Roman Hovorka   **DOB: 14 August 1960**

Diabetes Modelling Group
Department of Paediatrics
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         http://www.mrl.ims.cam.ac.uk/staff/PI/Hovroka

Academic qualifications

PhD   **Mathematical Informatics**, Charles University, Prague, Czech Republic, (1986-1989)

MSc   **Mathematical Informatics,** Mathematical Faculty, Charles University, Prague, Czech Republic (1984)

BSc   **Theoretical Cybernetics and Mathematical Informatics,** Mathematical Faculty, Charles University, Prague, Czech Republic (1979-1984)

Professional qualification
CEng, MIEE, MIEEE

Professional experience and employment record

2004 - present

Principal Research Associate (2004-2005: Senior Research Associate): Head of Diabetes Modelling Group, Department of Paediatrics; Principal Investigator at Metabolic Research Laboratories, the Institute of Metabolic Science, University of Cambridge, Cambridge, UK. Knowledge expert in diabetes modelling and control. ***Research Responsibilities:*** Direction, management, and supervision of pre- and postdoctoral team in the areas of metabolic modelling, glucose control and simulation, deconvolution methods, pharmacodynamic modelling, stochastic modelling.

Financial Sponsors for the Research Programmes: European Foundation for the Study of Diabetes, Disetronic AG (Roche), EC FP6, British Heart Foundation, EPSRC.

Adjunct Appointments:

Honorary Senior Research Fellow, Addenbrooke's Hospital, Cambridge

Honorary Senior Lecturer, St Thomas' Hospital, UMDS, London (2004-2005).

1994 -2003

Reader (1994-97: Senior Research Fellow): Head of Metabolic Modelling Group, Centre for Measurement and Information in Medicine, City University, London, UK. Knowledge expert in the field of mathematical modelling of physiological processes. ***Research Responsibilities:*** Direction, management, and supervision of pre- and postdoctoral team in the areas of metabolic modelling, glucose control and simulation, deconvolution methods, pharmacodynamic modelling, stochastic modelling. ***Specific Responsibilities***: Member of Research Degree Committee (2002 -2003), Chairperson of the School of Informatics Research Students Committee (2001-2003), Senior Research Tutor administration for Centre MPhil and PhD student community (1994 -2003). ***Teaching***: Course development, delivery, and assessment for masters level programmes in Health Informatics, Information Systems and Technology, Health Technologies, and Information Engineering.

Financial Sponsors for the Research Programmes: Novo Nordisk, EPSRC, Disetronic AG (Roche), Switzerland**,** EC-IST FP5, British Diabetic Association, EC-BIOMED-2 FP4, Glaxo Wellcome plc, EC-VALUE, EC-BIOMED-1.

Adjunct Appointment:

Honorary Senior Lecturer, St Thomas' Hospital, UMDS, London.

1991 -94	**Post-Doctoral Fellow:** Department of Systems Science, City University, London, and Glaxo Research and Development Ltd, Greenford, UK.

Post-Doctoral Fellow: Department of Systems Science, City University, London, and Glaxo Research and Development Ltd, Greenford, UK.

Project Portfolio: (i) Mathematical modelling of carbohydrate metabolism, (ii) Stochastic modelling using causal probabilistic networks, (iii) Deconvolution methods and their use in drug development process, (iv) Clinical trialling of computer-based decision support systems.
Responsibilities: Project management and co-ordinating of national and international collaboration between academic, clinical, and industrial partners including (UK) St Thomas' Hospital, London, University of Warwick, Warwick, Northwick Park Hospital, Harrow, (Europe) Aalborg University, Denmark, University of Padova, Italy, Charles University, Prague, Czech Republic, (USA) NIH Bethesda, University of Florida, University of Chicago, Eli Lilly and Company.

Supplementary Funding: Wyeth International, British Diabetic Association.

1989 -91

Visiting Fellow: Department of Systems Science, City University, London.

Research Focus: (i) Mathematical modelling of insulin kinetics (ii) Development of insulin advisory system using causal probabilistic networks, (iii) Validation of decision support systems. National and international collaboration between academic and clinical partners included (UK) St Thomas' Hospital, London, (Europe) Aalborg University, Denmark, Charles University, Prague, Czech Republic(1989-1991).

