

Nadine Aburumman

Associate Dean EDI/Lecturer, Computer Science Department - Brunel University London



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Google Scholar (Link)

Research group: Graphics and Extended Reality Team (GERT)

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Research Interests

Visual Computing & Computer Graphics: I am a computer graphics researcher specialising in interactive physics and digital humans, with a focus on developing real-time algorithms for time-critical applications.

Human Computer Interaction (HCI): I am using immersive technologies in interdisciplinary research projects that include computing, cognitive neuroscience, social interaction, physiotherapy, training and education.

Vision and Perception: I am interested in spatial computing problems such as SLAM, 3D reconstruction, feature detection, pattern recognition, structure from motion, and visual learning.

Professional Affiliations

Sep 2019–now **Lecturer**, Computer Science Brunel University of London London, **UK**
I lead Brunel University's Graphics & Extended Reality Team, supervise PhD students, deliver and lead UG and PG modules, and supervise numerous student projects. I also manage departmental outreach, serve as Deputy Admissions Tutor, lead Athena SWAN outreach initiatives promoting equity and inclusion, and engage actively in institutional governance (as a member of Senate).
Webpage: <https://www.brunel.ac.uk/people/nadine-aburumman>

2024–now **External Examiner**, Department of Creative and Digital Technologies University of Chichester, **UK**
I'm providing independent academic oversight and quality assurance for undergraduate. Responsibilities include reviewing assessment processes, ensuring academic standards, and contributing to curriculum development through constructive feedback in the Department of Creative and Digital Technologies.

2018–2019 **Research Associate**, Institute of Cognitive Neuroscience University College London, **UK**
I worked on a Leverhulme Trust-funded project "Understanding & Generating Social Interaction", investigating how nonverbal cues, such as head movements, gaze, facial expressions, and gestures, affect interpersonal trust and closeness. I was also part of the supervisory team for a PhD student. Teaching duties included serving as an hourly lab assistant for undergraduate modules in programming and graphics.

2017–2018 **Postdoctoral Fellowship**, Computer Science Research Institute of Toulouse Paul Sabatier University, **France**
I conducted research (Funded by Centre International de Mathématiques et Informatique de Toulouse (CIMI) Fellowship (covering salary costs and €10,000 for research costs)), focusing on modelling and simulating 3D virtual characters' skin and garments. Additionally, I supervised two MSc dissertations, guiding projects on fluid dynamics and wrinkle simulations, enhancing the realism and interactivity of virtual characters.

2016–2017 **Postdoctoral Researcher**, Institute of Multiscale Simulation Friedrich-Alexander University, **Germany**
I developed a novel particle-based method for simulating reactive flows, enabling two-way coupling between incompressible fluids and deformable bodies. Targeted applications include medical treatments like secondary bone healing and interactive environments such as video games.

Education

2012–2016	Ph.D., Computer Science Sapienza University of Rome, Italy Dissertation Title: Position-based Skin Deformations for Interactive Character Animation Advisors: Prof. Marco Schaerf and Prof. Marco Fratarcangeli Examiners: Prof. Catherine Pelachaud, Prof. Marco Tarini and Prof. Fiora Pirri Classification: Excellent
2007–2009	M.Sc., Computer Science (computer graphics, vision and imaging) Al Balqa' Applied University, Jordan Thesis Title: Robust Digital Watermarking for Compressed Three Dimensional Models Based on Polygonal Representation Classification: Excellent
2003–2007	B.Sc., Computer Science Princess Sumaya University for Technology, Jordan

