Marconi 51, 33070, Caneva, Pordenone, Italy

Summary

Currently employed as postdoctoral research fellow, Ph.D. in Information Engineering, with relevant experience in mathematical modeling and simulation of physiological systems, and closed-loop control algorithms for Artificial Pancreas prototypes.

Professional & Research Experience

Aug. 2016– Feb. 2018	**Postdoctoral Fellow**, *University of Padova, Italy*. Topic: "Identifying the Optimal Pharmacokinetic Profile for a Prandial Insulin - Application of Type 1 & Type 2 Diabetes Simulators", supervisor Prof. Claudio Cobelli
Aug. 2014– Jul. 2016	**Junior Research Fellow**, *University of Padova, Italy*. Topic: "Use of CGM sensor time-series for making inferences on future diabetic risk through the assessment of glucose variability", supervisor Prof. Giovanni Sparacino
Aug. 2011– Dec. 2012	**Research Fellow**, *University of Padova, Italy*. Topic: "Development and validation of a type 1 diabetes simulation software", supervisor Prof. Claudio Cobelli
Jun. 2010– Jul. 2011	**Research Scholarship**, *University of Padova, Italy*. Topic: "Modeling glucose regulation in type 1 diabetes", supervisor Prof. Claudio Cobelli

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Education

Mar. 2016	**Ph.D. Degree in Information Engineering, curriculum Bioengineering**, *University of Padova, Italy*, supervisor Prof. Chiara Dalla Man.
Jan. 2011	**Licensed Professional Engineer**, *University of Padova, Italy*.
Apr. 2010	**Master of Science in Bioengineering**, *University of Padova, Italy*, supervisor Prof. Chiara Dalla Man.
Sep. 2007	**Bachelor of Science in Biomedical Engineering**, *University of Padova, Italy*, supervisor Prof. Giovanni Sparacino.

Summary of the Scientific Production

Author of more than 40 publications (listed in ANNEX_01):

- 19 international journal papers
- 1 short-paper on international peer-reviewed conference
- 25 international and national conference abstracts

Research metrics (**ORCID**: 0000-0002-5848-5990):

- citations: 336 (Scopus), 231 (WoS)
- H-index: 10 (Scopus), 9 (WoS)

Attendance at Scientific Conferences

Since 2011, attendance at 11 international and 3 national conferences.

International Conferences

15–18 Feb, 2017   10th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD2017), Paris (FR), Poster Presentation & E-poster Oral Discussion

3–6 Feb, 2016   9th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD2016), Milano (Italy), Poster & E-poster Presentation

22–24 Oct, 2015   15th Diabetes Technology Meeting (DTM2015), Bethesda (MD, USA), Poster Presentation

25–29 Aug, 2015   37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2015), Milano (Italy), Oral & Poster Presentation

18–21 Feb, 2015   8th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD2015), Paris (FR), E-poster Presentation

13–17 Jun, 2014   74th American Diabetes Association Scientific Session (ADA2014), San Francisco, (CA, USA), Poster Presentation

5–8 Feb, 2014   7th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD2014), Wien (AU), Poster Presentation

31 Oct – 2 Nov, 2013   13th Diabetes Technology Meeting (DTM2013), Burlingame (CA, USA), Poster Presentation

27 Feb – 2 Mar, 2013   6th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD2013), Paris (FR), Poster Presentation & E-poster Oral Discussion

8–10 Nov, 2012   12th Diabetes Technology Meeting (DTM2012), Bethesda (MD, USA), Poster Presentation

27–29 Oct, 2011   11th Diabetes Technology Meeting (DTM2011), Burlingame (CA, USA), Poster Presentation

National Conferences

20–22 Jun, 2016   5th Bioengineering National Group Meeting (GNB2016), Napoli (Italy), Poster Presentation

25–27 Jun, 2014   4th Bioengineering National Group Meeting (GNB2014), Pavia (Italy), Poster Presentation

26–29 Jun, 2012   3rd Bioengineering National Group Meeting (GNB2012), Rome (Italy), Poster Presentation

Research Projects and Collaborations

US funded projects

2012–2016   **Artificial Pancreas Project**
Funded by National Institutes of Health National Institute of Diabetes and Digestive and Kidney Diseases (NIH/NIDDK) grants DK085623, DK085516, DK094331, DK29953, DK108483, and Juvenile Diabetes Research Foundation (JDRF).
Role: working on the development of models capturing diurnal variability of insulin action in type 1 diabetes; involved in artificial pancreas prototypes testing (ClinicalTrials.gov numbers NCT01447979, NCT01447992, NCT01578980, NCT01271023, NCT02008188).

