

SECOND SUMMER COURSE
AT RCC AT HARVARD
UNIVERSITY

WEB3, AI AND QUANTUM COMPUTING (WAIQ)

CHALLENGES AND OPPORTUNITIES FOR
INNOVATORS, LEGAL PROFESSIONALS AND OTHER
CURIOUS MINDS

PONS ESCUELA DE
NEGOCIOS



Get ahead of the future

The first edition of this course was celebrated at July 2023. The program, entitled "**Web3, AI, and QUANTUM COMPUTING (WAIQ): Challenges and Opportunities for Innovators, Legal Professionals and other Curious Minds**" is designed to provide an in-depth understanding of the impact of emerging technologies from three relevant dimensions: technical, legal and ethical.

Web3, also known as the decentralized web, is the next iteration of the internet that is built on blockchain technology. **AI**, or **Artificial Intelligence**, is a rapidly growing field that is revolutionizing the way legal services are delivered. **QUANTUM COMPUTING** is a new type of computing that promises to exponentially increase the speed and capacity of data processing.

Throughout the course, participants will explore the challenges and opportunities that these emerging technologies present to current businesses, entrepreneurs, legal firms, etc. They will also gain insights into how these technologies are being used to solve problems, reach opportunities as well as the ethical considerations that arise when using them. Also, the course could be an approach to the current discussions about these new technologies regulation.

This course is tailored for forward-thinking innovators who are eager to explore the latest advancements in Web3, Quantum, and Artificial Intelligence. While the focus is on cutting-edge technologies, we recognize that innovation goes hand-in-hand with effective regulation, including the legal aspects. Therefore, the course will delve into the legal and regulatory frameworks surrounding these technologies to provide a comprehensive understanding of the innovation landscape.

Innovators from all backgrounds, including engineers and legal professionals, are encouraged to participate. The course will foster a multidisciplinary approach, bringing together diverse perspectives to explore the complex interplay between technology, law, and society.



Through engaging lectures, interactive discussions and practical activities, participants will gain valuable insights into the technical, legal and ethical implications of emerging technologies and how they impact various industries.

Whether you are a tech enthusiast, entrepreneur, policymaker, or legal professional, this course offers a unique opportunity to expand your knowledge and skills in Web3, Quantum, and Artificial Intelligence, and their legal and regulatory considerations. Join us at Harvard for this enriching and thought-provoking learning experience.

About the Real Colegio Complutense at Harvard University

The Real Colegio Complutense at Harvard University (Cambridge, Massachusetts), known as RCC, is a non-profit institution created by the Complutense University of Madrid and Harvard University with the aim of promoting academic, intellectual, and scientific exchange between Harvard University and the academic community in Spain.





Calendar

June 10th, 11th,
12th & 13th 2024



Location

26 Trowbridge St, Cambridge,
MA 02138 & Harvard Law
School Faculty



Methodology

This summer course offers a **theoretical-practical approach** applied to the specific needs of the students, as it is composed of renowned professors who are experts in each specific topic of the program.

We follow a participatory and dynamic methodology. Our instructors use the case method to help you enhance your learning based on real-life situations.

What do you need to fulfil to obtain your diploma?

- Proactive participation.
- Mandatory attendance to classes at 80%.

Tools

Attendees will receive the proper documentation used in the course and additional materials related to these matters.



Admission requirements

- The student must have a university degree or be in their last year of study.
- Personal interview with the candidate.
- Have a level of English B2 equivalent. An official certificate is not necessary, the level will be accredited during the interview.

The program is subject to slight modifications.



Program

A program based on 3 technologies (Web3, AI & Quantum) and 3 dimensions (Technical, Legal & Ethical)

DAY 1: HARVARD LAW SCHOOL | Web3

Introduction to the WAIQ Course

Introduction to Web3 and its implications for society

Legal Implications of Web3

- Web3 and blockchain-based smart contracts
- Applications of AI in contract review and litigation
- Privacy and security challenges

Intellectual property considerations

Regulatory landscape of Web3

DAY 2: HARVARD LAW SCHOOL | Artificial Intelligence

Understanding AI and its challenges and opportunities

Legal implications of AI

- Bias in AI and its impact on legal decision-making
- Legal implications of blockchain-based systems

Legal & Regulatory implications of AI

- Innovations in legal tech
- AI Regulatory landscape in US, China & Europe

Ethical considerations of AI



DAY 3: HARVARD LAW SCHOOL | QUANTUM COMPUTING

Quantum Computing: the Big Picture

- Welcome to Quantum Day of WAIQ
- Defining the future of computing
- Going beyond quantum
- What does all of this mean?

