expanding human potential through invention
Innovation is the key to getting the maximum value out of resources new and old. A stream of high-quality innovations and the access to the innovators behind this thinking is a crucial competitive advantage in the high-performance world of advanced technology.

Media Lab Europe and its sister lab – the MIT Media Lab - are dedicated to innovation in the ICT sphere. Here in Dublin, Ireland a team of around 100 brilliant, talented and iconoclastic engineers, scientists, artists and designers work together inventing the future. Their goal: to dream the undreamt of and achieve the truly outstanding.

Media Lab Europe is now in its 4th year of operation. It is a mature, successful and thriving centre where astonishing and delightful technological innovations inspire those who encounter them.

Media Lab Europe is based around the concept of partnership: for a subscription equivalent to a senior scientist’s salary, partners get to bring their problems, opportunities and aspirations to the laboratory where we jointly pioneer new
research programs to address these areas. Key to Media Lab Europe’s success is its interdisciplinary studio-style of working and a demonstration-based culture that makes the ideas and concepts tangible via directly usable designs.

Media Lab Europe has an impressive and diverse set of partners. Full partners have the right to a royalty-free licence to all the technologies at both the Cambridge (MA) and Dublin Labs. Furthermore, by being a partner of the Lab, you have several hundred international experts available everyday to you for instant consultation.

All in all a partnership with Media Lab Europe is a warp-speed connection to high-value, high-impact innovation.

We look forward to welcoming you as a partner of Media Lab Europe.

SIMON JONES
Managing Director, Media Lab Europe
European Research Partner of MIT Media Lab
ABOUT MEDIA LAB EUROPE

Mission
Media Lab Europe’s mission is to expand human potential through invention.

Status
Media Lab Europe is a not-for-profit, international research institute.

Origin
Media Lab Europe was founded in July 2000 as a collaborative venture between the Irish Government and the Massachusetts Institute of Technology (MIT).

Modelled on the Media Laboratory at MIT, Media Lab Europe was established as a hybrid between academia and the corporate world, to create a unique new centre of excellence in digital technologies.

The laboratory is now well established in the former Guinness Hopstore in Dublin’s growing Digital Hub, with over 100 people working in a variety of research and supporting roles.

Partners
Working with partners from industry, academia and civil society, Media Lab Europe draws on a wide variety of viewpoints in developing its activities.

Moreover, the results of its work are made available to its partners so that ideas that transform the way we live and work can move from the laboratory to implementation.

Diversity
Media Lab Europe invents by bringing together scientists, engineers and artists from different backgrounds, disciplines, cultures and nationalities to create technologies and explore applications that have barely been dreamt of before. With the research we engage in and the tools we invent, science is being advanced, knowledge increased, boundaries extended and human life improved.
**INTIMATE INTERFACES**

**A major current theme at Media Lab Europe is Intimate Interfaces: bringing together intermodal interfaces, biometric sensing and rich representations to create intimate and personal connections with and through new technologies.**

Intimate Interfaces change the way we interact with human-made objects and the ways we relate to other people via these objects. Intimate Interfaces are ones you do not notice until they are missing. They connect people with things, the environment and each other in ways that augment human abilities, beyond the natural limits of our senses. They allow you to hear the inaudible, see the invisible and do the impossible.

In a world where technology is already everywhere, its expansion will mean deeper penetration into the niches and crannies of everyday life. Technology is and will increasingly be intimate with us.

**Intimate Interfaces – what are they?**

Intimate Interfaces engage with our bodies, our senses and our minds, shaping themselves to the rhythms and character of natural constitution. An Intimate Interface is successful if its user cannot imagine living without it, so vitally functional and comfortably familiar. Intimate Interfaces will reside in our clothing, our furniture, our jewellery, and in and on our bodies, as well as in the gadgets we carry and use.

Intimate Interfaces connect individuals with technology and also give individuals the power to connect more richly with one another. An Intimate Interface might subtly help us orient ourselves in a strange city at one moment and help us make friends with an interesting stranger at the next. They may tell us of the invisible risks we are taking as we follow our routine or inform us when a loved one is stressed or uncomfortable. They may coach us in our golf swing, help us calm ourselves before a presentation, or assist a friend in teaching us a new dance.

**Intimate Interfaces – how will they work?**

The physical foundations of Intimate Interfaces are new ways of sensing our condition and intentions together with new displays and feedback mechanisms. They include new kinds of biometric, acoustic and haptic sensing and actuation to human purposes and knowledge. These technologies can then interact with each other and with the external environment in ways that are unobtrusive and robust.