EU funded projects

2011–2015   **Bringing the Artificial Pancreas Home (AP@home)**
Co-funded by the European Committee under the 7th Framework Programme, Collaborative Project (CP); Call identifier: FP7-ICT-2009.5, grant 247138.
Role: working on the development and validation of a type 1 diabetes simulator; involved in artificial pancreas prototypes testing (ClinicalTrials.gov numbers NCT02153190, NCT02153190, NCT01447979, NCT01470807, NCT1447992).

Italian funded projects

2011–2015 FIRB 2008
Title: "Artificial Pancreas: in silico development and in vivo validation of algorithms for blood glucose control" (RBFR08CHY6_002), responsible of the project Prof. Lalo Magni (University of Pavia), responsible of Padova unit Prof. Chiara Dalla Man.
Role: working on the development and validation of a type 1 diabetes simulator describing glucose metabolism.

2014–2016 Progetto di Ateneo 2014
Title: "Improving the artificial pancreas simulator for long term outpatient studies and glucose sensor testing" (CPDA145405), responsible of the project Prof. Chiara Dalla Man.
Role: working on the development and validation of a type 1 diabetes simulator describing glucose metabolism in the long period.

Collaborations with Companies

2014–2018 Sanofi-Aventis Deutschland GmbH (Frankfurt am Main, DE).
Topics: 1) Evaluation of pharmacological effects of "human-like" virtual prandial insulins and novel long-acting glargine insulin; 2) Development of modeling approaches to translate and in silico study pharmacological effects of GPR40 agonist (*TAK-875*), GLP1R agonists (*Liraglutide* and *Lixisenatide*), dual GLP1-Glucagon receptor agonist (*SAR425899*).
Role: 1) in charge of developing type 1 diabetes simulator incorporating pharmacokinetics of virtual prandial insulins and insulin glargine to in silico evaluate different dosing regimens and titration rules in different clinical settings; 2) in charge of modeling the effect of drugs for type 2 diabetes treatment, and developing pharmacokinetic-pharmacodynamic models for in silico pre-clinical trials.

2014–2016 Sanofi-Aventis Deutschland GmbH (Frankfurt am Main, DE) and MannKind Corporation, Danbury, CT, US).
Topic: In silico pre-clinical testing of a novel Technosphere Insulin inhaler (Afrezza).
Role: in charge of modeling and translating Afrezza pharmacokinetics-pharmacodynamics into the Type 1 & Type 2 Diabetes Simulators, and in silico evaluating alternative dosing regimens and new titration rules.

2013–2014 The Epsilon Group (Charlottesville, VA).
Topic: Development of a Type 2 Diabetes Simulator, composed by a glucose-insulin model core and a software interface, to test new drug effects on type 2 diabetic subjects.
Role: research unit component working on the development of the core software.

Academic Collaborations

Collaborations concerning development of type 1 diabetes simulator and artificial pancreas:
- **Mayo Clinic and Foundation (Rochester, MN)**, Dr. A. Basu, Dr. R. Basu;
- **University of Virginia (Charlottesville, VA)**, Prof. B. Kovatchev, Dr. E. Campos-Nanez;
- **University of Pavia (Pavia, IT)**, Prof. L. Magni.

Collaborations concerning artificial pancreas development:
- **University of Virginia (Charlottesville, VA)**, Prof. B. Kovatchev;
- **University of California Santa Barbara (Santa Barbara, CA)**, Prof. F. Doyle III, Prof. E. Dassau;
- **University of Montpellier (MTP, FR)**, Prof. E. Renard;
- **Amsterdam Medical Center (AMS, NL)**, Prof. H. De Vries;
- **University of Pavia (Pavia, IT)**, Prof. L. Magni;
- **University of Padova, Department of Medicine, Unit of Metabolic Diseases**, Prof. A. Avogaro, Dr. D. Bruttomesso;
- **The Pediatric Artificial Pancreas Study Group (PedArPan)**, pediatric units of Hospital "San Raffaele", Milan (Dr. R. Bonfanti), Children's Hospital "Bambino Gesù", Second University of Naples (Dr. Iafusco), Rome (Dr. R. Schiaffini), University of Torino (Dr. I. Rabbone), and University Hospital of Verona (Dr. A. Sabbion).

Awards

2016   **Award for Italian Ph.D. thesis in Bioengineering**, funded by the Bioengineering National Group (premio GNB 2016 "Marco Ramoni").

2013   **Ph.D Scholarship** (Borsa a tema vincolato), funded by University of Padova.