Leadership & Outreach

2025–now	Associate Dean for Equity, Diversity and Inclusion I lead strategic initiatives that foster an inclusive culture across the College of Engineering, Design and Physical Sciences. I work collaboratively to embed EDI principles into teaching, research, recruitment, and student experience.
2021–now	Athena SWAN Outreach Lead At Brunel, as the Athena SWAN departmental outreach lead, I led outreach initiatives, collaborating with the STEM Centre to engage schools and support students from disadvantaged backgrounds. Designed, organised, and delivered Girls' Computer Science Summer Schools and contributed significantly to the CS Athena SWAN Silver application submission (March 2025). In May, 2025 the Department of Computer Science has been awarded the Athena SWAN Silver Award
2024–now	Member of Senate, University Level At Brunel, I represent the College of Engineering, Design and Physical Sciences in University governance, champion College priorities, facilitate communication between Senate and College staff, and strengthen the College's visibility across institutional leadership.
2019–now	Deputy Admissions Tutor – Undergraduate Computer Science At Brunel, I support undergraduate recruitment through Open Days, Applicant Days, and Clearing events. Deliver presentations, run interactive demos, and contribute to admissions strategy and student engagement.
2021–now	Made In Brunel (MiB) – logistics and planning At Brunel, I coordinate the Software Innovation strand, manage logistics, and showcase student software projects. Engage with industry to build partnerships and promote student work across professional communities.
2023–now	In2STEM Programme Host and Facilitator In2STEM Charity At Brunel, I host and facilitate workshops aimed at inspiring students from underrepresented backgrounds to pursue STEM. Support programme delivery through mentoring, interactive activities, and tailored guidance.
2022–2024	Co-coordinator, AI Thought Leadership Seminar Series (TLS) Centre for AI: Social and Digital Innovation At Brunel, I co-organise an interdisciplinary seminar series highlighting AI research and its societal impact. Foster dialogue between academia, industry, and policy stakeholders on ethical and inclusive innovation.

Awards & Fellowships

2024	Runner-up Lecturer of the Year	Brunel University London (University Level)
2023	Award for Excellence Recognition	Brunel University London (A recognition for my leadership Initiatives in the Athena SWAN outreach activities [£1500])
2022	Brunel Research Initiative And Enterprise Fund (BRIEF) Award	Brunel University London, funding the development of an interactive 3D tool for simulating droplet-solid interactions [£11,000]
2020	FHEA - Fellow of the Higher Education Academy	
2017-2018	Postdoctoral Fellowship	CIMI Postdoctoral Fellowship Grant, funding for a 2 year postdoctoral fellowship at IRIT, Toulouse, France salary and €10,000 for research costs
2015	Research Visit Fund	Sapienza University of Rome for a three-month Research visit to ICube Laboratory University of Strasbourg, France [€3000]
2012–2015	Doctoral Scholarship	Three-year scholarship awarded from EU Erasmus Mundus to support my PhD studies
30 May 2014	Best paper and Best presentation awards	at the ACM Spring Conference on Computer Graphics
Paper Title: Position Based Skinning of Skeleton-driven Deformable Characters		

Research & Education Grants

2025	Funding Agency: Royal Society Partnership Grants 2024 (Education Grant) P-I on project titled "How can AI and sensors help you create a smarter, more efficient garden?" Award Amount: £3,000
2023	Funding Agency: RESPECT 4 Neurodevelopment (Research Grant) Co-I on project titled "NeuroCAVE: Combining wearable diffuse optical tomography and immersive virtual-reality for the reliable study of neurodevelopmental condition" Award Amount: £50,000
2023	Funding Agency: Knowledge Transfer Partnerships (KTP) and Brunel (Research Grant) Co-I on project titled "Governing immersive biomedical tech, health and human rights in the Metaverse" Award Amount: £120,500
2021	Funding Agency: Leverhulme Trust Research Grant (Research Grant) Co-I on project titled "Learning to care: the early development of empathy in brain and behaviour" Award Amount: £223,216