Financial sponsors: Wellcome Trust, UK, EU-AIM.

1984 -89

Research Fellow/Assistant: Faculty Hospital 2, Charles University Prague, Czech Republic.

Research and Teaching Responsibilities: (i) Development of support software for Metabolic Intensive Care Unit, (ii) Postgraduate courses in mathematical modelling and expert systems.

Supplementary Funding: National Funding Scheme, Czech Republic.

Research profile

Founder of the Metabolic Modelling Group. World leader in the development of control algorithm and simulation environment for artificial pancreas. Expertise in the field of mathematical modelling of carbohydrate metabolism. Research leadership, direction, management, and supervision in the areas of metabolic modelling, deconvolution methods, pharmacodynamic modelling, causal probabilistic network design and implementation, compartment stochastic modelling with Markov chain Monte Carlo methods.

- Unique expertise to develop closed loop systems for glucose control
- Unique expertise of glucose and insulin modelling.
- Unique expertise in development and trialling of control and decision support systems in diabetes.

Funding

Closing the Loop in Children and Adolescents
Sponsor: *Juvenile Diabetes Research Foundation International (JDRF)*
Duration: From 1 October 2006 for 24 months
Total Value: £ 324,324 ($600,000)
Grant Holders: R Hovorka (PI), DB Dunger, C Acerini

Model- Augmented Glucose Sensing
Sponsor: *European Foundation for the Study of Diabetes (EFSD)*
Duration: From 1 September 2005 for 18 months
Total Value: £65,789 (100,000 Euro)
Grant Holders: R Hovorka (PI), DB Dunger

Support for Diabetes Modelling Group
Sponsor: *Disetronic AG (Roche)*
Duration: From 1 January 2004 for 48 months
Total Value: £313,103

Grant Holders: R Hovorka

Closed Loop Insulin Infusion for Critically Ill Patients (CLINICIP; IST FP6-506965)
Sponsor: *EU FPVI eHealth Programme*
Duration: From 1 January 2004 for 48 months
Total Value: 7,500,000 Euro/£5,000,000 for Consortium led by Joanneum Research (543,600 Euro for University of Cambridge)
Grant Holders: W Hass, T Vering, T Pieber, I Klimant, R Hovorka, S Svacina, C Morgan, F Baldini, B Grundig, M Heise, E Holmer, B Krause, G Van den Berghe
Partners: Joanneum Research Forschungsgesellschaft mgH, Graz, Austria; Disetronic Medical AG, Burgdorf, Switzerland; Karl Franzens Universitat, Graz, Austria; Technische Universitat, Graz, Austria; University of Cambridge, Cambridge, UK; Universita Karlova, Prague, Czech Republic; Royal Brompton Hospital, London, UK; Consiglio Nazionale delle Ricerche, Rome, Italy; Senslab mbH, Leipzig, Germany; Gesellschaft zur Forderung der Spektrochemie und angewandten Spektroskopie eV, Dortmund, Germany; Carmeda, Stockholm, Sweden; Gambro GmbH, Hechingen Germany; Katholieke Universiteit, Leuven, Belgium.

Development of a stable isotopic method to measure triglyceride rich lipoprotein turnover during postprandial lipaemia
Sponsor: *BritishHeart Foundation*
Duration: From 1 March 2004 for 12 months
Total Value: £32,000 (£7,500 University of Cambridge)
Grant Holders: A.M. Umpleby, R.H. Jones (all King's College London), R. Hovorka
Partners: King's College London (Contractor); University of Cambridge.

Modelling of glucose and insulin data from clamp studies
Sponsor: *Novo Nordisk*
Duration: From 1 June 2003 for 7 months
Total Value: £24,913
Grant Holders: R Hovorka
Partner: City University.

Closed loop control of blood glucose during cardiac and thoracic surgery (GR/S14344/01)
Sponsor: *EPSRC*
Duration: From 1 April 2003 for 18 months
Total Value: £76,665
Grant Holders: R Hovorka, CJ Morgan
Partners: City University (Contractor), Royal Brompton Hospital, London.

Bina – Glucose Kinetics Simulator
Sponsor: *Disetronic AG, Switzerland*
Duration: From 1 January 2003 for 12 months
Total Value: £49,140
Grant Holders: R Hovorka
Partner: City University.