Development of Intimate Interfaces is an interdisciplinary endeavour that will require foundational work, application creation and integrated design. Foundational work will address basic technological, scientific and infrastructural questions. Application creation will lead to compelling working prototypes which will both capture the imagination and challenge the foundational work.

Finally, we will look at these technologies in use, being adopted by the people who are the real judges of whether intimacy works.

Each research group at Media Lab Europe has a theme that relates to Intimate Interfaces, and researchers work together in identifying and pursuing their ideas around this theme with passion and enthusiasm.
Everyday Learning researchers are interested in how people’s thinking changes and grows over time, how this happens differently for different people, and how people use objects and artifacts to construct and mediate changes.

We work with people of varied ages and cultures, in everyday settings and in educational milieus, to spawn tools and situations that support people in creating things in both physical and virtual forms. As people advance their creations and discuss them with others, they become adept at thinking about properties of the constructive materials, the represented ideas, learning itself, and their own ways of learning.

Our goal is to elucidate and support diverse learning processes as people increasingly take charge of their own health care and wellbeing, and that of the environments in which they live; as they increasingly take charge of their own accessing and generating of information, and forming and expressing of opinions; and as they increasingly take charge of their own development at personal and collective scales. Correspondingly we strive to work with members of the education, media, health care and energy sectors as they acknowledge change and work toward new ways of sustaining themselves.

Carol Strohecker

Carol Strohecker earned the PhD of Media Arts and Sciences from the Massachusetts Institute of Technology in 1991, and the MS in Visual Studies from MIT in 1986. Prior to joining Media Lab Europe in 2001, she worked in the US at MERL – Mitsubishi Electric Research Laboratories and in the Human Interface Group of Sun Microsystems. She is on several research-related boards and international programme committees, and has been a Fellow of the Harvard University Graduate School of Design, the US National Endowment for the Arts, and the Massachusetts Council for the Arts and Humanities. She holds four US patents for her work in interactive media tools and methods.
What will be the future of human relationships as mediated by technology?

Humans have a fundamental need for contact with other humans. Our interactions and relationships with other people form a network that supports us, makes our lives meaningful, and ultimately enables us to survive. The Human Connectedness research group explores the topic of human relationships and how they are mediated by technology. Our mission is to conceive a new genre of technologies and experiences that allow us to build, maintain, and enhance relationships in new ways. We also aim to enable new kinds of individual bonds and communities that were not possible before but may be beneficial or fun.

We seek to build a technological framework for applications in this domain, taking advantage of the infinite bandwidth and processing-rich computing environments of the future and the opportunity to extend these networked media environments into our architectural surroundings as well as into interfaces that sit close to our bodies and are always with us. We are equally interested in forming a design framework that includes an understanding of sociological and psychological factors to help shape these systems in a fashion that reflects the needs and sensibilities of the groups within which they operate.

**Stefan Agamanolis**

Stefan Agamanolis holds MS and PhD degrees in Media Arts and Sciences from the Massachusetts Institute of Technology. His research interests include remote collaboration and awareness, media spaces, automated video editing, ubiquitous computing, ambient media, sports over a distance, responsive environments, interactive storytelling, and technologies for cultural exchange. Earlier in his career, Stefan studied computer science, philosophy and film at Oberlin College. He was born and raised in the state of Ohio in the United States.
The Liminal Devices group aims to create experiences and technologies that examine the threshold between virtual and physical reality and between our inner and outer states of awareness.

As mobile, wearable technology advances there will be increasing opportunities to engage in the physical world while coexisting in other times and places. And as bandwidth increases, all forms of communication, information, entertainment and creative expression can be always with us and always on.

Can we design simultaneous realities that allow us to see and sense more than the world in front of us in ways that enhance rather than overwhelm?

We address this challenge by:
- Utilising biosignals and position to define subtle and intimate interface paradigms for mobile devices.
- Developing eyewear that includes sensors and displays embedded in lenses for intimate, personal experiences.
- Designing physical environments that mix real and virtual elements for both intimate and shared experiences in public areas.

Rebecca Allen
Rebecca Allen directs the Liminal Devices group at Media Lab Europe. She is an internationally recognised artist and research pioneer in 3D computer graphics, human motion simulation and interactive media. Allen was founding chair and professor of the UCLA Department of Design | Media Arts. At UCLA she directed the Emergence research project involving artificial life, 3D virtual environments, augmented reality and unique multimodal interfaces. Previously, she was creative director and executive producer at Virgin Interactive Entertainment; senior researcher at the world-renowned NYIT Computer Graphics Laboratory; and researcher at MIT’s Architecture Machine Group. Rebecca has designed and directed award-winning projects for numerous clients including BBC, CBS, NBC, FOX, PBS, Time Warner, Island, Mattel, Philips, Nintendo, Taejon World Expo, Seville World Expo, Apple and DARPA. Awards include an Emmy award.