Teaching Activity

a.y. 2016–17   **Bioengineering Movement Laboratory** (*Prof. C. Dalla Man, Master degree course in Bioengineering*)
Teaching assistant, co-responsible for the laboratory part.

a.y. 2016–17
a.y. 2015–16   **Modeling and Control of Biological Systems** (*Prof. C. Cobelli, Master degree course in Bioengineering, held in English*)
Lecturer on: "The Use of the Type 1 Diabetes Simulator: Insulin Molecules".
Teaching assistant, co-responsible for the related laboratory part.

a.y. 2014–15
a.y. 2013–14   **Elaboration of Biological Signals** (*Prof. G.M. Toffolo, Master degree course in Bioengineering*)
Teaching assistant, co-responsible for the laboratory part.

a.y. 2013–14   **Medical Informatics** (*Prof. G. Sparacino, Master degree course in Bioengineering*)
Teaching assistant, co-responsible for the laboratory part.

Supervision Activity

Post-Master Fellow

Dec 2014–
Mar 2016   **Roberta Calore**, junior engineer co-supervised during her post-Master research fellowship on outpatient artificial pancreas prototypes evaluation.

Review Activity

Journal Reviewer

2014–
Present day   Computer Methods and Programs in Biomedicine, Diabetes Technology and Therapeutics, IEEE Journal of Biomedical and Health Informatics, IEEE Transaction on Biomedical Engineering, Journal of Diabetes Science and Technology, PLOS ONE.

Research Activity

Diabetes Simulators

Clinical assessment of the type 1 diabetes simulator
The type 1 diabetes simulator developed by Universities of Padova&Virginia is a very useful software accepted by the U.S. Food and Drug Administration as a substitute for pre-clinical trials for insulin treatments. Following an important update concerning the incorporation of a model of counterregulation and a new description of glucose dynamics in hypoglycemia, a clinical validation of the simulator has been conducted, in order to assess its domain of validity, limited to a single-meal scenario, against clinical data. To do this, a matching technique was developed: among the in silico subjects undergoing the same experimental scenario of the data, the ones best mimicking the measured plasma glucose profiles were selected and compared with the real subjects on the basis of the continuous glucose error grid analysis (CG-EGA) and the most common outcome metrics. The results demonstrated that the in silico subjects of the simulator are representative of a real type 1 diabetic population observed in a clinical trial. Relevant publication: J18.

Mathematical modeling diurnal glucose variability in the type 1 diabetes simulator
The incorporation of a glucose intra-/inter-day variability model into the type 1 diabetes simulator is a required feature in order to extend its domain of validity to more realistic multiple-meal long-term scenarios. To do this, a Bayesian method has been developed to reliably identify the model of the simulator from plasma glucose and insulin 24-h data, avoiding the need of invasive multiple-tracers experiments. This approach underlined the need of using time-varying model parameters to well describe diurnal glucose variability. In this regard, a model of intra-/inter-day variability of insulin sensitivity has been developed and incorporated into the simulator: in particular, applying a classification method on data coming from a study aimed to evaluate diurnal pattern of insulin sensitivity in type 1 diabetes, it was possible to identify seven variability classes, each one characterized by a certain insulin sensitivity pattern; the distribution of these classes were transferred into the simulator, and the respective diurnal patterns were realized by describing insulin sensitivity with time-varying model parameters. The resulting time-varying simulator has been successfully validated against clinical data, and provided a more robust and realistic framework for the in silico testing of new generation artificial pancreas prototypes, which aim to a glucose control in the long-term. Relevant publications: J11, J16.

In silico testing of a novel inhaled insulin analogue
The use of alternative routes of insulin administration to the subcutaneous one could allow a better postprandial glucose control in type 1 diabetic subjects, since it could overcome those delays of absorption and action which characterize the subcutaneous administration. A recently developed inhaled insulin analogue, thanks to its rapid kinetic appears to be very promising, nevertheless a single dose administration does not allow a good postprandial glucose control. Thus, an in silico test of this drug has been performed to evaluate the optimal dosing regimen allowing the best postprandial glucose control. This was done by incorporating a pharmacokinetic model of inhaled insulin in both type 1 diabetes simulators, and subsequently by conducting an intensive in silico trial, testing more than 200 insulin dosing combinations in each virtual population. The obtained results demonstrated that a a great improvement in postprandial glucose control can be achieved using a post-meal dosing regimen, as well as the use of a splitted dosage. This information will be used to support the design of the next clinical trials on inhaled insulin testing, in order to further improve the efficacy of this promising product. Relevant publications: J8, C1.

Artificial Pancreas

In silico testing of adaptive closed-loop control algorithm
Contemporary and future outpatient long-term artificial pancreas (AP) studies need to cope with the well-known large intra- and inter-day glucose variability occurring in type 1 diabetic subjects. In order to account for such variability, an adaptive AP algorithm has been developed and tested in silico. In particular, a Run-to-Run (R2R) approach has been adopted to adapt the subcutaneous basal insulin delivery during the night and the carbohydrate-to-insulin ratio (regulating the insulin bolus administration) during the day. The R2R-AP controller has been tested against the non-adaptive AP using the time-varying type 1 diabetes simulator, and by comparing their control performance achieved during a 2-month in silico scenario. The adaptive R2R-AP shows in silico great potential to capture intra- and inter-day glucose variability by improving both overnight and postprandial glucose control without increasing hypoglycemia. As a natural extension of this work, the R2R-AP algortihm has been tested in vivo during a 1-month outpatient AP clinical trial. Relevant publication: J5, J1.

