PAOLO DINI

Department of Media and Communications
London School of Economics and Political Science
Houghton Street
London, WC2A 2AE, UK
+44 (0)20 7107 5235
p.dini@lse.ac.uk

38 Wellington Road
St Albans, AL1 5NL
+44 (0)1727 893289 (home)
+44 (0)7879 645961 (mobile)

Education

Penn State University, University Park, PA, USA
    PhD in Aerospace Engineering, 1990
    Dissertation: "A Computationally Efficient Modelling of Laminar Separation Bubbles"
Penn State University, University Park, PA, USA
    MS in Aerospace Engineering, 1987
    Thesis: "The Effects of Finite Trailing-Edge Pressure Gradients on the Flow over Airfoils"
University of California, Davis, CA, USA
    BS in Aeronautical and Mechanical Engineering, 1983

Professional Experience

Apr 2003 –

    <u>Senior Research Fellow</u>, Department of Media and Communications
    London School of Economics and Political Science, UK

- **Coordinator** of FP7 SEQUOIA (Socio-Economic Impact of Research Projects) Support Action. 500k Euro, 2 years. www.sequoiaproject.eu
- **Workpackage leader** in FP7 EULAKS (Connecting Research on the Knowledge Society between the European Union and Latin American and Caribbean Countries) Support Action. 700k Euro, 2.5 years. www.eulaks.eu
- **Coordinator** of FP6 OPAALS (Open Philosophies for Associative Autopoietic Digital Ecosystems) Network of Excellence. 9.1m Euro, 4 years. www.opaals.eu
- **Sub-project leader** in FP6 BIONETS (Biologically-Inspired Networks and Services) Integrated Project. 6.7m Euro, 4 years. www.bionets.eu
- **Scientific Coordinator** of FP6 DBE (Digital Business Ecosystem) Integrated Project. 14.5m Euro, 3 years.
- Total funding raised for LSE through above projects: 2,715,678 Euro.
- Teaching: MSc Course "New Media, Information and Knowledge Systems", Lent Term 2011, on the political economy of new media.

Jan 2009 –

    <u>Visiting Research Fellow</u>, Royal Society Wolfson Biocomputation Research Lab
    Centre for Computer Science and Informatics Research
    University of Hertfordshire, Hatfield, Hertfordshire, UK

- Co-written 3 proposals to BBSRC/EPSRC, European Commission (FET Open), and Complexity.Net in the area of bio-computing, with emphasis on algebraic automata theory. Co-written 2 proposals to EC (FET Proactive and FET Open) in the area of data visualisation, artificial intelligence, cognition and phenomenology, with emphasis on algebraic semiotics and information self-structuring.

Sept 2001 – Mar 2003

    <u>Principal Research Scientist</u>, leader of Dynamic Interactions Group
    MIT Media Lab Europe, Dublin, Ireland

- Began a study of complex self-organising systems in different fields: physics, software, new media, and community development.
- Led research projects:
    - Wireless Ad hoc Network for Dublin (WAND)
    - Social research for WAND
    - Interactive portrait of the Liberties
    - Wireless connectivity and multimedia literacy in the Community Sector

Sept 2000 – Aug 2001

<u>Principal Scientist</u>, Software Engineering and Applications Group

Philips Research Laboratories, Redhill, UK

> Project Leader, MAVRIC (Mobile Audio/Video for Recreation, Information, and Communication). System architecture and integration of Bluetooth Linux stack with software (UML+Java), GUI, and product design (with Philips Design) for portable audio. Development platform: Linux on iPAQ.

Oct 1997 – Aug 2000

<u>Senior Scientist</u>, ViA, Inc., Northfield, MN, USA

> Mainly hardware development, new computer technologies.

> Principal Investigator of a two-year, $1.7M DARPA project to develop a Wrist Interactive Device as an alternative user interface to head-mounted displays for ViA's wearable PC. Directed a team of 6 and actively participated in all aspects of the design and development based on the StrongARM SA1110 processor, Windows CE, Bluetooth Radio, DSP/CODEC, ½"-diagonal SVGA microdisplay, magnification optics, battery system. Responsible for project planning, budget, status reports.

