Eric Lecolinet

Télécom ParisTech / LTCI Laboratory
INFRES Department, DIVA Team (team leader).

E-mail: eric.lecolinet@telecom-paristech.fr
Tel: + 33 1 45 81 78 87
Web site: http://www.telecom-paristech.fr/~elc
Postal address: Télécom ParisTech / 46 rue Barrault / 75013 Paris / France.

1. Employment

- *Since May 2015:* Maître de conférences hors classe at Télécom ParisTech.
- *May 1994 - April 2015:* Maître de conférences (associate professor) at Télécom ParisTech.
- *February 1992 - April 1994:* Enseignant-chercheur (assistant professor) at Télécom ParisTech.
- *October 1990 - January 1992:* Post-Doc at IBM Almaden Research Center, San José, CA, USA.
- *April 1990 - September 1990:* Post-Doc at INRIA (SYNTIM project), Rocquencourt, France.
- *September 1986 - August 1987:* Military service.
- *September 1985 - August 1986:* Assistant professor at Institut National Agronomique Paris-Grignon (INAPG), Paris.

2. Education

- *September 1987 - March 1990:* PhD Thesis in computer science at University Pierre & Marie Curie (Paris VI), Paris and Matra MS2I, Velizy, France. Mention très honorable (high honors).

  Title : « *Segmentation d'images de mots manuscrits : application à la lecture de chaînes de caractères majuscules alphanumériques et à la lecture de l'écriture cursive* »
  Supervisor: J-C. Simon.
  Jury: J-P Crettez, G. Lorette, G. Stamon, M. Lucas, J-P. Haton, J-C Simon, G. Gaillat, C. Roche.

- *October 1984 - September 1985:* DEA (M. Sc.) in computer science at University Pierre & Marie Curie (Paris VI), Paris. Mention très bien (high honors).

3. Teaching

Since my recruitment at Télécom ParisTech I have been involved in the conception and the coordination of two study tracks in HCI and of various teaching units in computer science, in HCI and (formerly) in pattern recognition at Télécom ParisTech. I am also responsible of a teaching unit at University Pierre & Marie Curie (Paris VI) and at University Paris-Saclay and I act as a local coordinator for the corresponding Master's programs (ANDROIDE Computer Science Master at Paris VI, HCI Master at Paris-Saclay). My current responsibilities are detailed below:

- Co-supervisor (with Tamy Boubekeur) of the *IGR* study track (2 year track) on Human Computer Interaction and Computer Graphics at Telecom ParisTech.

- Advisor of the following teaching units at Telecom ParisTech:
    - *IGR201:* Interactive Application Development (48h, ~65 students)
    - *IGR203:* Human-Computer Interaction (48h, ~54 students)
    - *INF224:* Programming Paradigms: Theory and Practice (2x24h, ~180 students)
    - *INF720:* C Language Programming (24h, ~25 students)

- Advisor of the following teaching units at universities Paris VI and Paris-Saclay:

- *Human-Computer Interaction* (60h, ~30 students) - Master in Computer Science, ANDROIDE specialty - University Pierre et Marie Curie (Paris VI)
- *Gestural and Mobile Interaction* (21h, ~15 students) - Human Computer Interaction (HCI) Master - University Paris-Saclay.

− Former responsibilities:
  - Co-supervisor of the *IWG* track (1 year study track) at Télécom ParisTech
  - HCI courses at ENSTA (2007-2010) and Paris VI (DEA IARFA then Master IAD, since 1998)
  - Courses in computer science at Télécom ParisTech (since 1992)
  - Courses in pattern recognition at Télécom ParisTech and Paris VI (before 2002)

− Summer schools:
  - HCI course at the Do Son summer school, Vietnam, 2005.
  - Course on interaction & information visualization, Cap Ferret summer school, France, 2005.

4. Research

Since my PhD, I have been working in two different research fields: first in Pattern Recognition (more precisely on handwriting recognition), then in Human-Computer Interaction (HCI). My current research interests focus on 1) gestural interaction for command selection, 2) the learning and the memorization of gestures, and 3) user interaction with small and large devices. I have also been working on haptic/tactile feedback, data visualization and user interface engineering.