Present and Future of Quantum Computing

- What Has Happened in Quantum Computing during the Last Year
- MIT Center for Quantum Engineering
- What's next?

Quantum Computing in Action

- Quantum for Sustainability
- Computing with Neutral Atoms
- Takeaways and Discussion - Moderated Dialogue

DAY 4: HARVARD LAW SCHOOL | INNOVATION

Innovation: Realities and Challenges

- Welcome to Quantum Day of WAIQ
- The Hard Truths of Innovation
- Trends Identification and Knowledge Transfer: Experiences from Bankinter Foundation for Innovation
- Towards Actionable Innovation

Case Studies

- IATA Open Innovation Approach to Convergence
- Converging AI and Quantum
- Converging AI, Web3.0 and Quantum

Visit to Harvard Innovation Lab

- Transfer to Harvard Innovation Lab
- Visit to Harvard Innovation Lab: Understanding Harvard Innovation Ecosystem
- Takeaways and Discussion

Lecturers



Thomas Hardjono

Dr Thomas Hardjono is the CTO of Connection Science and Technical Director of the MIT Trust-Data Consortium at MIT in Cambridge, MA. USA. He is an early pioneer in the field of digital identities and trusted hardware, and instrumental in the development and broad adoption of the MIT Kerberos authentication protocol. His activities include leading standard development efforts, notably at the IETF (Internet Engineering Task Force), IEEE, Trusted Computing Group, Confidential Computing Alliance and others. He has published over 70 technical conference/journal papers, several books and over 30 patents. He is currently involved in several startups around the MIT community. His current area of interest is Web3 Digital Assets, with focus on the interoperability of asset networks and survivability of these networks against cybersecurity attacks.



Carlos Kuchkovsky

Carlos Kuchkovsky is the Co-founder and CEO of QCentroid, a mission-oriented Web 3 ecosystem, with the purpose of accelerating sustainable transformation through new ways of working, tech, science, and data. Qcentroid is bringing the power of Quantum tech to Web3 organizations and ecosystems by opening the creator economy to mathematicians, physicists, engineers, and sustainability domain experts. Carlos began his career as a multiplayer mobile video game developer. After that He worked for BBVA in a number of executive positions, positioning BBVA as a leader in quantum computing, AI, blockchain, digital identity, new business, and digital platforms among other areas. He has held different board positions on international associations at Hyperledger, INATBA, Alastria, and the Strategic Advisory Board of the European Quantum Flagship, working on the evolution of blockchain, AI, quantum technologies, and Web3. He has published scientific and tech papers and created and led over 30 patents. He also lectures in International MBAs in fintech, deep tech, and new business models.



Luis Ignacio Vicente del Olmo

Luis Ignacio is Strategic Advisor of PONS IP, the IP consultancy firm leader in Spain and Innovation Advisor of ABB. He is a visionary leader with a passion for driving innovation and technology forward. With a background in physics, telecommunications and industry. Also a degree in telecommunications economics, he bring a unique perspective to his work. His impressive education includes a Master's in Science and Technology Analysis and Management, a Diploma in Innovation Management from MIT, and a specialization in Innovation Economics. He also hold a Diploma in European Communities from the Diplomatic School of the Ministry of Foreign Affairs. Prior to joining PONS IP & ABB, he was responsible during 30 years for Return on Innovation at the Telefónica Group, where he played a key role in driving the company's innovation strategy forward. He also served as President of the es.internet Technology Platform, where they helped to shape the future of the technology industry in Spain and beyond. In ABB, he was responsible for leading the mobile robotics unit's innovation efforts, leveraging their extensive experience and expertise to drive new product development, explore new business models, and identify emerging trends in the industry. As Member of the Board of PONS IP is a dynamic and forward-thinking leader, with a proven track record of success in driving innovation and growth in the technology sector.