In vivo testing of artificial pancreas prototypes

In the last years, the so-called artificial pancreas (AP), i.e. an automated insulin infusion system for glucose control, proved to be a valid therapeutic approach to simplify life conditions of type 1 diabetic subjects. Padova research team is one of the leading groups in this field: several clinical trials evaluating feasibility and performance of AP prototypes have been performed, both on adults and, recently, on adolescents and children. The progress achieved in terms of technological advances and the improvements of control performance increased the system stability and portability, allowing the transition from short inpatient experiments to monthly outpatient "home-setting" studies. Relevant publications: J2, J9, J10, J12, J14, J17, J19.

Other Topics

Development and assessment of a single-tracer oral glucose minimal model to estimate hepatic insulin sensitivity

Insulin sensitivity is a key physiological parameter describing the ability of insulin in suppressing subject's hepatic glucose production and promoting glucose utilization by tissues. The estimation of these contributions is usually obtained by using complex invasive experiments with intravenous glucose tracers. A novel oral glucose minimal model has been developed, able to provide a reliable estimation of insulin sensitivity and glucose fluxes from less invasive experiments which require a unique glucose tracer administered orally. The novel method has been successfully employed to evaluate the effects of a particular diet on hepatic fat in prediabetes. Relevant publications: J13, J6.

Authorization

The undersigned Roberto Visentin, born in Sacile (PN) on March 3rd, 1984, resident in Via Marconi 51, 33070, Caneva (PN), Italy, under his own liability, in full understanding of criminal liability for false declaration and statements, in accordance with Art. 76 of Italian Presidential Decree DPR 445 dated 28/12/2000, hereby declares that all information provided in the present curriculum vitae are true.

Padova, June 29, 2017

List of Publications

International Journal Papers

J1 M. Messori, J. Kropff, S. Del Favero, J. Place, **R. Visentin**, R. Calore, C. Toffanin, F. Di Palma, G. Lanzola, A. Farret, F. Boscari, S. Galasso, A. Avogaro, P. Keith-Hynes, B.P. Kovatchev, D. Bruttomesso, L. Magni, J.H. DeVries, E. Renard, C. Cobelli, for the AP@home consortium. *Individually Adaptive Artificial Pancreas Improves Glucose Control in Subjects with Type 1 Diabetes. A One-Month Free-living Conditions Trial.* Diabetes Technol Ther. Accepted

J2 S.A. Brown, M.D. Breton, S.M. Anderson, L. Kollar, C.J. Levy, D.W. Lam, C. Levister, N. Baysal, Y.C. Kudva, A. Basu, V. Dadlani, L. Hingshaw, S. McCrady-Spitzer, D. Bruttomesso, **R. Visentin**, S. Galasso, S. Del Favero, Y. Leal Moncada, F. Boscari, A. Avogaro, C. Cobelli, B.P.. Kovatchev *Overnight Closed Loop Control Improves Overall Glycemic Control in a Multinight Multicenter Outpatient and Home Study of Patients with T1D.* J Clin Endocrinol Metab. In press

J3 S. Faccioli, S. Del Favero, **R. Visentin**, R. Bonfanti, D. Iafusco, I. Rabbone, A. Sabbion, R. Schiaffini, D. Bruttomesso, C. Cobelli, on behalf of the PedArPan Study Group. *Accuracy of a CGM sensor in Pediatric Subjects with Type 1 Diabetes. Comparison of Three Insertion Sites: Arm, Abdomen and Gluteus.* J Diabetes Sci Technol. In press

J4 E. Losiouk, G. Lanzola, S. Del Favero, F. Boscari, M. Messori, I. Rabbone, R. Bonfanti, A. Sabbion, D. Iafusco, R. Schiaffini, **R. Visentin**, R. Calore, Y.L. Moncada, S. Galasso, A. Galderisi, V. Vallone, F. Di Palma, D. Tinti, A. Rigamonti, M. Marigliano, A. Zanfardino, N. Rapini, A. Avogaro, D. Chernavvsky, L. Magni, C. Cobelli, D. Bruttomesso, S. Quaglini. *Parental Evaluation of a Telemonitoring Service for Children with Type 1 Diabetes.* J Telemed Telecare. In press

J5 C. Toffanin*, **R. Visentin***, M. Messori, F. Di Palma, L. Magni, C. Cobelli. *Towards a Run-to-Run Adaptive Artificial Pancreas: In Silico Results.* IEEE Trans Biomed Eng. In press (*: co-first authors)