Rebecca Allen
Senior Research Scientist, Media Lab Europe
Exploring how a combination of sensory immersion (augmented reality), gameplay, novel biometric interfaces and intelligent bio-feedback can constructively affect the state of the human mind and unlock dormant or under-used skills and knowledge.

The MindGames group is committed to developing constructive technologies that can expand and improve human potential. We have chosen a gaming framework to explore our research vision given that much is learned quickly and effectively when a human being is immersed in a virtual environment playing a compelling ‘mind game’. We are interested in developing multi-modal and innovative interfaces to content-rich virtual worlds, such as movement interfaces or biometric monitors that can measure a person’s affect or emotional state. Our overall aim is to facilitate the learning of skills in the virtual world that are useful back in the real world.

The MindGames group is a truly multi-disciplinary team, possessing expertise in a wide range of fields from biomedical signal processing, hardware design, graphics generation, multimedia, music composition, artificial intelligence, psychology, computer science and games programming.

The group has produced a number of widely acclaimed demonstrations notably the ‘Relax to Win’ concept where players must relax in a racing game in order to win, and ‘Brain-Child’ an immersive video game where gaining control over relaxation becomes a power in the virtual world.

Gary McDarby
Principal Research Scientist, Media Lab Europe

Dr. Gary McDarby has a background in Biomedical Signal Processing and is the principal research scientist leading the MindGames group. Previously, Gary worked as a research and development engineer in the areas of digital audio and video; as an avionics engineer; and as an ASIC design engineer. Gary has travelled extensively and draws inspiration for project ideas from people outside the "box". He passionately believes in the transformational power of technology for people in difficult human circumstances and was instrumental in facilitating the construction of an Intel Computer Clubhouse on the Media Lab Europe campus.
The Palpable Machines group aims to enrich the experience of interacting with the digital world by focusing on the capabilities of human sensory systems, in particular the sense of touch.

Through a continually evolving series of demonstrations and prototypes, we seek to explore new opportunities to build on the strengths and interdependencies of our senses in the design of interfaces to computationally enhanced devices such as tools, toys, games and musical instruments.

This work is motivated by a belief that current interface technologies do not take account of the richness of intermodal interaction. Human sensory systems do not act in isolation, but rather combine to inform us about our surroundings. In encountering a new object, for example, we glean important and unique information about its properties from many different senses. Moreover, the interaction between sensory systems is not fixed in terms of their priority or function, but is rather context-dependent. Thus while our knowledge of the space around us is driven by vision during daylight, in situations of limited light auditory cues can come to supplement or even supplant visual cues. Our goal, therefore, is to develop design methods that allow us to match tasks to the sensory feedback most relevant to their successful completion in a given context of use.

Sile O’Modhrain
Sile O’Modhrain received her Masters degree in Music Technology from the University of York and her PhD from Stanford University’s Center for Computer Research in Music and Acoustics (CCRMA) where her work investigated the potential role for haptic feedback in interfaces for computer based musical instruments. Before embarking on her PhD, she worked as a sound engineer and producer for BBC Network Radio. In 1994, she received a Fulbright Scholarship to attend Stanford University, where she developed a prototype haptic interface as a means for blind computer users to access non-text information and to perform tasks such as digital audio editing.
The Trusting Technologies group explores the human need for trust in our interaction with and through digital technology.

Every meaningful relationship, communication or interaction requires trust. Our dependence on digital technology makes it the necessary partner in trust - we are bound to trust technology, we strive to trust through technology and we hope that technology trusts us. The Trusting Technologies group is looking at the boundary between society and digital systems. The group investigates how trust manifests itself in various aspects of digital technology, how it can be communicated over such technology and how it affects the way we trust others and are trusted by others.

Trusting means correctly predicting intentions. That is why the Trusting Technologies group concentrates on Intentional Devices: devices that can act depending on our intentions and that can communicate their intentions. The group explores how trust between people and devices can be built and maintained by communicating, predicting and acting upon intentions of the other party.