Francisco Castro

Francisco is an accomplished Chief IP Counsel with a strong background in both science and law. He obtained his Ph.D. in applied and computational semiconductor physics from Drexel University in Philadelphia, where he also earned several patents. After working as a principal research engineer at Lucent Technologies (now Nokia) and Motorola, he transitioned to a career in intellectual property law. Francisco began his legal career at the Northern Virginia office of Cooley LLP, a Silicon Valley-based law firm, before moving on to become Counsel at Arent Fox LLP in Washington, DC and San Francisco, CA. Currently, he serves as the Chief IP Counsel for IonQ, Inc., a quantum computing startup. In his role, Francisco draws upon his deep scientific expertise and legal knowledge to help guide the company's IP strategy and navigate the complex landscape of emerging technologies. With his unique combination of scientific and legal experience, Francisco is well-positioned to help IonQ stay at the forefront of the rapidly evolving field of quantum computing. He is deeply committed to helping his clients protect their intellectual property and navigate the legal challenges that arise in the rapidly-evolving tech industry.



Cristina Mesa

Cristina Mesa is a partner in Garrigues' Intellectual Property Department, where she practices in the areas of industrial and intellectual property law, electronic commerce, consumer affairs, advertising, unfair competition, artificial intelligence, freedom of expression and information, and web 3 environments. She handles the management of complex lawsuits and provides recurring advice on contracts and strategy, drawing from her extensive experience in advising trendsetting technology companies. Cristina holds a Degree in Law and Political Science from Universidad Carlos III de Madrid and an LL.M. in International Business and Trade Law (magna cum laude) from Washington College of Law. She has been singled out by Chambers & Partners, Legal 500 and IP Stars (Managing IP). Cristina is also admitted to practice law in New York State.



José Luis Amat Reinoso

José Luis is an accomplished legal professional with extensive experience as a Legal Counsel. He has expertise in a wide range of legal issues, including New Technologies, Intellectual Property, Data Privacy, Corporate Law, and Legal Advice. Throughout his career, he has worked with some of the most prestigious companies in Europe, particularly in the technology and telecommunications sectors such as the Telefónica Group, the venture capital firm Wayra, and is currently the Head of Legal at Aire Group. Currently, José Luis is pursuing a Ph.D. in Law from the Universidad Complutense de Madrid, focusing on the legal implications of quantum technologies. He is passionate about exploring the intersection of law and technology, particularly in emerging fields such as quantum computing. In addition to his legal expertise, José Luis also holds the Alto Diplomado en Estudios de Defensa Nacional from the Defence Ministry of the Spanish Government. This program has given him a deep understanding of the critical impacts of national security and the importance of cybersecurity for all countries. With his combination of legal and security expertise, José Luis is well-equipped to navigate the complex legal landscape of emerging technologies and cybersecurity threats. He is dedicated to contributing to the legal landscape for the future.



Esperanza Cuenca Gómez

Esperanza Cuenca-Gómez is Developer Relations Manager for Quantum Computing at NVIDIA. She is a digital transformation enthusiast with more than 12 years of experience in consumer finance and banking, and more than 5 years in strategy and operations consulting. Quantum mechanics has always fascinated.

Esperanza, so she decided to study and research in quantum computing and communications. As an engineer, Esperanza sees applied science and engineering as ways to build new technologies, solve problems, and contribute to society. She is a member of Bankinter Foundation for Innovation FIBK Voices, an ecosystem of experts who are international referents and give the Foundation their vision on how innovation is revolutionizing areas such as science, technology, entrepreneurship or education. Esperanza also serves as Head of Change Navigation at the Quantum Strategy Institute.



Carlos Muñoz Ferrandis

Carlos is a seasoned legal professional with a deep passion for the intersection of law, technology, and policy. With a wealth of experience in the field, he currently serves as the Tech & Regulatory Affairs Counsel for AI at Hugging Face, a cutting-edge technology company specializing in natural language processing and machine learning. Carlos is also a co-founder of the HIGH Technology Law Forum, a leading platform for discourse and collaboration on legal and ethical issues related to technology.