> Project Manager for the design and development of a transflective hand-held panel for the wearable computer. Responsible for leading the electrical and mechanical design.

> Written Visual Basic/ESRI MapObjects/C++ DLLs and applications to interface ViA's wearable PC to GPS and video capture hardware

Jun 1987 – May 1990

<u>Graduate Research Assistant</u>

Department of Aerospace Engineering, Penn State University, University Park, PA, USA

> Worked toward PhD thesis under NASA grant.

Consulting

Dec 2009 –

<u>Reviewer</u>, LSE Public Policy Group

> Reviewed report written by the European Court of Auditors, titled "'Networks of excellence' and 'Integrated projects' in community research policy: Did they achieve their objectives?"

> Reviewed report written by the European Court of Auditors, titled "The effectiveness of the Design Studies and Construction of New Infrastructures support schemes under the Sixth Framework Programme for Research"

Feb 1996 – Aug 2000

<u>Consultant</u>, Advanced Aero Technologies, St. Paul, MN, USA

> Aerodynamic analysis, performance prediction, and design of wind-turbine airfoils.

Dec 1995 – Jun 1996

<u>Consultant</u>, World Power Technologies, Duluth, MN, USA

> Designed a new airfoil and blade for a 0.6 kW wind turbine. Presented paper at Windpower '96 conference.

Summer 1995

<u>Association of Western Universities Faculty Fellow</u>

National Renewable Energy Laboratory, Golden, CO, USA

> Worked on the development of an airfoil stall prediction program for application to wind-turbine blades.

<u>Software Consultant</u>, City of Florence, Italy

> Wrote statistical analysis program for a medieval land-use database of the province of Florence in the XIV Century, in collaboration with Dott. Paolo Pirillo of the University of Bologna, Italy.

Nov 1993 – May 1994

<u>Ricercatore a Contratto</u>

Dipartimento di Progettazione Aeronautica, Università di Napoli, Italy

> Wrote a 90 pp. report, for use by students, consisting of a detailed discussion of Mason and Inger's model of the interaction between a turbulent boundary layer and a shock wave on a transonic wing.

Feb – Mar 1992

<u>Consultant</u>, National Renewable Energy Laboratory, Golden, CO, USA

> Provided computer program for predicting the aerodynamic performance of wind-turbine airfoils at low angles of attack.

May – Jun 1991

Consultant, Phoenix Industries, Inc., Crookston, MN, USA
> Provided services to improve the acoustic characteristics of wind-turbine blades.

Teaching Experience

Jan – March 2011

Visiting Lecturer, Department of Media and Communications, London School of Economics and Political Science
> MSc course "New Media, Information and Knowledge Systems"

March 2009

Visiting Professor, Department of Computer Science and Engineering, Indian Institute of Technology, Kanpur, India.
> Led 4 seminars on the mathematics of bio-computing

March – July 2004

Visiting Professor, Department of Telecommunications Engineering
Salzburg Technical University, Austria
> Led seminars in digital ecosystems research

Jun 1996 – Dec 1997

Assistant Professor, Department of Physics, St. Olaf College, Northfield, MN, USA
> *Courses taught:* Principles of Physics I and II (algebra-based), Classical Mechanics.
> Designed a water channel for a fluid mechanics lab

Mar 1992 – Jun 1996

Assistant Professor, Dept of Physics and Astronomy, Carleton College, Northfield, MN, USA
> *Courses taught:* Introductory Physics Lab, Elementary Physics & Lab (algebra-based), Classical Mechanics, Waves, Statistical Mechanics, and Advanced Classical Mechanics.
> Supervised 7 senior theses, 2 undergraduate research papers, 3 Special Projects, and 6 Independent Studies

Summer 1986

Graduate Lecturer
Department of Aerospace Engineering, Penn State University, University Park, PA, USA
> *Course Taught:* Aerospace Analysis

January 1984-May 1987

Graduate Teaching Assistant
Department of Aerospace Engineering, Penn State University, University Park, PA, USA
> *Teaching Responsibilities:* Instructor for Aerodynamics and Aerospace Structures Laboratories; Grader for Aerodynamics, Aeronautics, Fluid Mechanics, and Aerospace Analysis.