PhD Supervision & Defence Committee

- Ourania Koutzampasopoulou Xanthidou, **Ph.D student, primary supervisor**, CS department, Brunel University, UK, **Awarded PhD in Feb 2025** (topic: Exploring the Effect of Vibration Haptic Feedback in Collaborative VR Training Settings [link]).
- Mingzhao Zhou, **Ph.D student, primary supervisor**, CS department, Brunel University, UK, **ongoing: Oct 2023 - expected 2026** (topic: Real-time Visual and Haptic Feedback of Grasping Movements in Virtual Reality).
- Gerard Doran, **Ph.D student, second supervisor**, CS department, Brunel University, UK, **ongoing: Oct 2022 - expected 2025** (topic: Improving Human-Agent Interaction Using EEG, Virtual Reality, and, the Interactive Brain Hypothesis).
- Yuliya Chystaya, **Ph.D student, second supervisor**, CS department, Brunel University, UK, **ongoing: Oct 2023 - expected 2026** (topic: Accessible by Design: Integrating Accessibility in Extended Reality (XR) Applications and Services).
- Patrick Falk, **Ph.D student, supervisory team**, ICN, UCL, UK, **Jan 2018- June 2022** (topic: Understanding Social Interaction).
- Sara Casti, **visiting Ph.D student, supervisory team**, IRIT, Paul Sabatier University, Toulouse, **from Sep-Dec 2017** (topic: Cage Deformation and Skinning for Character Animation).
- Nicole Hooker, Sep 2022 (Negotiation Skills Training Intervention Based on Automated Recognition of Human Emotion and Nonverbal Behaviour), **PhD Defence, Internal Examiner**, Brunel University.
- Thanaa Al-Rawashdeh , Feb 2025 (Hygrothermal Performance Analysis of Bio-Based Insulation Materials of Brick Walls), **PhD Defence, Chair**, Brunel University.

Research Experience

Sep 2019–Now

Lecturer

Computer Science Department, Brunel University London, United Kingdom

Lead-the Graphics and Extended Reality Team (GERT)

My research focuses on and contributes to the next generation of digital humans by developing algorithms to run efficiently in real-time and immersive environments. On the way to efficiently digitising people, my research advances the believability of virtual humans through the body, soft tissue, muscle deformation and cloth simulations. Moreover, I am leading multidisciplinary studies dedicated to generating nonverbal communication/social cues for virtual humans and haptic feedback. I am collaborating with psychologists to investigate the use of virtual humans to study empathy and alexithymia.

Dec 2018–Aug 2019

Research Associate

Institute of Cognitive Neuroscience, University College London, United Kingdom

Advisor: Prof Antonia hamilton

Nonverbal Social Communication Project: In this research, I investigated how coordination in such subtle nonverbal communication can have effects on closeness and trust. Therefore, I employed Virtual Reality (VR) to understand how coordination influences social bonding and strongly perceived similarities in personality. I found that VR provides a high level of social presence with conversation patterns that are similar to face-to-face interaction.

Feb 2017–Nov 2018

Postdoctoral Researcher

IRIT, Paul Sabatier University, France

Advisor: Prof Loic Barthe

Muscle Deformations for Implicit Skinning Project: I developed a controllable muscle deformation method for character animation. In this work, the muscles act as skin deformer by automatically propagating their contraction/stretch,inflation/deflation and eventual activation(when the character forces) on the mesh presenting the character skin.

Mar 2016–Feb 2017

Postdoctoral Researcher

MSS, Friedrich-Alexander University, Germany

Advisors: Prof Thorsten Pöschel and Dr Patric Müller

Coupled Simulation of Deformable Bodies and Fluids Project: I developed a stable method for simulating two-way coupling of deformable bodies and incompressible fluid. The method is able to handle thin deformable shells or membranes (such as clothes), which is a rather complex problem in the case of two-way coupling.

Nov 2012–Mar 2016

Graduate Research Assistant

Sapienza University of Rome, Italy

Advisors: Prof Marco Schaerf and Prof Marco Fratarcangeli

Real-time Skin Deformations Project: This project addresses the problem of creating believable mesh-based skin deformation for soft articulated characters. I presented a novel two-layered deformation framework, which is able to mimic the macro-behaviours of the skin and capture secondary effects, such as volume conservation and jiggling.

Mar 2015–Jun 2015

Visiting Scholar

IGG Team/ICube Lab, University of Strasbourg, France

Advisor: Prof Dominique Bechmann

Collision Handling Project: In this research, I worked on the collision detection problem, which is of major interest in various application areas, ranging from games, animation and virtual reality to surgery simulation and robotics.