Carlos's expertise lies in the area of AI policy and regulation, where he works at the forefront of shaping the legal landscape for emerging technologies. He has collaborated with renowned organizations such as OECD.AI, providing invaluable insights and guidance on developing ethical and responsible AI frameworks. His extensive knowledge of the legal and regulatory challenges posed by AI, combined with his commitment to fostering innovation and responsible technology development, make him a sought-after authority in the field.



José Luis Núñez Díaz

José Luis leads the blockchain and web3 business unit in Telefónica Tech, pushing solutions for enterprises that build on these technologies. Hot topics like decentralized identity, NFTs and, of course, the metaverse, are also part of the priorities they are developing and devoting resources. Before leading the Blockchain unit, he developed his career in various areas of innovation within Telefónica, highlighting milestones such as the launch of Wayra, the technology startup accelerator backed by Telefónica, in 2011. He holds several patents related to both telecommunications services and improvements in consensus mechanisms and interoperability of Blockchain networks. He holds degrees both in Telecommunications Engineering and Business Administration and specialisations in Innovation and Strategy from MIT Sloan and Harvard Business School. He also teaches Innovation, Digital Transformation and Emerging Technologies topics in several Business Schools.



Borja Peropadre

Borja Peropadre is an accomplished physicist and researcher, currently serving as the North America & Japan Lead at IBM Quantum. With an impressive background in both academia and industry, Peropadre has spent much of his career exploring the cutting-edge fields of quantum computing, quantum simulations, and quantum materials.

Before joining IBM, Peropadre held several key positions in the quantum computing industry, including Director of Technical and Strategic Alliances at Zapata Computing, where he helped build the company's partnerships and collaborations with leading research institutions around the world. He also worked as a Scientist at Raytheon and served as a Postdoctoral Researcher in the Chemistry and Chemical Biology Department at Harvard University.

Peropadre's academic achievements are equally impressive. He received his PhD in Physics from Universidad Complutense de Madrid, where his thesis focused on the control of ultrastrongly coupled systems in Circuit Quantum Electrodynamics. He also holds a Master's degree in Fundamental Physics from the same institution, where he studied the 1D Kitaev model in superconducting circuits. In addition, he has conducted extensive research in the areas of superconducting circuits, quantum optics, and circuit QED, and his work has been published in numerous prestigious scientific journals.



Gabriel López

Gabriel is an experienced attorney and government affairs professional with a diverse background in the technology industry. Here is a summary of his bio:

Gabriel has been employed at Microsoft since January 2015, and he currently serves as the Regulatory & Government Affairs Director for Microsoft Iberia. In this capacity, Gabriel assumes the crucial role of overseeing regulatory and policy affairs, with a particular focus on the European Digital Agenda, AI, cybersecurity, trusted cloud services, interoperability, governance, intellectual property, open platforms, and the environment. His expertise lies in shaping national and international public policies and regulations to ensure the responsible use of technology and foster the development of the data economy. Gabriel has contributed significantly to the field, authoring numerous articles on subjects including Artificial Intelligence, cybersecurity, transparency, sovereignty, accessibility, and sustainability.

Prior to Microsoft, at Nokia, Gabriel held various positions and played a pivotal role in legal and regulatory matters, including as legal director for one of the largest mobile phone manufacturing factories in America. Gabriel's career also includes experience at AT&T, where he worked as a Regulatory Affairs Manager for eight years. He handled negotiations with domestic and international carriers, drafted corporate agreements, represented the company in legal and international carriers' forums, and litigated administrative and international disputes domestically and at international forums.

In addition to his corporate roles, Gabriel is actively involved in various organizations. He is a member of the advisory commission to the Chair on Privacy and Digital Transformation at the University of Valencia. He collaborates at the Real Instituto Elcano as representative of the IT sector. He serves as the President and member of the board of the Digital Policy Commission at AMETIC, an industry association in Spain, and is a member of the Board of Directors at Adigital, an association for the digital economy. Gabriel is also a member to the European Healthcare Data Innovation Council, an entity that promotes the democratization of digital technologies in the healthcare sector.