ADICOL: Advanced Insulin Infusion using a Control Loop (IST-1999-14027)
Sponsor: *EU FPV IST 2 Programme*
Duration: From 1 January 2000 for 36 months
Total Value: 2,505,548 Euro/£1,616,500 for Consortium led by FhG-ISIT, Germany, (363,209 Euro for City University)
Grant Holders: R Hintsche, T Vering, M Massi Benedetti, T Pieber, R Hovorka, P Bak
Partners: FhG-ISIT, Itzehoe, Germany; Disetronic, Burgdorf, Switzerland; University of Perugia, Perugia, Italy; University of Graz, Graz, Austria; City University; Judex Datasystemer A/S, Aalborg, Denmark.

A Study to Estimate Hepatic Glucose Output under Dynamic Conditions
Sponsor: *British Diabetic Association*

Duration: From 1 February 1997 for 7 months
Total Value: £5,000
Grant Holders: R.H. Jones, A.M. Umpleby, F. Shojaee-Moradie, P Carroll (all UMDS,
                  London), R. Hovorka
Partners: UMDS, London (Contractor); City University.

DiabStyle: A Diabetes Insulin Advisory System that Models Diabetes- Specific Physiology and Lifestyle (BMH4-CT96-034)
Sponsor: *EU BIOMED 2 Programme*
Duration: From 1 July 1996 for 36 months
Total Value: £570,000 / 700,000 ECU for Consortium led by City University
                  (198,000 ECU for City University)
Grant Holders: R Hovorka (Project Manager) , S Andreassen, ER Carson, E Henningsen, M
                  Massi Benedetti, LR Fletcher, DA Cavan
Partners: City University; Aalborg University, Aalborg, Denmark; Judex
                  Datasystemer A/S, Aalborg, Denmark; University of Perugia, Perugia, Italy;
                  University of Salford, Salford; UMDS, London.

Support for Metabolic Modelling Group
Sponsor: *Glaxo Wellcome plc*
Duration: From 1 April 1994 for 36 months
Total Value: £105,000
Grant Holders: ER Carson, R Hovorka

DIAS- Diabetes Advisory System (CTT-654)
Sponsor: *EU VALUE Programme*
Duration: From 1 November 1994 for 24 months
Total Value: £100,000 / 120,000 ECU for Consortium led by Judex (7,500 ECU for City
                  University)
Grant Holders: E Henningsen (Project Manager), S Andreassen, R Hovorka, PH Sonksen
Partners: Judex Datasystemer A/S, Aalborg, Denmark, (Co-ordinator and Main
                  Contractor); Aalborg University, Aalborg, Denmark; City University;
                  UMDS, London.

Measurement of Hepatic Glucose Output
Sponsor: *Special Trustees for St Thomas' Hospital, London*
Duration: From 1 June 1994 for 12 months
Total Value: £34,000
Grant Holders: RH Jones, F Shojaee-Moradie, R Hovorka, M Umpleby, PH Sonksen
Partners: UMDS, London (Contractor); City University.

Estimating C-Peptide Appearance
Sponsor: *Glaxo Wellcome plc*
Duration   From 1 December 1995 for 4 months
Total Value: £2,000
Grant Holder: R Hovorka

Modelling Sumatriptan Kinetics
Sponsor: *Glaxo Wellcome plc*
Duration: From 1 January 1995 for 3 months
Total Value: £2,000
Grant Holder: R Hovorka

Supervision of research

PhD completed
- Ian Gowrie, A New Method to Estimate Whole Body Protein Turnover in Man (ESRC CASE Studentship in collaboration with St Thomas' Hospital, London), City University, 2002.

- Ahmed Albarrak, Modelling Methodologies to Assess Glucose Metabolism in Type 2 Diabetes (joint project with Dr D.R. Owens, Cardiff), City University, 2003.