Articles in Refereed Journals

Dini, P, Iqani, M, and Mansell, R E (Forthcoming 2011). "The (Im)Possibility of Interdisciplinarity: Lessons from Constructing a Theoretical Framework for Digital Ecosystems". *Journal of Culture, Theory and Critique*.

Breitstein, L and Dini, P (Forthcoming 2011). "A Social Constructivist Analysis of the 2007 Banking Crisis: Building Trust and Transparency through Community Currencies", *Journal of Banking Regulation*.

Dini, P, Lombardo, G, Mansell, R E, Razavi, A, Moschoyiannis, S, Krause, P, Nicolai, A and Rivera-Leon, L (2008). "Beyond interoperability to digital ecosystems: regional innovation and socio-economic development led by SMEs", *International Journal of Technological Learning, Innovation and Development*, Vol 1, No 3.

Darking, M L, Whitley, E A, and Dini, P (2008). "Governing Diversity in the Digital Ecosystem", *Communications of the ACM*. Vol 51, No 10, pp 137-140.

Cipra, B, Dini, P, Kennedy, S, and Kolan, A (1999). "Stability of One-Dimensional Inelastic Collision Sequences of Four Balls," *Physica D*, Vol 125, pp. 183-200.

Dini, P, and Maughmer, M D (1994). "Locally Interactive Laminar Separation Bubble Model," *Journal of Aircraft*, Vol 31, No 4, July-August, pp. 802-810.

Dini, P, Selig, M.S., and Maughmer, M D (1992). "Simplified Linear Stability Transition Prediction Method for Separated Boundary Layers," *AIAA Journal*, Vol 30, No 8, August, pp. 1953-1961.

Articles in Books

Rivera-Leòn, Lorena; Kataishi, Rodrigo and Dini, Paolo (Forthcoming 2011). The Socio-Economics of Digital Ecosystems Research: Policy Analysis and Methodological Tools from an Argentinean Case Study. In *Innovation Support in Latin America and Europe: Theory, Practice and Policy in Innovation and Innovation Systems*. Selected papers from the 1st ISLAE Conference, Glasgow Caledonian University, 3-4 December 2009. Ashgate.

Dini, P and Schreckling, D (2010). "A Research Framework for Interaction Computing", in Fernando A B Colugnati, Lia C R Lopes, and Saulo F A Barretto, editors, *Digital Ecosystems: Proceedings of the 3rd International Conference, OPAALS 2010*, Aracaju, Sergipe, Brazil, 22-23 March. Springer LNICST, pp. 224-244.

Egri-Nagy, A, Dini, P, Nehaniv, C L, Schilstra, M J (2010). "Transformation Semigroups as Constructive Dynamical Spaces", in Fernando A B Colugnati, Lia C R Lopes, and Saulo F A Barretto, editors, *Digital Ecosystems: Proceedings of the 3rd International Conference, OPAALS 2010*, Aracaju, Sergipe, Brazil, 22-23 March. Springer LNICST, pp. 245-265.

Horvath, G and Dini, P (2010). "Lie Group Analysis of a p53-mdm2 ODE Model", in Fernando A B Colugnati, Lia C R Lopes, and Saulo F A Barretto, editors, *Digital Ecosystems: Proceedings of the 3rd International Conference, OPAALS 2010*, Aracaju, Sergipe, Brazil, 22-23 March. Springer LNICST, pp. 285-304.

Briscoe, G and Dini, P (2010). "Towards Autopoietic Computing", in Fernando A B Colugnati, Lia C R Lopes, and Saulo F A Barretto, editors, *Digital Ecosystems: Proceedings of the 3rd International Conference, OPAALS 2010*, Aracaju, Sergipe, Brazil, 22-23 March. Springer LNICST, pp. 199-212.