Ricardo Vidal

Ricardo Vidal is an innovation leader with over two decades of international experience across various sectors, exemplifying a proven track record in tech strategy planning and execution. His expertise spans digital transformations, novel developments, and cutting-edge technologies like Quantum Computing, AI, and Web3.0, facilitating strategic and cultural shifts towards innovation and complex solutions. As the head of Innovation at British Airways since 2014, he has been pivotal in leveraging technology to spur growth, enhance customer experience, and ensure operational excellence through initiatives such as biometric boarding, digital identity, and the introduction of Generative AI technologies. Ricardo's academic credentials include a Fellowship in Open Innovation from the Royal College of Arts London, an Executive MBA from Instituto de Empresa (IE) Business School, and a Bachelor's degree in Science from Central Michigan University. His professional journey prior to British Airways includes significant roles at Deloitte Consulting, Siemens, Telefonica, and his own startup, showcasing his ability in crisis resolution, financial and technical transformations, and process optimisation across multiple countries. Ricardo has also supported academic initiatives at IE Business School and Imperial College of London TechLabs.



Raquel Puente

Raquel Puente is a Program Manager at Bankinter Innovation Foundation, where she's currently launching a program to boost technology and knowledge transfer between research and business worlds. For over five years, Raquel has been leading Akademia, a program that helps companies and university students get up to speed on innovation and artificial intelligence. Akademia equips them with the knowledge and skills to put it all into action.

Her passion for innovation goes beyond Bankinter. She's an active member of the committee of Cre100do Foundation, which identifies high-potential Spanish companies and promotes their healthy and sustainable growth.

Raquel's career began in 2011 at Bankinter's Sustainability Department, where she contributed to a new strategic plan. Later, she worked as a banking specialist in another department. She holds a Molecular Biology degree from the University of Santiago de Compostela, which allowed her to work at the INHIBIC research center in A Coruña. She has also completed an MBA in Technology and Sustainability at EOI Business School. In the last two years, Raquel has furthered her expertise by participating in the Frontiers of Innovation program at MIT with the Rafael del Pino Foundation.



Leigh Hafrey

Leigh Hafrey is a Senior Lecturer at the MIT Sloan School of Management. Since 1991, Hafrey has worked in professional ethics, with a focus on ethical leadership, teaching courses at Harvard Business School and MIT Sloan, and consulting with professional practitioners in the United States and abroad. At MIT Sloan, he teaches in the MBA program and Leaders for Global Operations, for which he moderates a mandatory two-year leadership course. He has also taught in MIT's Industrial Liaison, MIT-China Management Education, Master of Finance, Management of Technology, Nanyang Fellows, Sloan Fellows in Innovation and Global Leadership, Supply Chain Management, and System Design and Management programs.

Since 1996, Hafrey has moderated the Aspen Institute's Seminar in Leadership, Values, and the Good Society and other seminars sponsored by the Institute in the U.S. and abroad. From 1993 to 2010, together with his wife, Sandra Naddaff, Hafrey was a co-Master of Mather House, one of the 12 residential complexes in Harvard College. The Mather community brings together 400 undergraduates; 100 faculty, administrative, and alumni fellows; and dozens of advisory and other staff. A former staff editor at The New York Times Book Review, Hafrey has published reporting, essays, reviews, interviews, and translations in The New York Times and other American and European periodicals. He serves on the editorial advisory board of Philosophy of Management (U.K.) and the Journal of Business Ethics Education (U.S.). His publications on business and management include a quarterly column for IPA's Business Today (2007-09); cases and blogs for MIT Sloan; a book on how people use stories to articulate ethical norms, *The Story of Success: Five Steps to Mastering Ethics in Business* (2005); and *War Stories: Fighting, Competing, Imagining, Leading*, an essay on business alternatives to a culture of war in today's America (2016). Hafrey holds an AB in English from Harvard College and a PhD in comparative literature from Yale University.

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