- Romulus Tudor, A Decision Support System for Insulin-Dose Adjustment in Insulin-Treated Subjects with Type 2 Diabetes Mellitus (partly supported by EU VALUE and EU BIOMED-2 projects), City University, 2003.
- Stefano Zamuner, Ligand-Receptor Interaction Modelling using PET Imaging (joint supervision with Dr Roberto Gomeni, GlaxoSmithKline), City University, 2003.
- Shola Agbaje, Estimation of insulin sensitivity indices from meal tolerance test using population modelling approach (EPSRC CASE Studentship in collaboration with Prof D.R. Owens, Cardiff), City University, 2003.
- Malgorzata Wilinska, Modelling of Glucose and Insulin Kinetics to Facilitate the Development of a Wearable Artificial Pancreas, City University, 2004
- Ludovic Chassin, In silico Testing of Glucose Controllers: Methodology and Sample Application, City University, 2005

PhD ongoing
- N/A

Research assistants
- Susan C Wood, Administrative Director, DiabStyle project (1996-2000)
- Ludovic Chassin, Adicol projects, Bina project (2000-)
- Malgorzata Wilinska, Adicol project, Operating theatre project (2001-)
- Shola Agbaje, Modelling glucose clamps, sponsored by Novo Nordisk (2003-)

Postgraduate projects
- Jon Simmons (2003)
- Abilash Mallikarjun (2003)
- Saema Rangrez (2003)
- Helder H Falcao (2003)
- John Naughten (2003)
- Fatima Rateb (2002)
- Pooja Maru (2001; with Business School)
- Wasim Sayed (2001)
- Bayo Banjoko (2000)
- Obi Igbokwe (2000)

Undergraduate projects
- Lutful Mannan (2002)
- Anja Wever (2001; with HCID)
- Bina Patel (2001; with HCID)

Teaching experience

City University
London, UK
- Bioinformatics, MSc in Healthcare Technologies
- Research Methods in Healthcare, MSc in Medical Informatics
- Java Programming, BSc in Information Systems
- Informatics and Systems, MSc in Information Systems.
- Object Oriented Programming, MSc in Information Engineering.
- Short course (one day), Minimal Modelling of Glucose Kinetics, organisation and delivery
- Health Informatics, MSc in Information Engineering and Technology.

- Modelling in Physiology and Healthcare, MSc in Medical Informatics.
- Medical Informatics, MSc in Medical Informatics.
- Programming in Pascal, MSc in Medical Informatics.

Charles University
Prague, Czechoslovakia
Mathematical modelling and expert systems for postgraduate courses in engineering and medical domain.

Adult education, post-experience and short courses
Development of short courses on Metabolic Modelling (primary organiser). Involved in City University/ University of Padova, Italy, initiative promoting modelling approaches in biomedicine (funded by British Council). Contributed to the organisation and delivery of series of international workshops on SAAM II modelling package, City University. Organised and delivered an international one-day course on Minimal Modelling of Glucose Kinetics.

Educational leadership
Participated in course development and assessment for masters level programmes in Information Systems and Technology, Medical Informatics, and Information Engineering. Leading course development for undergraduate level programme in Computer Science with Biocomputing. Development of short courses in modelling.

Major management responsibility
Project Manager and Co-ordinator of an EU BIOMED 2 Project "DiabStyle" (700 kECU budget).

Additional professional activities
Participated in EU-funded project Eurodiabeta (AIM Programme). Participated in EU-funded project MFIT (Biomed 1 Programme). Invited expert for the COST-B1 European concerted action "Integrated PK/PD Approaches to Drug Development".

Principal organiser of Computers in Diabetes conference, Karlovy Vary, Czech Republic, 1992. On programme and/or organisation committees of the Artificial Intelligence in Medicine conference, Germany, 1993; Computers in Diabetes 94 conference, Dusseldorf, Germany, 1994; Computers in Diabetes, Graz, Austria, 1996; the 3rd IFAC International Federation for Automatic Control Symposium on Modelling and Control in Biomedical Systems, University of Warwick, 1997; Computers in Diabetes, Barcelona, Spain, 1998; the 4th IFAC International Federation for Automatic Control Symposium on Modelling and Control in Biomedical Systems, Karlsburg, Germany, 2000; International Symposium on Medical Data Analysis, Frankfurt, Germany, 2000; Scientific referee for the World Congress on Medical Physics and Biomedical Engineering Chicago, USA, 2000; the 5th IFAC International Federation for Automatic Control Symposium on Modelling and Control in Biomedical Systems, Melbourne, Australia, 2003; Track Chair for the World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia, 2003; International Symposium on Medical Data Analysis, Leipzig, Germany, 2003; IASTED International Conference on Biomedical Engineering (BioMed 2004), Innsbruck, Austria, 2004; IASTED International Conference on Biomedical Engineering (BioMed 2005), Innsbruck, Austria, 2005; IASTED International Conference on Biomedical Engineering (BioMed 2006), Innsbruck, Austria, 2006.