From an institutional point of view, I have been involved in the coordination of several projects or teams aiming at developing HCI research at Télécom ParisTech and Institut Mines-Télécom (which is the academic institution Télécom ParisTech belongs to). I am now in charge of coordinating the DIVA team [1] of the Computer Science and Networks (INFRES) department of Télécom ParisTech, which is dedicated to human-computer interaction, interactive visualization and design.

I have also been involved in working towards the same goal at the national level, as a board member, then president of AFIHM, the French research association in HCI (and as a member of its steering committee). I have also been a member of the National Committee of CNRS (French National Center for Scientific Research), which is in charge of the recruitment and the evaluation of CNRS researchers nationwide.

4.1 Publications

Google Scholar (July 2018): 3596 citations, H-Index 28.

- International journals: 9
- French-speaking journals: 7
- ACM CHI, ACM UIST full papers: 15
- Other international conferences: 52
- French-speaking conferences: 38
- Book chapters: 5
- Editing: 4
- Workshops and demos: 20
- Patents: 2

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[1] DIVA Web Site: https://diva.telecom-paristech.fr/

4.2 Student supervision

PhD theses

I have been supervising 17 PhD theses (15 already defended) either as a director or a secondary advisor:

- Marc Teyssier (Since Jan. 2017)
  Comprendre, concevoir et évaluer la modalité tactile dans les interactions homme-machine sociales.
  Supervision: 35% (PhD director). Co-supervised by Gilles Bailly (ISIR) and Catherine Pelachaud (ISIR)
- Bruno Fruchard (Since October 2016)
  Techniques d'interaction exploitant la mémoire spatiale pour faciliter l'accès rapide aux commandes et aux données.
  Supervision: 60% (PhD director). Co-supervised by Olivier Chapuis (CNRS/LRI)

Defended theses:

- Thibaut Jacob (Sept. 2017)
  Edition et visualisation de signaux spatiaux-temporels, application au son 3D.
  Supervision: 40% (PhD director). Co-supervised by G. Bailly (CNRS/Télécom ParisTech).

- Hind Gacem (April 2016)
  Intégration du numérique dans l'analogique : augmentation d'objets tangibles.
  Supervision: 50% (PhD director). Co-supervised by James Eagan (Télécom ParisTech).
  Currently: HCI engineer at TechViz, Paris.

- Quentin Roy (December 2015)
  Manipulation et analyse d'images médicales 3D via des interactions gestuelles sur surfaces tactiles.
  Supervision: 60%. Co-supervised by Yves Guiard (PhD director, CNRS/Telecom ParisTech).
  Currently: Post-doc researcher at the University of Waterloo.

- Can Liu (December 2015)
  Embodied Interaction for Data Manipulation Tasks on a Wall-Sized Display.
  Supervision: 30%. Co-supervised by Michel Beaudouin-Lafon (PhD director, LRI) and Olivier Chapuis (CNRS/LRI).
  Currently: Faculty position in the School of Creative Media at City University in Hong Kong.

- Dong-Bach Vo (September 2013)
  Supervision: 60%. Co-supervised by Yves Guiard (PhD director, CNRS/Telecom ParisTech).
  Conception et évaluation de nouvelles techniques d'interaction pour la télévision interactive.
  Currently: Post-doct at Glasgow University, UK.

- Simon Perrault (April 2013).
  Supervision: 40%. Co-supervised by Yves Guiard (PhD director, CNRS/Telecom ParisTech).
  Techniques d'interaction pour les dispositifs miniaturisés de l'informatique mobile.
  Currently: Assistant Professor à Yale-NUS College, Singapore.

- Mathias Baglioni (April 2012)
  Interactions Physiques sur Dispositifs Mobiles.
  Supervision: 60%. Co-supervised Yves Guiard (PhD director, CNRS/Télécom ParisTech).
  Currently: Technical and development director at Acretion, France

- Sylvain Malacria (May 2011)
  Conception et Evaluation de Techniques d'Interaction pour Surfaces Tactiles et Papier Interactif.
  Supervision: 100% (PhD director).
  Currently: Researcher (CR2) at INRIA Lille Nord-Europe, France.

- Anne Roudaut (February 2010)
  Conception et Evaluation de techniques d'interaction pour dispositifs mobiles.
  Supervision: 100% (PhD director).
  Currently: Leverhulme Research Fellow, Interaction & Graphic group, University of Bristol, UK.