Selected Publications

International journal with peer-reviewing process:

- Bulgarelli, C., Pinti, P., **Aburumman, N.** and Jones, EJH, **Combining wearable fNIRS and immersive virtual reality to study preschoolers' social development: a proof-of-principle study on preschoolers' social preference**, Oxford Open Neuroscience, 2. pp. 1 - 15, **2023**.
- **Aburumman, N.**, Gillies M, Ward JA, Hamilton F de C A., **Nonverbal Communication in Virtual Reality: Nodding as a Social Signal in Virtual Interactions**, International Journal of Human-Computer Studies, International Journal of Human-Computer Studies, 164. pp. 1 - 9. ISSN: 1071-5819 **2022**.
- **Aburumman, N.**, Nair, P., Mueller, P., Barthe, L., Vanderhaeghe, D., Roussellet, V., **ISPH-PBD: Coupled Simulation of Incompressible Fluids and Deformable Bodies**, The Visual Computer journal, 36(5), 893-910 , **2020**.
- Casti, S., Livesu, M., R., Mellado, N., **Aburumman, N.**, Scateni, R., Barthe, L., Puppo, E., **Skeleton Based Cage Generation Guided by Harmonic Fields**, ComputersGraphics journal, Volume 81, June 2019, 140-151, **2019**.
- Roussellet, V., **Aburumman, N.**, Canezin, F., Mellado, N., Barthe, L., Kavan, L., **Dynamic Implicit Muscles for Character Skinning**, ComputersGraphics journal, 77:227-239, December 2018. **2018**.
- **Aburumman, N.** and Fratarcangeli, M., **Position-Based Skinning for Soft Articulated Characters**. Computer Graphics Forum, 34: 240-250, September **2015**.
- Abou El-seoud, S., **Aburumman, N.**, Islam A.T.F Taj-eddin, F Khatatneh, K. and Gutl, C, **Robust Digital Watermarking for Compressed 3D Models based on Polygonal Representation**, International Journal of Computer Applications 61(4):1-14, January **2013**.
- **Aburumman, N.**, Abou El-Seoud, S., F Khatatneh, K. and Gutl, C. **Geometry Compression for 3D Polygonal Models using a Neural Network**, International Journal of Computer Applications 1(29):13- 22, February **2010**.

International conferences with peer-reviewing process:

- Xanthidou, O. K., **Aburumman, N.** and H. Ben-Abdallah, **The Impact of Collaborative Learning Virtual Environments on Student's Performance**, 2024 IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRINE), St Albans, United Kingdom, pp. 231-236, **2024**.

- Zhou, M., **Aburumman, N.**, **Grasping Objects in Immersive Virtual Reality Environments: Challenges and Current Techniques**, The 10th IEEE International Conference on Virtual Reality 2024. Bournemouth, UK. ISSN: 2331-9542 , pp. 1-8, **2024**.
- Xanthidou, O. K., **Aburumman, N.** and H. Ben-Abdallah, **Investigating Trainee Perspectives on Virtual Reality Environments: An In-Depth Examination of Immersive Experiences with Haptic Feedback**, The 18th IEEE Annual International Systems Conference, Montreal, QC, Canada, pp. 1-8, **2024**.
- Michael, B. and **Aburumman, N.**, **Exploring Language Pedagogy with Virtual Reality and Artificial Intelligence**, 41st Computer Graphics Visual Computing Conference. Wales, UK. 15 - 15 September. pp. 1 - 7. **2023**.
- Keshtkar, H. and **Aburumman, N.**, **DropSPH: ISPH Simulation of Droplet Interactions with a Solid Surface**, The 44th Annual Conference of the European Association for Computer Graphics. Saarbrücken, Germany. 7 - 12 May. Eurographics. pp. 13 - 14. **2023**.
- Xanthidou, O., **Aburumman, N.**, Benabdallah, H., **Virtual Reality current trends and proposed research agenda**, the IEEE 8th International Conference on Information Technology Trends (ITT). Dubai, United Arab Emirates. 30 - 25 May. IEEE. pp. 1 - 5. **2022**.
- **Aburumman, N.** and Fratarcangeli, M., **State of the Art in Skinning Techniques for Articulated Deformable Characters**, in Proceedings of the 11th Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, Rome, Italy, ISBN 978-989-758-175-5, pages 200-212, February **2016**.
- **Aburumman, N.**, Schaerf, M. and Bechmann, D., **Collision Detection for Articulated Deformable Characters**, in Proceedings of the ACM SIGGRAPH Conference on Motion in Games (MIG2015), November **2015**.
- **Aburumman N.**, and Fratarcangeli M, **Position Based Skinning of Skeleton-driven Deformable Characters**, in Proceedings of the ACM 30th Spring Conference on Computer Graphics. , pp. 83-90. ACM. May **2014**. (**Best Paper Award**).