Member of the Editorial Board of the journals *Diabetes, Nutrition, and Metabolism: Research/Clinical and Experimental* (1999 -), *Diabetes Technology* (2006-).

Associate member of the Wellcome Trust Integrative Physiology Consortium for the Study of Common Metabolic Disease (www.int-phys.org) (2004 -).

Refereeing for American Journal of Physiology, Annals of Biomedical Engineering, BMC Clinical Pharmacology, Computer Methods and Programs in Biomedicine, Control

Engineering Practice, Diabetes, Diabetes Nutrition and Metabolism, Diabetes Technology and Therapeutics, Diabetic Medicine, Diabetologia, Enzyme and Microbial Technology, Growth Hormone and IGF Research, IEEE Transactions on Biomedical Engineering, International Journal of Adaptive Control and Signal Processing, International Journal of Epidemiology, Mathematical Biosciences, Journal of Applied Physiology, Journal of Pharmaceutical Sciences, Journal of Pharmacokinetics and Pharmacodynamics, Journal of Theoretical Biology, Medical & Biological Engineering & Computing, and Practical Diabetes.

Expert grant evaluator for
- Ministry for University and Research, Italy (2000-2002)
- National Grant Committee, Czech Republic (2000-2001)
- American Diabetes Association, USA (2004)
- Medical Research Council, UK (award of Non-clinical Senior Research Fellowships) (2004)
- NIH (Kidney, Nutrition, Obesity, and Diabetes Epidemiology), U.S. (2005)
- Engineering and Physical Sciences Research Council, UK (2005)
- Austrian Science Fund, Austria (2005)

Collaborated and communicated with academic and industrial partners: St Thomas' Hospital, UMDS, London, University of Wales College of Medicine, Cardiff, Royal Brompton Hospital, London, Aalborg University, Denmark, University of Warwick, Warwick, Glaxo Wellcome plc, Greenford, St Mary's Hospital, London, University of Southampton, NIH Bethesda, USA, University of Florida, USA, University of Chicago, USA, Charles University, Prague, Eli Lilly and Company, USA, University of Padova, Italy, University of Perugia, Italy, University of Bochum, Germany, Disetronic, Burgdorf, Switzerland, University of Graz, Graz, Austria, Roche, Burgdorf, Switzerland, BBraun. Germany, University of Cambridge.

Membership of Standards Panel
Invited member of the "Diabetes Technology Society International Panel for Establishment of Performance Standards for Continuous Glucose Monitors" (2005 – 2006).

The Panel includes scientists from six leading companies involved in the development of glucose sensing technology. These companies include: Abbott Laboratories, Bayer Diagnostics, BD, LifeScan, Inc., Medtronic MiniMed, and Roche Diagnostics. The panel includes US government scientists and clinicians from FDA, NIH, CDC, NIST, and the US Army, as well as some of the world's top academic statisticians and clinicians in the field of continuous glucose monitoring, who have backgrounds in clinical chemistry, mathematics, adult diabetes, pediatric diabetes, and critical care medicine.

Professional memberships
Corporate member of the Institution of Electrical Engineers (IEE; 1998-), Chartered Engineer (CEng; 1998-). Member of the American Physiological Society (APS; 2003-), the Institute of Electrical and Electronic Engineers (IEEE; 1990 -), the European Association for Study of Diabetes (EASD1995 -), Diabetes UK (1996 -), American Diabetes Association (ADA; 1997 -).

Consultancy
Consulted for the following pharmaceutical and medical devices companies:
- GlaxoWellcome, 1995
- Smith & Nephew, 2002
- Novo Nordisk, 2002-present
- Roche (Disetronic), 2003- 2006.
- Abbott, 2006.
- Profil, (2007).

Centre, departmental and university administration

- Member, Department Management Committee, 2004 – present.

- Member, University Research Degree Committee, 2002 - 2003.

- Chair, Research Students Committee, School of Informatics, 2001-2003.