J6 S. Veettil, I. Errazuriz, S. Dube, **R. Visentin**, S. Nayar, H. O'Connor, C. Cobelli, S. Kumar Das, A. Basu, J. Port, R. Basu. *Effects of a MUFA or fiber rich diet on hepatic fat in pre-diabetes.* J Clin Endocrinol Metab. 2017 May 1;102(5):1765-1774

J7 A. Troncone, R. Bonfanti, D. Iafusco, I. Rabbone, A. Sabbion, R. Schiaffini, A. Galderisi, M. Marigliano, N. Rapini, A. Rigamonti, D. Tinti, V. Vallone, A. Zanfardino, F. Boscari, S. Del Favero, S. Galasso, G. Lanzola M. Messori, F. Di Palma, **R. Visentin**, R. Calore, Y. Leal, L. Magni, E. Losiouk, D. Chernavvsky, S. Quaglini, C. Cobelli, D. Bruttomesso. *Evaluating the experience of children with type 1 diabetes and their parents taking part in an artificial pancreas clinical trial over multiple days in a diabetes camp setting.* Diabetes Care. 2016 Dec;39(12):2158-2164

J8 **R. Visentin**, C. Giegerich, R. Jager, R. Dahmen, A. Boss, M. Grant, C. Dalla Man, C. Cobelli, and T. Klabunde. *Improving Efficacy of Inhaled Technosphere Insulin (Afrezza) by Post-meal Dosing: In Silico Clinical Trial with the UVA/Padova Type 1 Diabetes Simulator.* Diabetes Technol Ther. 2016 Sep;18(9):574-85

J9 S. Del Favero, F. Boscari, M. Messori, I. Rabbone, R. Bonfanti, A. Sabbion, D. Iafusco, R. Schiaffini, **R. Visentin**, R. Calore, Y. Leal Moncada, S. Galasso, A. Galderisi, V. Vallone, F. Di Palma, E. Losiouk, G. Lanzola, D. Tinti, A. Rigamonti, M. Marigliano, A. Zanfardino, N. Rapini, A. Avogaro, D. Chernavvsky, L. Magni, C. Cobelli, D. Bruttomesso. *Randomized summer camp cross-over trial in 5-9 year old children: outpatient wearable artificial pancreas is feasible and safe.* Diabetes Care. 2016 Jul;39(7):1180-5

J10 E. Renard, A. Farret, J. Kropff, D. Bruttomesso, M. Messori, J. Place, **R. Visentin**, R. Calore, C. Toffanin, F. Di Palma, G. Lanzola, P. Magni, F. Boscari, S. Galasso, A. Avogaro, P. Keith-Hynes, B. Kovatchev, S. Del Favero, C. Cobelli, L. Magni, J.H. DeVries, AP@home consortium. *Day-and-Night Closed-Loop Glucose Control in Patients with Type 1 Diabetes under Free-Living Conditions: One-month Experience after Demonstration of Feasibility for Two Months during Evening and Night at Home.* Diabetes Care. 2016 Jul;39(7):1151-60

J11 **R. Visentin**, C. Dalla Man, C. Cobelli. *One-Day Bayesian Cloning of Type 1 Diabetes Subjects: Towards a Single-Day UVA/Padova Type 1 Diabetes Simulator.* IEEE Trans Biomed Eng. 2016 Feb;63(11):2416-24

J12 J. Kropff, S. Del Favero, J. Place, C. Toffanin, **R. Visentin**, M. Monaro, M. Messori, F. Di Palma, G. Lanzola, A. Farret, F. Boscari, S. Galasso, P. Magni, A. Avogaro, P. Keith-Hynes, B.P. Kovatchev, D. Bruttomesso, C. Cobelli, E. Renard, J.H. DeVries, L. Magni, for the AP@home consortium. *2 month evening and night closed-loop glucose control in patients with type 1 diabetes under free-living conditions: a randomised crossover trial.* Lancet Diabetes Endocrinol. 2015 Dec;3(12):939-47

J13 **R. Visentin**, C. Dalla Man, R. Basu, A. Basu, R.A. Rizza, C. Cobelli. *Hepatic Insulin Sensitivity in Healthy and Prediabetes: From a Dual To a Single Tracer Oral Minimal Model.* Am J Physiol Endocrinol Metab. 2015 Jul 15;309(2):E161-7

J14 S. Del Favero, J. Place, J. Kropff, M. Messori, P. Keith-Hynes, **R. Visentin**, M. Monaro, S. Galasso, F. Boscari, C. Toffanin, F. Di Palma, G. Lanzola, S. Scarpellini, A. Farret, B.P. Kovatchev, A. Avogaro, D. Bruttomesso, L. Magni, J.H. DeVries, C. Cobelli, E. Renard. *Multicenter outpatient dinner/overnight reduction of hypoglycemia and increased time of glucose in target with a wearable artificial pancreas using modular model predictive control in adults with type 1 diabetes.* Diabetes Obes Metab. 2015 May;17(5):468-76