Book chapter:

- **Aburumman, N.** and Fratarcangeli, M., **Skin Deformation Methods for Interactive Character Animation**, in CCIS Communications in Computer and Information Science, Springer International Publishing, volume 693, 153—174, August **2017**.

Under review:

- Orth, D., Kal, E., **Aburumman, N.**, Ampiah, Kwesi., Castle, J. and Hoozemans, M., **Inter And Intra-Rater Reliability Of A Virtual Reality Enabled 3D Human Motion Capture System In Anatomy-Trained And Anatomy-Untrained Operators**, submitted to Human Movement Science.
- Zhou, M and **Aburumman, N.**, **Grasping Object: Challenges and Innovations in Robotics and Virtual Reality**, submitted to IEEE Access. DOI: <https://doi.org/10.48550/arXiv.2411.06244>
- Xanthidou, O., **Aburumman*, N.** and Benabdallah, H., **Collaboration in Virtual Reality: Survey and Perspectives**, submitted to the Visual Computer Journal. DOI: <https://doi.org/10.48550/arXiv.2411.16124>
- **Aburumman, N.**, Shih, J., Sengul, C. and Pereira, M., **Microtopia: programme exploring how interdisciplinary projects affect minority ethnic female pupils' perspective of computer science**, submitted to Computers Education.

Teaching Experience

Academic year of 24/25

Lead Modules, Co-teach and Tutor

Brunel University London, Computer Science Department

- MG5707: AI Technologies for Decision Makers (**Level: Postgraduate, Module Leader, cohort 43**)
- CS03005: Digital Media and Games (Level: Undergraduate, Co-teach, cohort >70)
- CS03001: Advanced Topics in Computer Science Module - Mixed Reality (Level: Undergraduate, Co-teach, cohort >300)
- CS072/CS3605: Supervising 10 Final Year Projects Theses.
- CS2555 Work Placement: Supervising 2 Placement Project (Level: Undergraduate)

Academic year of 23/24

Lead Modules, Co-teach and Tutor

Brunel University London, Computer Science Department

- MG5707: AI Technologies for Decision Makers (**Level: Postgraduate, Module Leader, cohort 71**)
- CS03005: Digital Media and Games (**Level: Undergraduate, Co-teach, cohort >100**)
- CS03001: Advanced Topics in Computer Science Module - Mixed Reality (Level: Undergraduate, Co-taught, cohort >300)
- CS072/CS3605: Supervised 10 Final Year Projects Theses and 3 MSc Dissertation
- CS2555 Work Placement: Supervised 2 Placement Project (Level: Undergraduate)

Academic year of 22/23

Lead Modules, Co-teach and Tutor

Brunel University London, Computer Science Department

- MG5707: AI Technologies for Decision Makers AI Technologies for Decision Makers (**Level: Postgraduate, Module Leader, cohort 51**)
- CS03005: Digital Media and Games (**Level: Undergraduate, Co-teach, cohort >100**)
- CS2001: Level 2 Group Project (**Level: Undergraduate, Co-teach, cohort >300, 40 credit hours,**)
- CS03001: Advanced Topics in Computer Science Module - Mixed Reality (Level: Undergraduate, Co-taught, cohort >300)
- CS072/CS3605: Supervised 8 Final Year Projects Theses and 4 MSc Dissertation
- CS2555 Work Placement: Supervised 2 Placement Project (Level: Undergraduate)