Dini, P, and Schreckling, D (2010). "On Abstract Algebra and Logic: Towards their Application to Cell Biology and Security", in *Paradigms for Biologically-Inspired Autonomic Networks and Services: The BIONETS Project eBook*, Altman, E, Dini, P, Miorandi, D, and Schreckling, D, Eds., pp 67-104. www.bionets.eu

Dini, P, Schreckling, D and Horvath, G (2010). "Algebraic and Categorical Framework for Interaction Computing and Symbiotic Security", in *Paradigms for Biologically-Inspired Autonomic Networks and Services: The BIONETS Project eBook*, Altman, E, Dini, P, Miorandi, D, and Schreckling, D, Eds., pp 105-176. www.bionets.eu

Dini, P and Krause, P (2008). "P2P Networking", entry in the *International Encyclopedia of Communication*s, Blackwell, Vol 8, Wolfgang Donsbach Ed, pp 3487-3489.

Dini, P (2007). "A Scientific Foundation for Digital Ecosystems", in *Digital Business Ecosystems*, Nachira, F, Nicolai, A, Dini, P, Le Louarn, M, and Rivera Leon, L, Eds, European Commission, ISBN 92-79-01817-5, pp. 24-47.

Nachira, F, Dini, P, and Nicolai, A (2007). "A Network of Digital Business Ecosystems for Europe: Roots, Processes and Perspectives", in *Digital Business Ecosystems*, Nachira, F, Nicolai, A, Dini, P, Le Louarn, M, and Rivera Leon, L, Eds, European Commission, ISBN 92-79-01817-5, pp. 1-20.

Dini, P, and Nachira, F (2007). "The Paradigm of Structural Coupling in Digital Ecosystems", in *The Digital Business Ecosystem*, Corallo, A, Passiante, G, Prencipe, A, Eds, Edward Elgar, ISBN 978-1-84720-043-3, pp. 33-52.

Dini, P, Kuusisto, T, Corallo, A, Ferronato, P, Rathbone, N (2003). "Toward a Semantically Rich Business Modelling Language for the Automatic Composition of Web Services", Proceedings of the e-Business Research Forum eBRF-2003, Tampere, Finland, 23-25 September, ISBN 952-15-1135-4.

Dini, P, and Maughmer, M D (1989). "A Computationally Efficient Modelling of Laminar Separation Bubbles," in *Low Reynolds Number Aerodynamics: Proceedings of the Conference Held at Notre*

Dame June 5-7, 1989, ed. T.J. Mueller, Lecture Notes in Engineering No. 54, Springer-Verlag, pp. 174-188.

Co-Edited books

Paradigms for Biologically-Inspired Networks and Services: The Bionets Project e-Book, Altman, E, Dini, P, Miorandi, D, and Schreckling, D, Eds. 2010. www.bionets.eu

Digital Business Ecosystems, Nachira, F, Nicolai, A, Dini, P, Le Louarn, M, and Rivera Leon, L, Eds, European Commission, ISBN 92-79-01817-5, 2007.

Technical Reports to Sponsors

Schreckling, D, Brunato, M, Dini, P, Czap, L, Dora, L, Golic, J, Horvath, G, Martinelli, F, Petrocchi, M, and Faschingbauer, A (2010). "Security in BIONETS", BIONETS Deliverable D4.6, European Commission.

Lahti, J, Huusko, J, Miorandi, D, Bassbouss, L, Pfeffer, H, Dini, P, Horvath, G, Elaluf-Calderwood, S, Schreckling, S and Yamamoto, L (2009). "Autonomic Services within the BIONETS SerWorks Architecture", BIONETS Deliverable D3.2.7, European Commission.

Dini, P, Horvath, G, Schreckling, D and Pfeffer, H (2009). "Mathematical Framework for Interaction Computing with Applications to Security and Service Choreography", BIONETS Deliverable D2.2.9, European Commission.

Dini, P, Briscoe, G, Van Leeuwen, I, Munro, A and Lain, S (2009). "Biological Design Patterns of Autopoietic Behaviour in Digital Ecosystems", OPAALS Deliverable D1.3, European Commission.