- Muhammad Tahir (September 2001)
  Tangible and Tactile InteractionTechniques for Multimedia Systems.
  Supervision: 100% (PhD director).
  Currently: Assistant Professor at FCIT, University of Jeddah, Saudi Arabia.

- Gilles Bailly (May 2009).
  Techniques de menus : Caracterisation, Conception et Evaluation.
  Supervision: 50% (PhD director). Co-supervised by Laurence Nigay (PhD director, Grenoble University 1).
  Currently: Researcher (CR2) at CNRS.

- José Pinalès (December 2001)
  Reconnaissance hors-ligne de l'écriture cursive par l'utilisation de modèles perceptifs et neuronaux.
  Supervision: 100% (PhD director).
  Currently at Universidad de Guanajuato, Mexico.

- Laurent Robert (June 2001)
  Annotation et visualisation interactives de documents hypermédia.
  Supervision: 100% (PhD director).
  Currently: Technical director at Orsys, Paris.

- Stuart Pook (June 2001)
  Interaction and context in zoomables user interfaces.
  Supervision: 100% (PhD director).
  Currently: Senior software engineer at Criteo, Paris.

- Myriam Côté (June 1997)
  Utilisation d'un modèle d'accès lexical et de concepts perceptifs pour la reconnaissance d'images de mots cursifs.
  Supervision: 50% (PhD director). Co-supervised by M. Cheriet (PhD director, ETS, Montréal).

Post-docs and research engineers

I have supervised 11 post-docs and 3 research engineers:

- Bastien Liutkus (research engineer, 2014/15). Currently: software engineer at à Quematech, Paris.
- Aurélie Cohé (2014/2015). Currently: UX engineer at Renault Technocenter, Guyancourt.
- Minzhi Luo (research engineer, 2013). Currently: Software engineer at Soldata, Paris.
- Simon Perrault (2013). Currently: Assistant Professor à Yale-NUS College, Singapour.
- Julie Wagner (2012/2013). Universität München, then senior UX researcher à Fujitsu Enabling Software Technology GmbH, Munich.
- Marcos Serrano (2011/2012). Currently: Assistant professor at Université de Toulouse (IRIT), Toulouse.
- James Eagan (2011). Currently: Assistant professor at Télécom ParisTech (LTCI), Paris.
- Thomas Pietrzak (2010). Currently: Assistant professor at Université de Lille 1 (Cristal), Lille.
- Gilles Bailly (2009). Currently: Researcher (CR CNRS) à Télécom ParisTech (LTCI), Paris.
- Aurélien Tabard (2009). Currently: Assistant professor at Université Lyon 1 (LIRIS), Lyon.

- Karim-Pierre Maalej (research engineer, 2008). Currently: Software engineer at Kypselia.
- Stéphane Huot (2006). Currently: Senior researcher (DR INRIA) at Inria Lille Nord-Europe (Cristal), Lille.
- Renaud Blanch (2005). Currently: Assistant professor at Université Joseph-Fourier (LIG), Grenoble.
- Stuart Pook (2001-2002). Currently: Senior software engineer at Criteo, Paris.

Master and engineering internships

I have also supervised 17 Master (or equivalent) internships and about 50 engineering internships.

4.3 PhD defense committees

I have participated to 29 defense committees:

- Jessalyn Alvina (12/2017)
  Increasing The Expressive Power of Gesture-based Interaction on Mobile Devices
  Université Paris-Saclay
  Supervisor : Wendy E. Mackay

- Maxime Guillon (11/2017)
  Expansion de cibles pour le pointage et la selection
  Université de Grenoble
  Supervisors : Laurence Nigay and François Leitner

- Alix Goguey (10/2016)
  Comprendre et concevoir l'interaction tactile avec identification des doigts
  Université de Lille
  Supervisor: Géry Casiez

- Sébastien Pelurson (9/2016)
  Navigation multimodale dans une vue bifocale sur dispositifs mobiles
  Université de Grenoble
  Supervisor: Laurence Nigay

- Bin Yang (06/2015)
  Memory Island: Visualizing Hierarchical Knowledge as Insightful Islands.
  Université Pierre et Marie Curie (Paris 6), spécialité informatique.
  Supervisor: J-G. Ganascia.