J15 S.A. Brown, B.P. Kovatchev, M.D. Breton, S.M. Anderson, P. Keith-Hynes, S.D. Patek, B. Jiang, N. Ben Brahim, P. Vereshchetein, D. Bruttomesso, A. Avogaro, S. Del Favero, F. Boscari, S. Galasso, **R. Visentin**, M. Monaro, C. Cobelli. *Multinight "Bedside" Closed-Loop Control for Patients with Type 1 Diabetes.* Diabetes Technol Ther. 2015 Mar;17(3):203-9

J16 **R. Visentin**, C. Dalla Man, Y.C. Kudva, A. Basu, C. Cobelli. *Circadian Variability of Insulin Sensitivity: Physiological Input for an In Silico Artificial Pancreas.* Diabetes Technol Ther. 2015 Jan;17(1):1-7

J17 S. Del Favero, D. Bruttomesso, F. Di Palma, G. Lanzola, **R. Visentin**, A. Filippi, R. Scotton, C. Toffanin, M. Messori S. Scarpellini, P. Keith-Hynes, B.P. Kovatchev, J.H. DeVries, E. Renard, L. Magni, A. Avogaro, C. Cobelli on behalf of AP@home. *First use of model predictive control in outpatient wearable artificial pancreas.* Diabetes Care. 2014;37(5):1212-5

J18 **R. Visentin**, C. Dalla Man, B.P. Kovatchev, C. Cobelli. *The University of Virginia/Padova Type 1 Diabetes Simulator Matches the Glucose Traces of a Clinical Trial.* Diabetes Technol Ther. 2014 Jul;16(7):428-34

J19 B.P. Kovatchev, E. Renard, C. Cobelli, H.C. Zisser, P. Keith-Hynes, S.M. Anderson, S.A. Brown, D.R. Chernavvsky, M.D. Breton, A. Farret, M.J. Pelletier, J. Place, D. Bruttomesso, S. Del Favero, **R. Visentin**, A. Filippi, R. Scotton, A. Avogaro, F. Doyle III. *Feasibility of outpatient fully integrated closed-loop control: first studies of wearable artificial pancreas.* Diabetes Care. 2013 Jul;36(7):1851-8

Short-Papers on International Peer-Reviewed Conferences

C1 **R. Visentin**, T. Klabunde, M. Grant, C. Dalla Man, and C. Cobelli. *Incorporation of Inhaled Insulin into the FDA accepted University of Virginia/Padova Type 1 Diabetes Simulator.* Conf Proc IEEE Eng Med Biol Soc. 2015; 2015:3250-3

Abstracts

A1 **R. Visentin**, E. Campos Nanez, M. Schiavon, D. Lv, M. Breton, A. Facchinetti, C. Dalla Man, B. Kovatchev, C. Cobelli. *The University of Virginia/Padova Type 1 Diabetes Simulator Goes Single Day.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2017, 15–18 Feb

A2 M. Schiavon, **R. Visentin**, C. Dalla Man, T. Klabunde, C. Cobelli. *Modeling Subcutaneous Absorption of U100 and U300 Insulin Glargine in Type 1 Diabetes.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2017, 15–18 Feb

A3 Y. Leal, S. Del Favero, M. Vettoretti, **R. Visentin**, A. Facchinetti, C. Cobelli. *Incorporation of Models of CGM Sensor Error and Faults Affecting CGM Sensors in the UVA/Padova Type-1 Diabetic Simulator: Assessment on Clinical Data.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2017, 15–18 Feb

A4 S. Oviedo, J. Vehi, I. Contreras, **R. Visentin**, M. Vettoretti. *Mid-Term Blood Glucose Prediction: A Hybrid Approach Using Grammatical Evolution and Physiological Models.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2017, 15–18 Feb