Dini, P, Iqani, M, Rivera-León, L, Passani, A, Moschoyiannis, S, Nykänen, O, Pattanaik, D and Chatterjee, J (2009). "Foundations of the Theory of Associative Autopoietic Digital Ecosystems: Part 3", OPAALS Deliverable D12.10, European Commission.

Botto, F, Briscoe, G, Chatterjee, J, Dini, P, Iqani, M, Marinos, A, Pattanaik, D and Rivera-León, L (2009). "Foundations of the Theory of Associative Autopoietic Digital Ecosystems: Part 2", OPAALS Deliverable D12.1, European Commission.

Dini, P, Munro, A, Iqani, M, Zeller, F, Moschoyiannis, S, Gabaldon, S and Nykänen, O (2008). "Foundations of the Theory of Associative Autopoietic Digital Ecosystems: Part 1", OPAALS Deliverable D1.2, European Commission.

Dini, P, Briscoe, G, Munro, A J and Lain, S (2008). "Towards a Biological and Mathematical Framework for Interaction Computing", OPAALS Deliverable D1.1, European Commission.

Dini, P, Schreckling, D and Yamamoto, L (2008). "Evolution and Gene Expression in BIONETS: A Mathematical and Experimental Framework", BIONETS Deliverable D2.2.4, European Commission.

Tsatsou, P and Dini, P (2008). "Community Currencies at the boundary between the gift and exchange economies: the ground for business models in Digital Business Ecosystems", OPAALS Deliverable D6.5, European Commission, http://www.opaals.eu/OPAALS

Bräuer, M, Dini, P, Dory, B, English, A, Iqani, M, Zeller, F (2007). "Principles, Models and Processes for the Development of the Open Knowledge Space", OPAALS Deliverable D10.5, 66 pp.

Dini P (2007). "5-year living roadmap for Digital Ecosystems research in biology-inspired computing", DBE Deliverable D18.6, 7 pp.

Dini P (2007). "Report on self-organisation from a dynamical systems and computer science viewpoint", DBE Deliverable D18.4, 50 pp.

Dini, P (2006). "DBE Science Vision", DBE Deliverable D4.1, 21 pp.

Berdou E, and Dini P (2005). "Report on the Socio-Economics of Free/Open Source", DBE Deliverable D18.3, 54 pp.

Dini P, and Berdou E (2004). "DBE-Specific Use Cases", DBE Deliverable D18.1, 60 pp.

Bassoli, A, Quinn, I, Agius, M, Moran, A, Nisi, V, Dini, P (2002). "Social Research for WAND", Media Lab Europe Internal Report, 170 pp.

Dini, P, Parameswaran, L, Briscoe, G, Vu, G, Mama, J, Bueno, M, Charman, P, and Jones, C (2001). "MAVRIC 2001: Design and Initial Implementation", Philips Research Laboratories, Internal TN 4107, 146 pp.

"Wrist Interactive Device for Wearable Computer," Final Report written for ViA, Inc. and submitted to DARPA, August 2000, 230 pp.

Dini, P, and Coiro, D P (1995). "The Prediction of Airfoil Stall," Status Report submitted to Jim Tangler of the National Renewable Energy Laboratory, Golden, CO.

Dini, P (1994). "Passive Control of Shock/Boundary-Layer Interaction. Part I: Mason and Inger's Theory," written for the Dipartimento di Progettazione Aeronautica, Universita' di Napoli, Italy, 90 pp.

Dini, P, and Maughmer, M D (1990). "A Computationally Efficient Modelling of Laminar Separation Bubbles," Final Report, NASA CR-186729.

Dini, P, and Maughmer, M D (1989). "A Computationally Efficient Modelling of Laminar Separation Bubbles," Semi-Annual Status Report, June 1988-January 1989, NASA CR-184789.

Conference Papers and Presentations

Dini, P (2010). "Algebraic Structures of Interaction Computing", invited talk, Non-Standard Computation Group, Department of Computer Science, University of York.

Dini, P (2010). "Digital Ecosystems and the Social Construction of Economic Identity", invited talk, ICT for Socio-Economic Development Workshop: Sectoral Dialogues between Brazil and the European Union, Aracajú, Sergipe (Brazil), 24-26 March.