- Yosra Rekik (12/2014)
  Comprendre, Modéliser et Concevoir l'Interaction Gestuelle Tactile.
  Université Lille 1, spécialité informatique.
  Supervisors: L. Grisoni et N. Roussel.

- Joey Scarr (06/2014)
  Understanding and Exploiting Spatial Memory in the Design of Efficient Command Selection Interfaces.
  University of Canterbury, New Zealand.
  Supervisor: A. Cockburn.

- Huiyuan Cao (11/2013)
  Design of a Turn-Taking Control System Based on Tactile in Multi-user, Synchronous Remote Communication.
  Université de Technologie de Compiègne, specialité Sciences et Technologies Cognitives
  Supervisor: O. Gapenne.

- Adriano Scoditti (09/2011)
  Gestural interaction techniques for handheld devices combining accelerometers and

multipoint touch screens.
Université de Grenoble, spécialité informatique.
Supervisors: R. Blanch et J. Coutaz.

- Dimitri Voilmy (06/2011)
  Les arrangements de l'attention conjointe : interactions en situations d'apprentissage équipées de tableaux augmentés.
  Télécom ParisTech (Ecole doctorale EDITE), spécialité sociologie.
  Supervisors: C. Licoppe et B. Conein.

- Marcos Serrano (06/2010)
  Interaction multimodale en entrée : conception et prototypage.
  Université de Grenoble, specialité informatique.
  Supervisor: L. Nigay.

- Fabien Pfander (06/2009)
  Spatialisation de l'information.
  Université de Technologie de Compiègne, spécialités : Science de l'information et Informatique.
  Supervisors: C. Lenay et F. Ghitalla.

- Qing Pan (12/2008)
  Isotonic elastic hybrid interaction for 2D and 3D navigation / manipulation.
  Université de Lille, specialité informatique.
  Supervisors: C. Chaillou et G. Casiez.

- Sawsan Alshattnawi (11/2008)
  Concurrence et Conscience de Groupe dans l'Édition Collaborative sur Réseaux Pair-à-Pair.
  Université Henri Poincaré, Nancy 1, spécialité informatique.
  Supervisor: G. Canals.

- Nathalie Henry (07/2008)
  Exploring large social networks with matrix-based representations.
  Université Paris Sud - University of Sydney, spécialité informatique.
  Supervisors: J-D. Fekete et P. Eades.

- Alexandre Demeure (10/2007)
  Modèles et outils pour la conception et l'exécution d'interfaces homme-machine plastiques.
  Université Joseph Fourier - Grenoble 1, spécialité informatique.
  Supervisors: J. Coutaz et G. Calvary.

- Caroline Appert (03/2007)
  Modélisation, évaluation et génération de techniques d'interaction.
  Université Paris-Sud, spécialité informatique.
  Supervisor: M. Beaudouin-Lafon.

- Mounia Ziat (11/2006)
  Conception et implémentation d'une fonction zoom haptique sur PDAs. Expérimentations et usages.
  Université de Technologie de Compiègne.
  Supervisor: O. Gapenne.

- Maxime Collomb (12/2006)
  Vers des systèmes de fenêtrage distribués : l'évolution du drag-and-drop.
  Université Montpellier II - Sciences et Techniques du Languedoc, spécialité informatique.
  Supervisor: M. Hascoet.

- Jérome Darbon (10/2005)
  Composants logiciels et algorithmes de minimisation exacte d'énergies dédiées au traitement des images.

Ecole Nationale Supérieure des Télécommunications, spécialité informatique et réseaux.
Supervisors: P. Bellot et T. Geraud.

- Renaud Blanch (09/2005)
  Architectures logicielles et outils pour les interfaces hommes-machines graphiques avancées.
  Université Paris-Sud, spécialité informatique .
  Supervisor: M. Beaudouin-Lafon.

- Suzanne Kieffer (07/2005)
  Assistance multimodale à l'exploration de visualisations 2D interactives.
  Université Henri Poincaré - Nancy 1, spécialité informatique.
  Supervisor: N. Carbonell.

- Christophe Lachenal (2004)
  Modèle et infrastructure logicielle pour l'interaction multi-instrument multisurface.
  Université Joseph Fourier - Grenoble 1, spécialité informatique.
  Supervisor: J. Coutaz.