A5 **R. Visentin**, T. Klabunde, M. Grant, C. Dalla Man and C. Cobelli. *Incorporation of Afrezza® into the Type 2 Diabetes Simulator.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A6 **R. Visentin**, C. Dalla Man, R. Bonfanti, D. Iafusco, R. Schiaffini, I. Rabbone, D. Bruttomesso C. Cobelli. *Improvement of the Children Population included into the UVA/Padova Type 1 Diabetes Simulator.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A7 **R. Visentin**, M. Vettoretti, A. Facchinetti, C. Dalla Man, G. Sparacino, C. Cobelli. *Incorporation of the Sensor-Augmented Insulin-Pump Therapy into the UVA/Padova Type 1 Diabetes Simulator.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A8 Y. Leal, L. Gonzalez-Abril, **R. Visentin**, S. Del Favero, M. Vettoretti, A. Facchinetti, G. Sparacino, C. Cobelli. *Support Vector Regression for Mid-Term Nocturnal Glucose Prediction from Continuous Glucose Monitoring and Insulin Delivery Information.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A9 S. Del Favero, F. Boscari, M. Messori, I. Rabbone, R. Bonfanti, A. Sabbion, D. Iafusco, R. Schiaffini, **R. Visentin**, R. Calore, Y. Leal, S. Galasso, A. Galderisi, V. Vallone, F. Di Palma, E. Losiouk, G. Lanzola, D. Tinti, A. Rigamonti, M. Marigliano, A. Zanfardino, N. Rapini, A. Avogaro, D. Chernavvsky, L. Magni, C. Cobelli, D. Bruttomesso. *Multicenter Randomized Cross-Over Italian Pediatric Summer Camp: AP vs SAP in 5-9 year old Children.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A10 E. Losiouk, G. Lanzola, R. Bonfanti, D. Iafusco, I. Rabbone, A. Sabbion, R. Schiaffini, A. Galderisi, M. Marigliano, N. Rapini, A. Rigamonti, D. Tinti, V. Vallone, A. Zanfardino, F. Boscari, S. Galasso, A. Troncone, S. Del Favero, **R. Visentin**, R. Calore, Y.L. Moncada, F. Di Palma, M. Messori, D. Chernavvsky, L. Magni, D. Bruttomesso, S. Quaglini, C. Cobelli. *Perceived Utility of a Remote Monitoring System of Pediatric Subjects Affected by Type 1 Diabetes.* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A11 A. Troncone, R. Bonfanti, D. Iafusco, I. Rabbone, A. Sabbion, R. Schiaffini, A. Galderisi, M. Marigliano, N. Rapini, A. Rigamonti, D. Tinti, V. Vallone, A. Zanfardino, F. Boscari, S. Del Favero, S. Galasso, G. Lanzola M. Messori, F. Di Palma, **R. Visentin**, R. Calore, Y. Leal, L. Magni, E. Losiouk, D. Chernavvsky, S. Quaglini, C. Cobelli, D. Bruttomesso. *The Social Acceptance of Future Artificial Pancreas Technology: Parents' Perceptions of PedArPan (Pediatrics Artificial Pancreas).* Advanced Technologies and Treatments for Diabetes, Milan, Italy, 2016, 3–6 Feb

A12 **R. Visentin**, T. Klabunde, C. Dalla Man and C. Cobelli. *Modeling the Effect of Liraglutide in T2DM with the T2DM Simulator: a Paradigm for In-Silico Trials.* 15th Diabetes Technology Meeting, Bethesda, Maryland, 2015, 22–24 Oct

A13 E. Renard, J.H. De Vries, C. Cobelli, L. Magni, J. Place, J. Kropff, S. Del Favero, **R. Visentin**, M. Monaro, C. Toffanin, F. Di Palma, G. Lanzola, M. Messori, A. Farret, F. Boscari, S. Galasso, D. Bruttomesso, A. Avogaro, on behalf of the AP@Home Consortium. *Reduction of Hyper- and Hypoglycemia during Two Months with a Wearable Artificial Pancreas from Dinner to Breakfast in Patients with Type 1 Diabetes.* American Diabetes Association - 75th scientific sessions, Boston, Massachusets, 2015, 5–9 Jun

A14 **R. Visentin**, C. Dalla Man, B.P. Kovatchev and C. Cobelli. *Incorporation of Intra-day Variability into the UVA/Padova Type 1 Diabetes Simulator.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2015, 18–21 Feb

A15 S. Veetil, I. Errazuriz, **R. Visentin**, S. Dube, C. Shonkwiler, B. Norby, S. Nayar, C. Dalla Man, A. Basu, C. Cobelli, J. Port, R. Basu. *Effects of Nutritional Intervention on Hepatic Fat and Hepatic Insulin Sensitivity in Prediabetes.* American Diabetes Association - 74th scientific sessions, San Francisco, California, 2014, 13–17 Jun

A16 S. Del Favero, J. Place, J. Kropff, M. Messori, P. Keith-Hynes, **R. Visentin**, M. Monaro, D. Bruttomesso, S. Galasso, F. Boscari, C. Toffanin, F. Di Palma, G. Lanzola, S. Scarpellini, A. Farret, B.P. Kovatchev, L. Magni, J.H. De Vries, C. Cobelli, E. Renard, on behalf of the AP@Home Consortium. *Multicenter Outpatient Wearable Artificial Pancreas (AP) Study: Improved Safety and Efficacy of Glycemic Control.* American Diabetes Association - 74th scientific sessions, San Francisco, California, 2014, 13–17 Jun