- Senior Tutor Research, Centre for Measurement and Information in Medicine (Department of Systems Science, 1994-1997) including responsibilities for the Centre/Department's cohort of >20 research students, co-ordinating support from research secretary, 1994-2003.

- Head of Metabolic Modelling Group (MMG), Centre for Measurement and Information in Medicine, The MMG consists of one Senior Research Fellow (RH), one post-doctoral fellow, 1994-96, research assistant, 1997-2003, research assistant, 1998-2003, and four to five PhD students, 1994-2003.

- Member of the (i) Board of Studies in Measurement and Information in Medicine/School of informatics, 1997-2003, (ii) MIM/School of Informatics Board, 1997-2003, (iii) BoS in Systems Science and Management, 1994-1997, (iv) Departmental Research Committee, 1994-1997, (v) Systems Science Board, Department of Systems Science, 1994-1997.

External lectures, seminars, and examining

- 13th International Karlsburg Symposium on Diabetes Mellitus, Dresden, 1989 (poster presentation).
- 9th IASTED International Conference Modelling, Identification & Control, Innsbruck, 1990 (oral presentation).
- Winter Meeting of Medical Research Society, London, 1990 (poster presentation).
- Expert Systems in Medicine, London, 1990 (poster presentation).
- EASD, Computer Satellite, Copenhagen, 1990 (poster presentation).
- 12th Annual International Conference IEEE Engineering in Medicine and Biology Society, Philadelphia, 1990 (oral presentation).
- 14th International Diabetes Federation Congress, Washington, D.C., 1991 (poster presentation).
- Medical Informatics in Europe, Vienna, 1991 (oral presentation).
- Systems Science in Health Care, Prague, 1992 (oral presentation).
- Computers in Diabetes, Karlovy Vary, 1992 (oral presentation).
- The VI Mediterranean Conference on Medical and Biological Engineering, Capri, 1992 (oral presentation).
- British Diabetic Association Meeting, Harrogate, 1992 (poster presentation).
- British Diabetic Association Meeting, St Andrews, 1992 (poster presentation).
- The Pharmacokinetics/Pharmacodynamics meeting, Birmingham, 1993 (oral presentation).
- The annual European Association for Study of Diabetes conference, Istanbul, 1993 (oral presentation).
- The annual European Association for Study of Diabetes conference, Dusseldorf, 1994 (poster presentation).
- The Pharmacokinetics/Pharmacodynamics meeting, Glasgow, 1994 (oral presentation).
- Model Based Biomeasurements, IMEKO-TC13 Conference, Stara Lesna, Slovakia 1995 (oral & poster presentation).
- The annual European Association for Study of Diabetes conference, Stockholm, 1995 (poster presentation).

- Fourth Workshop of the European Association for Study of Diabetes Study Group DO IT/MFIT (Diabetes Optimisation through Information Technology/Methodology for IT: Information Technology-Based Decision Support for Diabetes) held jointly with the European Union BIOMED Concerted Action project MFIT, 1995.

- The Pharmacokinetics/Pharmacodynamics meeting, Nottingham, 1995 (oral presentation).

- Computers in Diabetes, 1996 (oral & poster presentation).

- 3rd IFAC International Symposium Modelling and Control in Biomedical Systems (Including Biological Systems) (poster presentation).
- British Diabetic Association meeting, Harrogate, 1997 (poster).