- Chaouki Daassi (07/2003)
  Techniques d'interaction avec un espace de données temporelles.
  Université Joseph Fourier, spécialité informatique.
  Supervisor: L. Nigay.

- Pierre Abel (06/2001)
  *Supervision d'informations dynamiques et distribuées à l'aide de mondes 3D interactifs :
  Application à la gestion de réseaux.*
  Ecole Polytechnique Fédérale de Lausanne.
  Supervisor: D. Thalmann.

- Frédéric Vernier (02/2001)
  *La multimodalité en sortie et son application à la visualisation de grandes quantités
  d'information.*
  Université Joseph Fourier, spécialité informatique.
  Supervisor: L. Nigay.

- Christophe Bruley (06/1999)
  *Analyse des représentations graphiques de l'information - extension aux représentations
  tridimensionnelles.*
  Université Joseph Fourier, spécialité informatique.
  Supervisors: J. Lemordant et P. Genoud.

- David Price (1996)
  *Classification probabiliste par réseaux de neurones ; application à la reconnaissance de
  l'écriture manuscrite.*
  Université Pierre et Marie Curie.
  Supervisor: G. Dreyfus.

- Romel Moradkhan (1993)
  *Détection des points critiques d'une forme : application à la reconnaissance de caractères
  manuscrits.*
  Université Paris Dauphine, spécialité : informatique des organisations.
  Supervisor: Alain Chécroun.

4.4 Contractual projects

I have been responsible or co-responsible for Télécom ParisTech (unless otherwise stated) of the
following projects and have been involved in their conception:

- DIGISCOPE National Equipex (2011-2020) and DIGIPODS twin project (funded by Région Ile de France). DIGISCOPE is a network of high-performance platforms for interactive visualization of large datasets and complex computation.

- ANR SocialTouch (2017-2022). *Understanding, modeling and evaluating social touch in human-machine interaction*. Project leader.

- ANR Edison3D (2014-2017). *Editing and Rendering for next generation of 3D sound*. Also responsible of a subproject.

- FUI PresAge (2015-2017). *PRospEctives Statistiques liées à l'Age*.

- DIGITEO DigiZoom (2012-2015) and MemSpace (2015-2018) projects, funding the PhD theses of Can Liu and Bruno Fruchard.

- BGLE CONNEXION (2012-2016). *COntrôle Commande Nucléaire Numérique pour l'EXport et la rénovatION*. Local responsible of a subtask of this project.

- CIFRE contract with GE Heathcare funding the PhD thesis of Quentin Roy (2012-2015).

- ITEA TWIRL (2012-2014). *Twinning virtual World Information with Real world data sources*. Also responsible of a work package.

- FUI Quatro 2 (2010-2011). *Interaction pour tablettes à vocation domotique*. Also responsible of a work package.

- Bilateral NIU project (2009-2011) which was part of the UBIMEDIA Common Lab between Alcatel Lucent Bell Labs and Institut-Mines-Télécom.

- QUAERO PVAA (2009-2013). *Interaction pour la télévision interactive*. Local responsible of a subpart of this project.

- DGE/IDF ENEIDE project (2007-2010). *e-Education et Formation, classe numérique*. Also responsible of a work package.

- ANR XWiki Concerto project (2008-2009). *Travail collaboratif pair-à-pair en situation de mobilité*.

- Bilateral MOBA et MOBA2 projects with Alcatel Lucent Bell Labs (2005-2008). *Interaction mobile*.

- Responsible of a project funded by Région Ile de France (2006). V*isualisation et interaction pour l'accès aux masses d'information*.

- CNRS TCAN project (2004-2005). *Interfaces mobiles à retour tactile*.

- RNRT INFRADIO project (2003-2006). *Services et interfaces mobiles*. Responsible of a subtask.

- Action Innovante « Campus Mobile », an internal multi-site project funded by Institut Mines-Télécom (then named GET). (2002-2005). *Conception, réalisation, évaluation de services nomades pour un campus universitaire*.

- Bilateral INFOVISE project with France Télécom (1999-2001). *Interfaces zoomables*.