Academic year of 21/22

Lead Modules, Co-teach and Tutor

Brunel University London, Computer Science Department

- CS1005: Logic and Computation Module (Level: Undergraduate, **Interim Lead, cohort >300**)
- CS02001: Level 2 Group Project Module (Level: Undergraduate, Co-taught)
- CS03001: Advanced Topics in Computer Science Module (Level: Undergraduate, Co-taught)
- CS072/CS3605: Supervised 1 Final Year Projects Theses and 7 MSc Dissertation

Academic year of 20/21

Co-teach and Tutor

Brunel University London, Computer Science Department

- CS3005: Digital Media and Games Module (Level: Undergraduate, Co-taught)
- CS3009: Human Computer Interaction Module (Level: Undergraduate, Co-taught)
- CS02001: Level 2 Group Project Module (Level: Undergraduate, Co-taught)
- CS03001: Advanced Topics in Computer Science Module (Level: Undergraduate, Co-taught)
- CS072/CS3605: Supervised Ten Final Year Projects Theses (My FYP student Mariama Kebbeh Suko won the 2021 British Computer Society (BCS) prize for her FYP project (VividlyARTeaching African and Black History with AR), a demo of Mariam can be found here).
- CS2555 Work Placement: Supervised 2 Placement Project

Academic year of 19/20

Co-teach Modules and Tutor

Brunel University London, Computer Science Department

- CS3005: Digital Media and Games Module (Level: Undergraduate, Co-taught)
- CS1701: Group Project Lectures and Tutorials Module (Level: Undergraduate, Co-taught)
- CS072/CS3605: Supervised Ten Final Year Projects Theses
- CS2555 Work Placement: Supervised 3 Placement Projects

Fall semester of 2014

Teaching Assistant

Sapienza University of Rome, Computer Science and Engineering Department

- 1044398: Interactive Graphics (WebGL), Academic Year 2014/15

Fall semester of 2013

Teaching Assistant

Sapienza University of Rome, Computer Science and Engineering Department

- 1022793: Introduction to Computer Graphics, Academic Year 2013/14

Academic year 2009–2012

Teaching Fellow

Princess Sumaya University for Technology, Computer Graphics and Animation Department

- CG12258: Human Computer Interaction
- CG12262: 2D Animation
- CG12477: 3D Computer Animation
- CG12463: Fundamentals of Movie Production
- CG12479: Advanced Animation
- CG12479: Computer Applications in Fine Art

UG and PG Supervision

- I successfully supervised 19 MSc dissertations, and I supervised 140 undergraduate students at Brunel, including: 50 Final Year Projects (FYPs) 62 Level 2 Group Projects 18 Level 1 Group Projects 10 Work Placement students.

External Collaboration

- **Kids Save Lives:** Dr Gareth Grier and Adam Carr, Essex Herts Air Ambulance Trust (EHAAT), UK
- **Droplet Interactions with Solid Surface:** Dr Prapanch Nair, Department of Applied Mechanics, Indian Institute of Technology Delhi, India
- **Learning to Care (using VR CAVE and Eye Tracking device):** Dr Chiara Bulgarelli and Dr Paola Pinti from the ToddlerLab – Birkbeck, University of London, UK. Article in The Guardian
- **Microtopia: programme exploring how interdisciplinary projects affect minority ethnic female pupils' perspective of computer science:** Prof Ju-Ling Shih, Graduate Institute of Network Learning Technology, National Central University, Taiwan

International Program Committee

- ACM International Conference on Intelligent Virtual Agents (IVA 2023, 2024,2025)