- 4th European Conference on Engineering and Medicine, Bridging East and West, Warsaw, Poland (poster presentation and workshop), 1997
- The International Diabetes Federation Congress, Helsinki, Finland, 1997 (eight poster presentations).
- Seminar presentations at Glaxo Wellcome, plc (several 1991-1994), Radcliffe Hospital, Oxford (1991), St Mary's Hospital, London (1998), University of Chicago, Chicago, USA (1993), UMDS, London (1991-1998), University of Aalborg, Aalborg, Denmark (1992), University, Prague, Czech Republic (1991).
- PhD examination, three candidates (City University).
- BDA Annual meeting, Harrogate, poster presentation (1999).
- ADA Annual meeting, San Diego, USA, 2 poster presentations (1999).
- Presentation at the Mathematics in Medicine Initiative, Compartmental Modelling and Pharmacokinetic Analysis, Warwick (1999).
- BDA Annual meeting, Brighton, poster presentation (2000).
- Presentation at the First International Symposium on Medical Data Analysis, Frankfurt, Germany (2000).
- British Diabetic Association meeting, Harrogate, poster presentation (2001)
- ADA Annual meeting, Philadelphia, USA, poster presentation (2001).
- EASD Annual Meeting, 2 poster and 2 oral presentations, Glasgow, UK (2001).
- EUNITE - 2001 Symposium, oral and poster presentation, Tenerife, Spain (2001).
- British Diabetic Association meeting, Birmingham, three poster presentations (2002)
- ADA Annual meeting, San Francisco, USA, 2 poster presentations (2002).
- The Second Joint EMBS/BMES Conference, Houston, USA, oral presentation (2002).
- EASD Annual Meeting, 3 poster presentations, Budapest, Hungary (2002).
- Delivery of a two day short course on glucose and insulin modelling, Novo Nordisk, Bagsvaerd (November 2002).
- IFAC2003 Symposium on Modelling and Control in Biomedical Systems, 2 poster presentations, Melbourne, Australia (August 2003).
- World Congress on Medical Physics and Biomedical Engineering, 2 oral presentations, Sydney, Australia (August 2003).
- The International Diabetes Federation Congress, 2 poster presentations, Paris, France (August 203).
- Diabetes UK meeting, Harrogate, poster presentation (April 2004)
- X Mediterranean Conference on Medical and Biological Engineering "Health in the Information Society", oral presentation, Ischia, Italy (August 2004)
- Attendance at the IEE Seminar on 'Medical Device Standards & Regulations – All Change', London (9 March 2005).
- Diabetes UK meeting, Glasgow, poster presentation (April 2005)
- Life Science seminar, Department of Engineering, Univesrity of Cambridge, UK (May 2005).
- Diatebes Technology Meeting, San Francisco, US, two poster presentations (10 –12 November 2005)
- 3rd European & Biological Engineering Conference and IFMBE European Conference on Biomedical Engineering, Prague, Czech Republic, poster presentation (20 – 25 November 2005)
- Attendance at the NIH Symposium 'Obstacles and Opportunities on the Road t an Artificial Pancreas: Closing the Loop', Bethesda, US (19 December 2005).

Invited lectures
- EUROSIM 95 conference, Vienna, 1995 (co-author of invited key note).

- Invited presentation to the workshop of the European Association for Study of Diabetes Study Group DO IT/MFIT (Diabetes Optimisation through Information Technology/Methodology for IT: Information Technology-Based Decision Support for Diabetes), Gubbio, 1997.

- Invited presentations at St Mary's Hospital, London (1998)

- Invited presentation at MRC Human Nutrition Research, Cambridge (1999).

- Invited as expert to the International Atomic Energy Agency Workshop on programme on "Application of nuclear techniques in the prevention of degenerative disease (obesity and non-insulin dependant diabetes) in ageing", Vienna, Austria, 3-7 May 1999.

- Two invited contributions for World Congress on Medical Physics and Biomedical Engineering, Chicago, USA (2000).

- Invited lecture at 8th KBF-Symposium, Complexity in Medicine, Cologne, Germany (2000).

- Diabetes Optimisation through the use of Information Technology, Annual Meeting, Invited presentation, Stirling, UK (2001).

- Invited lecture (Closing the Loop in Insulin Therapy), Austrian Diabetes Association Annual meeting, Graz, Austria (November 2002).

- Invited lecture (Closing the loop with portable system), Polish Academy of Sciences, Technical, biological and bio-technical approaches of the diabetes treatment. Recent developments and perspectives, Warsaw, Poland (May 2003).

- World Congress on Medical Physics and Biomedical Engineering, invited presentation, Sydney, Australia (August 2003).