Schreckling, D and Dini, P (2009). "Distributed Online Evolution: An Algebraic Problem?" IEEE Congress on Evolutionary Computation, CEC2009, Trondheim, Norway, 18-21 May.

Dini, P (2008). "State of the art in digital ecosystems research", keynote talk, 2nd OPAALS International Conference, Tampere, 7-8 October.

Dini, P (2008). "Notes on relational biology and elementary category theory", Proceedings of the 2nd OPAALS International Conference, Tampere, 7-8 October.

Dini, P and Schreckling D (2008). "Notes on Abstract Algebra and Logic: Towards their Application to Cell Biology and Security," in 2nd International Conference on Digital Ecosystems and Technologies, IEEE-DEST 2008, 26-29 February.

Dini, P (2007). "Structure and Outlook of Digital Ecosystems Research", keynote talk, Inaugural Conference on Digital Ecosystems Technologies, IEEE DEST07, Cairns, Australia, 20-23 February.

Miorandi, D, Yamamoto, L, and Dini, P (2006). "Service Evolution in Bio-Inspired Communication Systems", International Conference on Self-Organization and Autonomous Systems in Computing and Communications, Erfurt, Germany, 18-20 September.

Heistracher, T, Kurz, T, Masuch, C, Ferronato, P, Vidal, M, Corallo, A, Briscoe, G, and Dini, P (2004). "Pervasive Service Architecture for a Digital Business Ecosystem", WCAT workshop, ECOOP 2004 Conference, Oslo, Norway, 14 June.

Dini, P (2004). "The DBE Vision. Open collaborative adaptive environments for SMEs: An experience from Europe", EuroIndia2004 Conference, Delhi, 24-26 March.

Bassoli, A, Quinn, I, Agius, M, Moran, A, Nisi, V, Dini, P, and Quinlan, C (2002). "Social research for WAND and new media adoption on a local scale," Development by Design DyD02 Conference, Bangalore, India, Dec.

Dini, P, Machacek, D, and Case, S (1999). "Computer Architecture for the Mobile Worker," Second International Conference on Intelligent Industrial Automation, Genova, Italy, June 2-4.

Dini, P, and Coiro, D P (1997). "Effects of Laminar Separation Bubbles and Turbulent Separation on Airfoil Stall," Windpower '97 Conference, Austin, Texas, June.

Dini, P, and Bayly, E (1996). "Airfoil and Blade Optimization for a Direct-Drive, Battery-Charging Wind Generator," Windpower '96 Conference, Denver, CO, June.

Dini, P, Coiro, D P, and Bertolucci, S (1995). "Vortex Model for Airfoil Stall Prediction Using an Interactive Boundary-Layer Method," ASME Wind Energy Symposium, Houston, TX, Jan. 29-Feb. 1.

Coiro, D P, and Dini, P (1993). "Stall and Post-Stall Performance Prediction of Advanced Wind-Turbine Airfoils," XII AIDAA Conference, Como, Italy, July 20-23.

Dini, P, Selig, M S, and Maughmer, M D (1991). "A Simplified e^n Method for Separated Boundary Layers," AIAA 9th Applied Aerodynamics Conference, Baltimore, Maryland, September 23-25, AIAA Paper No. 91-3285.

Dini, P, and Maughmer, M D (1990). "A Locally Interactive Laminar Separation Bubble Model," AIAA Aerospace Sciences Meeting, Reno, Nevada, January 8-11, AIAA Paper No. 90-0570.

Dini, P, and Salamon, N J (1989). "A New Graphical Technique for Higher-Dimensional Poincaré Maps," 26th Annual Meeting of the Society of Engineering Science, University of Michigan, Ann Arbor, Michigan, September 18-20.

Dini, P, and Maughmer, M D (1988). "A Study of Airfoil Trailing-Edge Singularities," AIAA Aerospace Sciences Meeting, Reno, Nevada, January 11-14, AIAA Paper No. 88-0606.

Languages

Italian, English, Spanish (reading comprehension)

Nationality

Dual Italian/US Citizenship. Born 24 September 1961 in Milano, Italy