**Piotr Cofta**

Piotr Cofta graduated (MSc) and subsequently received his PhD in computer science from the University of Gdansk, Poland. For several years he enjoyed teaching and conducting research at the University of Gdansk until he moved to Finland to join a start-up company specialising in mobile communication. He later moved to Nokia, working both in Finland and in the USA as a Principal Scientist focusing his research on trust and security, including mobile commerce, Java standards, smart cards, device security and privacy. In 2004, Piotr joined Media Lab Europe and formed the Trusting Technologies group.

Piotr Cofta
Senior Research Scientist, Media Lab Europe
Media Lab Europe is the European Research Partner of the MIT Media Laboratory.

The MIT Media Laboratory was founded in 1985 by MIT Professor Nicholas Negroponte and the late Jerome Wiesner (former science adviser to President John F. Kennedy and former President of MIT) who foresaw the coming convergence of computing, publishing, and broadcasting, fuelled by changes in the communications industry. As this convergence accelerated, it spurred interconnected developments in the unusual range of disciplines that the Media Laboratory brought together, including cognition, electronic music, graphic design, video, and holography, as well as work in computation and human-machine interfaces.
In its first decade, much of the laboratory’s activity centred around abstracting electronic content from its traditional physical representations, helping to create now-familiar areas such as digital video and multimedia. The success of this agenda is now leading to a growing focus on how electronic information overlaps with the everyday physical world.

True to the vision of its founders, today’s laboratory continues to focus on the study, invention and creative use of digital technologies to enhance the ways that people think, express, and communicate ideas, and the ways they explore new scientific frontiers. The MIT Media Lab is based in Cambridge, MA and currently has over 30 different research groups working on over 350 projects.
Partnering with Media Lab Europe is an opportunity to engage collaboratively with some of the finest minds in the world. Media Lab Europe, together with its sister laboratory the MIT Media Lab, has helped shape and form the internet, wireless and mobile worlds we inhabit today. Our unique funding model offers partners the chance to bring their problems, opportunities and challenges to a place where world-class innovation occurs and important and exciting developments in design and technology are produced.

The benefits of partnership with Media Lab Europe are many and various. Our partners have access to some 400 researchers across both laboratories - providing an outstanding set of thinkers for advice, help, support and encouragement in complex technical issues. The demo-based culture of the laboratory means that we are both thinkers and doers. Some demos can be rapidly developed into products, others stimulate profound discussion, and generate new ways forward in addressing existing problems. Furthermore Media Lab Europe is a place where many different companies meet to exchange ideas, perspectives and form alliances. Above all, Media Lab Europe is a place where surprise, excitement, innovation and new opportunities for profit and business interact in a stimulating and thought-provoking way.

Why not partner with Media Lab Europe?
The costs are little more than that of a single senior scientist. As a partner, you will have non-exclusive, royalty-free licences to all our IP and demos. You can place staff in the laboratory, participate in our partner-only thought-leading events, and imbibe the unique MIT atmosphere to spark new avenues and agendas for your organisation.

There are many organisations who will work to solve the challenges you face today. Media Lab Europe will progress jointly with you the opportunities still to be dreamed, and help deliver them to you for a future of prosperity and profit.
FOCUS
How distributed media technologies can transform the ageless art of storytelling to meet the needs, desires, and imaginations of new and evolving cultures.

Research Fellow
Michael Leavitt
Cati Vilar
Alicia Ochoa

Collaborations with
Dublín-Carmona, B3
Media Lab Europe is host to numerous events, offering the most comprehensive calendar of research-driven forums in Europe for business and research professionals.

In addition to events organised and sponsored by Media Lab Europe and the MIT Media Lab, partners of Media Lab Europe can also avail of our 200-seater auditorium, informal dining facilities and event management services, to host their own events, for either internal or client delegates.

Events at Media Lab Europe are an opportunity for partners to meet, experience, and discuss the latest research results directly with the researchers at the laboratory. They are also an opportunity for select prospective partners and guests to gain a first-hand overview of the laboratory’s research, by viewing projects and demonstrations ‘at the bench’ and interacting directly with the researchers working on them. Attendees have the opportunity to immerse themselves in the future with global thought leaders, technology experts, Media Lab Europe and MIT Media Lab researchers. The events provide the opportunity to exchange views with other senior professionals, envisage alternate futures and gain insight to help you shape your own research and business directions.

As well as bringing together some of the best minds from MIT and the Media Lab family, we engage key note speakers from business and society to add another dimension; believing that it is at the intersection of different disciplines that great things happen.

Attendance at all Media Lab Europe events is by invitation only. Visit the events page at www.medialabeurope.org/events to view the latest event calendar and request an invitation. Video presentations of the most recent events are also available for viewing on the website.