- XXX Congress of the European Society for Artificial Organs (ESAO) on High Technology and Medicine, invited oral presentation, Aachen, Germany (September 2003)

- Invited lecture (Closing the loop: Adicol Experience), 3rd Reisensburg Workshop on Glucose Sensors and Artificial Pancreas Systems, Reisenburg, Germany (September 2004)

- Invited lecture (Closing the loop: Adicol experience and beyond), 4th Annual Diabetes Technology Meeting, Philadelphia, USA (28 – 30 October 2004)

- Invited lecture (Modelling approaches in the development of an artificial pancreas), PK UK meeting, Belfast (17 – 19 November 2004)

- Invited guest lecture (Insulin pumps, glucose monitors – What is next?), East Anglian Paediatrics Diabetes Group meeting, Newmarket (23 November 2004)

- Invited lecture (Model predictive control of blood glucose), IV International Symposium, New Technologies for Insulin Replacement, Islet Transplantation, Artificial Pancreas and IT, Assisi, Italy (April – May 2005)

- Invited Presentation (In silico modelling of glucose metabolism: Predicting the outcome of clinical trials), Symposium organised by the FP6 BioSym Project, Hvidore, Denmark (21 September 2005)

- Invited Presentation (Algorithms for Insulin Delivery), Technology in Diabetes, Czech Diabetes Association, Zinkovy, Czech Republic (29 September – 1 October 2005)

- Invited Panel Presentation (with Drs RN Bergman and GM Grodsky), Algorithm Development for an Artificial Pancreas, Diatebes Technology Meeting, San Francisco, US, (10 –12 November 2005)

- Invited Presentation (Insulin Tretament of Critically Ill), Annual Meeting of Society for Computing and Technology in Anaesthesia, Halifax, UK, (16 – 18 November 2005)

- Invited presentation, (Closing the loop: From type 1 diabetes to critically ill), Glucose Monitoring Study Group, Appenzell, Switzerland (24 – 26 February 2006)

- Invited presentation (Automated Glucose Control in the ICU: Effect of Nutritional Protocol and Measurement Error), IEEE 2006 International Conference of the Engineering in Medicine and Biology Society, New York, USA (30 August 30 – 3 September 2006)

- Invited presentation (Closed loop systems), ISPAD 2006, Cambridge, UK (6-9 September 2006)

- Invited presentation (Roadmap to closed loop glucose control), Abbott Laboratories Volwiler Day, Chicago, USA (3 October 2006)

- Invited presentation (Closing the loop), Abbott Diabetes Care, Alameda, USA (4 October 2006)

- Invited presentation (Subcutaneous sensing and pumps), 1st Menarini International Forum on Continuous Glucose Monitoring, Florence, Italy (13 – 14 October 2006)

- Invited presentation (The Artificial Pancreas Project), Juvenile Diabetes Research Foundation & University of Cardiff, Diabetes Research Open Meeting, Cardiff (18 November 2006)

- Invited presentation (Closing the loop for dummies), The European Diabetes Technology and Transplantation Meeting (EuDTT Meeting), Montpellier, France (4 – 6 February 2007)

- Invited presentation (Artificial Pancreas), Diabetes in the Young , Joint Meeting of Royal Society of Medicine Section of Paediatrics and Child Health/ Section of Endocrinology and Diabetes/ Royal College of Paediatrics and Child Health, London, UK (20 February 2007)

- Invited presentation (Closing the loop in insulin delivery), NANODIAB Workshop, European Commission, Research Directorate – General, Directorate F – Health, Brussels, Belgium (30 March 2007)

- Invited presentation (Diabetes: Closed loop glucose control), Spring School on Modelling, Automation and Control of Physiological Variables, Faculdade de Ciências da U. Porto, Porto, Portugal (2-3 May 2007)

- Invited presentation (Closed loop insulin delivery), British Society for Paediatric Endocrinology and Diabetes Annual Meeting, Cambridge, UK (12 – 13 September 2007)

- Invited presentation (The Artificial Pancreas), The New Frontiers of Diabetes Research, Juvenile Diabetes Research Foundation Hellas, Athens, Greece (13 October 2007)

Nominations/Prizes

- Selected for Yearbook of Medical Informatics (1993): Hovorka, R., S. Andreassen, J. J. Benn, K. G. Olesen, and E. R. Carson. Causal probabilistic network modelling - An illustration of its role in the management of chronic diseases. In: 1993 Yearbook of Medical Informatics, edited by J. H. Van Bemmel and A. T. McCray. Stuttgart: Schattauer-IMIA, 1993, p. 328-340.
- 3rd Best Paper, "Model Predictive Control of Glucose Concentration", EUNITE - 2001 Symposium, Tenerife, Spain, 2001
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Conference proceedings: 56
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3. **Hovorka, R.** *ISEC: Calculating Insulin Secretion Program, http://www.soi.city.ac.uk/~sg331.*