A17 **R. Visentin**, S. Del Favero, A. Facchinetti, F. Micheletto, Y.Y. Chang, C. Dalla Man and C. Cobelli. *Prediabetes and Type 2 Diabetes Simulator:* In-Silico *Testing of New Drugs.* Advanced Technologies and Treatments for Diabetes, Wien, Austria, 2014, 5–8 Feb

A18 **R. Visentin**, C. Dalla Man, A. Kamath, T. Peyser, A.L. Rack-Gomer and C. Cobelli. *Cloning type 1 diabetic subjects with the UVA/Padova simulator from insulin pump infusion and plasma glucose.* 13th Diabetes Technology Meeting, Burlingame, California, 2013, 31 Oct–2 Nov

A19 F. Micheletto, **R. Visentin**, C. Dalla Man, A. Vella and C. Cobelli. *The Type 2 Diabetes Simulator: in Silico Testing of Drugs.* 13th Diabetes Technology Meeting, Burlingame, California, 2013, 31 Oct–2 Nov

A20 **R. Visentin**, C. Dalla Man and C. Cobelli. *Intra-day Variability of Glucose Absorption and Insulin Sensitivity: Assessment from AP@home Clinical Trial Data.* Advanced Technologies and Treatments for Diabetes, Paris, France, 2013, 27 Feb–2 Mar

A21 **R. Visentin**, C. Dalla Man and C. Cobelli. *Cloning a Day of T1DM Individual Subjects from the FDA-accepted Simulator by a Bayesian Approach.* 12th Diabetes Technology Meeting, Bethesda, Maryland, 2012, 8–10 Nov

A22 **R. Visentin**, C. Dalla Man, B.P. Kovatchev and C. Cobelli. *Incorporating Nonlinear Response to Hypoglycemia into the Type 1 Diabetes Simulator.* 11th Diabetes Technology Meeting, Burlingame, California, 2011, 27–29 Oct

Italian Journal Papers

ItaJ1 C. Cobelli, C. Dalla Man, A. Facchinetti, M. Schiavon, **R. Visentin**. *Trial In Silico di Tecnologie per il Diabete: Pancreas Artificiale, Molecole di Insulina e Sensori di Glucosio (In silico trials of diabetes technologies: artificial pancreas, insulin molecules and glucose sensors).* G It Diabetol Metab. 2016 Sep;36(3):144-154

ItaJ2 F. Boscari, S. Del Favero, M. Messori, I. Rabbone, R. Bonfanti, A. Sabbion, D. Iafusco, R. Schiaffini, **R. Visentin**, R. Calore, Y.L. Moncada, S. Galasso, A. Galderisi, V. Vallone, F. Di Palma, E. Losiouk, G. Lanzola, D. Tinti, A. Rigamonti, M. Marigliano, A. Zanfardino, N. Rapini, A. Avogaro, D. Chernavvsky, L. Magni, C. Cobelli, D. Bruttomesso, S. Quaglini. *Il Pancreas artificiale in età pediatrica: prima esperienza italiana (The artificial pancreas in children: first tests in Italy).* G It Diabetol Metab. 2016 Sep;36(3):125-133

Contributions to Italian Conferences

ItaC1 **R. Visentin**, T. Klabunde, M. Grant, C. Dalla Man and C. Cobelli. *The UVA/Padova Type 1 Diabetes Simulator for Optimizing the Dosing Regimen of Inhaled Insulin.* 5th Bioengineering National Group Meeting GNB2016, Napoli, Italy, 2016, 20–22 Jun

ItaC2 **R. Visentin**, C. Dalla Man and C. Cobelli. *A Bayesian Method for the Identification of the Glucose-Insulin Model in Type 1 Diabetes.* 4th Bioengineering National Group Meeting GNB2014, Pavia, Italy, 2014, 25–27 Jun

ItaC3 **R. Visentin**, C. Dalla Man, B.P. Kovatchev and C. Cobelli. *Clinical Assessment of the Type 1 Diabetes Simulator.* 3rd Bioengineering National Group Meeting GNB2012, Roma, Italy, 2012, 26–29 Jun

Thesis

PhD thesis *In silico testing of artificial pancreas and new type 1 diabetes treatments: model development and assessment.* Supervisor: Chiara Dalla Man

Master thesis *Sviluppo e validazione di un modello minimo orale per la stima dei flussi postprandiali di glucosio con singolo tracciante* (Development and assessment of a single-tracer oral minimal model to estimate postprandial glucose fluxes) in Italian. Supervisor: Chiara Dalla Man

Bachelor thesis *Tecniche Lempel-Ziv per la compressione e per l'analisi di segnali biomedici* (Lempel-Ziv techniques for compression and analysis of biomedical signals) in Italian. Supervisor: Giovanni Sparacino

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