- **Computer Graphics International (CGI, 2023, 2024,2025)**
- **International Conference on Intelligent Perception and Computer Vision (CIPCV, 2023)**
- **International Conference on Computer Animation and Social Agents (CASA 2020, 2020, 2021, 2022, 2023,2024,2024, 2025)**
- **Computer Graphics Visual Computing (CGVC 2020, 2021, 2022)**

Conference Organising Committee

- **The 46th Annual Conference of the European Association for Computer Graphics (Eurographics 2025)**
- **International conference on computational science (ICCS 2022)**
- **Computer Science Brunel PhD Symposium (CSBPS 2021)**

Professional Activities

- **Wrote reviews for the following journals:** ACM Transactions on Graphics (TOG), Visual Computer, Computer Animation and Virtual Worlds, Quality and User Experience, International Journal of Human-Computer Studies, ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Computer Graphics and IEEE Transactions on Visualization and Computer Graphics TVCG.
- **Wrote reviews for the following conferences:** International Conferences in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG), Computer Graphics International (CGI), and International Conference on Computer Animation and Social Agents (CASA).

Technical Skills

Operating Systems:	Mac OS X, Windows and Linux
Programming Languages:	C/C++, MEL, Python, Java, J2ME, HTML, C Sharp, ASP.NET, JavaScript and Matlab
Graphics, Visualization Toolkits and Game Engines:	Qt, OpenGL, OpenCV, CGAL, VCG, Bullet, Unity, Unreal, OpenVR and OpenXR
Professional Tools:	Autodesk Maya, Apple Final Cut Pro, Adobe AfterEffects, Cinelerra-CV Adobe Premiere, Adobe Flash, Adobe Photoshop, GIMP, Adobe Illustrator, Toon Boom Animate, Toon Boom Storyboard, ParaView, VisIt and $\LaTeX$

Talks

Invited Talks:	
21 Jan 2025	Opportunities for Immersive Tech in Medical Education Invited Talk in CHMLS 10th PGR Conference at Brunel Medical School London, UK
20 Jun 2024	Real-time Physics for Realistic Virtual Humans Invited Talk in the XR and Attention Symposium at King's College London London, UK
05 Apr 2023	Computer Game Development from Virtual Reality to Extended Reality and Beyond SuperUser Webinar Online
26 Feb 2018	Dynamic Phenomena using Implicit Incompressible SPH Invited Talk at Computer Graphics and Multimedia Systems Group in the University of Siegen Siegen, Germany

- 5 Dec 2016 **Stability in Incompressible SPH (ISPH)** Invited Talk at Computer Graphics group
in the Friedrich-Alexander University
Erlangen, Germany
- 7 Nov 2016 **Position-based Skin Deformations for Interactive Character Animation** Invited Talk at LabEx
Toulouse, France
- 12 Mar 2015 **Position-based Skinning for Soft Articulated Characters** Invited Talk at ICube Lab
Strasbourg, France
- Conference Talks:**
- 04 Sep 2023 **Exploring Language Pedagogy with Virtual Reality and Artificial Intelligence** Presentation at the
Computer Graphics and Visual Computing Conference 2023
Aberystwyth, United Kingdom
- 05 Sep 2019 **Understanding Nonverbal Communication in Face2Face Social Interaction** Presentation at ACII
2019
Cambridge, United Kingdom
- 24 Apr 2017 **Coupled Simulation of Deformable Bodies and ISPH Fluids for Secondary Bone Healing** Confer-
ence Poster Presentation at EUROGRAPHICS 2017
Lyon, France
- 8 May 2016 **Collision Detection for Articulated Deformable Characters** Conference Talk at ACM SIGGRAPH
on MiG 2015
Lisbon, Portugal
- 29 Feb 2016 **State of the Art in Skinning Techniques for Articulated Deformable Characters** Conference Talk
at GRAPP 2016
Rome, Italy
- 30 May 2014 **Position-based Skinning of Skeleton-driven Deformable Characters** Conference Talk at SCCG
2014
Smolenice, Slovakia
- 15 July, 2013 **Automatic Face Modelling From Laser Scanner** Poster Presentation at ICVSS 2013
Calabria, Italy