4.5 Collaborations

- Local collaborations with C. Faure, I. Demeure, R. Sharock, G. Mouret, J-C Moissinac, G. Chollet, C. Pelachaud, O. Rioul, F. Detienne, B. Cahour, A. Gentes, I. Guiard, G. Bailly, J Eagan. Various publications or common projects.

- Collaboration with M. Cheriet (ETS) and Y. Suen (Concordia University), Canada. PhD thesis of Myriam Côté. Several publications in 1995-1998.

- Collaboration with R. Casey, IBM Almaden Research Center, USA. Publication IEEE PAMI 1998.

- Collaboration with J.-L. Lebrave and F. Role, ITEM, CNRS. Publications in 1997 and 1998.

- Collaboration with G. Vaysseix and E. Barillot, Infobiogen. PhD thesis of of S. Pook. Several publications in 2000-2003.

- Collaboration with J-D. Fekete, INRIA Saclay. Publications in 2001 and 2006.

- Collaboration with O. Gapenne et C. Lenay, Université de Compiègne. Publications in 2007 and 2014.

- Collaboration with L. Nigay, LIG, Université de Grenoble. PhD thesis of Gilles Bailly. Several publications in 2007-2010.

- Collaboration with M. Ribière, Alcatel-Lucent Bell labs. Publication in 2010.

- Collaboration with T. Selker, UC Berkeley. Publication at ACM CHI 2014.

- Collaboration with S. Zhao, National University of Singapore. Publications in 2014 and at ACM CHI 2015.

- Collaboration with O. Chapuis and M. Beaudouin-Lafon, LRI. PhD thesis of Can Liu. Publications at ACM CHI 2014 (with W. Mackay) and ACM CHI 2016.

4.6 Administrative duties

- Leader of the DIVA team (Design, Interaction, Visualization & Applications) at LTCI - Télécom ParisTech.

- Former responsible of the « Campus Mobile » and « VIA » (Advanced Interaction and Visualisation) projects at Télécom -ParisTech and Institut Mines-Télécom (then called GET).

- Member of the section 7 of the CNRS National Commitee (2013-2016). This committee is in charge of the recruitment and the evaluation of CNRS researchers nationwide. Sections 6 and 7 are devoted to Computer Science.

- Vice-chair (2010-2012), then chair (2012-2014) of the ACM SIGCHI Paris Local chapter.

- Member of the LTCI council

- Member of the steering committee of the RT4 thematic network « Content, knowledge and Interaction » of Institut Mines-Télécom.

- Member of the steering committee of the DIGISCOPE Equipex.

- Scientific responsible of the Télécom ParisTech Fab lab.

- Member of the Research and Innovation Committee of Paris-Saclay DigiCosme Labex and of Interaction and Robotics working group of the STIC Department.

- Observer member of IFIP WG 2.7/13.4 group in 2002- 2005.

- Member of recruiting committees (LRI 2010, Télécom ParisTech 2008, 2011, LIG 2018).

- Project expertises (ANR, PACA Labs, Futur et Ruptures, etc.)

4.7 Organization and committees

- Current president of AFIHM (Association Française d'Interaction Homme-Machine) and board member in 1999-2003 and 2006-2010.

- Former member of AFIHM steering committee of (CPPMS) in 2007-2017.

- Regular member of the reading committees of the main medias in HCI (almost each year for the last ten years: ACM CHI, ACM UIST, INTERACT, IHM)

- Member of the program or scientific committees of INTERACT 2017, IHM 2016, IHM 2011, IHM 2010, IHM 2007, INTERACT 2007, IHM 2004, UIST 2003.

- Program co-chair of the IHM 2015, IHM 2006, IHM 2002, Ubimob 2006 conferences.

- Member of the scientific board of Annals of Telecommunications in 2002-2007.

- Co-editor of the special number « Visualisation pour les bibliothèques numériques » of the Document Numérique journal in December 2006.

- Local organization of the program committee of ACM CHI 2013 (+200 people), participation to the organization of ACM UIST 2002, local organization of the IFIP WG 2.7/13.4 meeting, October 2002.

- Member of the steering commitee of CNRS GDR I3 and responsible of the ALF working group in 2002-2006.

- Member of the board of GRCE (Groupe de Recheche en Communication Ecrite) in 1996-2002.