



# Avicenna Alliance

Association for Predictive Medicine

## Avicenna Alliance Newsletter JANUARY – FEBRUARY 2026

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### WORD OF PRESIDENT AND SECRETARY GENERAL

By Thierry Marchal  
President and Secretary General, Avicenna Alliance

### You’re invited to the party!

In April 2016, some of us created the Avicenna Alliance at the suggestion of the European Commission to lead the implementation of the Avicenna roadmap. We joined forces with industry leaders, renowned academics, regulators, clinicians, and patients; we engaged with numerous policymaking organisations (European Parliament, U.S. Senate and Congress, Brazilian Parliament, UK authorities, etc.) and regulators (FDA, EMA, MHRA, ANVISA, TGA, etc.). Many texts and guidelines were voted on and published to recognise, regulate, and encourage the adoption and deployment of *in silico* methods, including computational modelling and simulation (CM&S) and



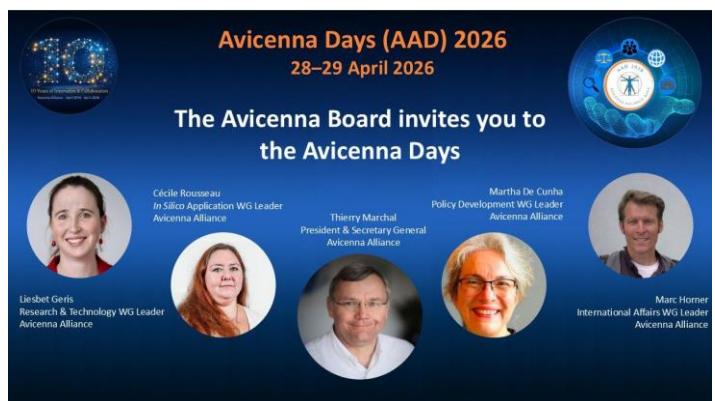
Artificial Intelligence (AI). What an incredible journey!

Therefore, in April 2026, it is important to celebrate the 10<sup>th</sup> anniversary of the Avicenna Alliance. You are welcome to join the online party. This party is free, but don't forget to bring your gift: your testimony on the value and importance of the Avicenna Alliance in accelerating medical innovation through *in silico* methods would be greatly appreciated.

The 10<sup>th</sup> anniversary is definitely an opportunity to look back on this magnificent journey and on the fantastic achievements. But our mission is far from accomplished. Moreover, we want to take advantage of the presence of our many guests to reflect on our next steps in the short and medium term. Our four working group leaders

- Martha De Cunha, Edwards Lifesciences, Policy Development,
- Prof. Liesbet Geris, VPH, Research and Technology,
- Cécile Rousseau, VCLS, *In Silico* Application,
- Marc Horner, Synopsys, International Affairs.

will chair presentations and panel discussions with industry and academic leaders, policymakers and regulatory authorities, clinicians, and patients, in order to define the most effective ways to make healthcare safer, more affordable, and more cost-effective for all stakeholders.



Let's meet online on April 28/29 to define and refine the future of *in silico* adoption and deployment.

A handwritten signature in black ink that reads "Thierry".

[REGISTER HERE FOR THE AVICENNA DAYS \(AAD\) 2026](#)

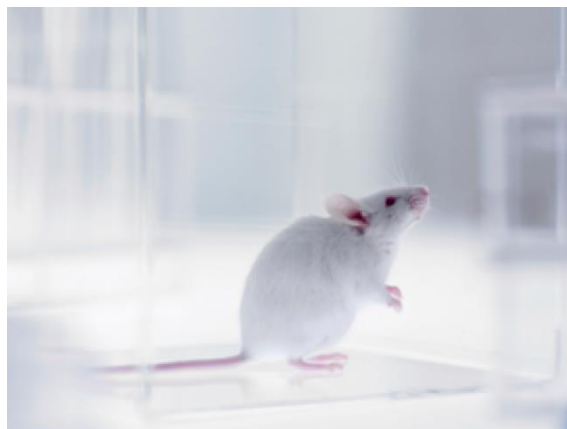
## Spotlight on the ISA Nonclinical Application Task Force

By Julien Clin & Enrico Dall'Ara  
Task Force Leaders

### “The Avicenna Nonclinical Application Task Force: Advancing *In Silico* Evidence for Regulatory Decision-Making”

The **Avicenna Nonclinical Application Task Force (TF)** plays a central role in advancing the acceptance and regulatory use of ***in silico* methods in nonclinical development**. Led by **Julien Clin**, Numalogics, and **Enrico Dall'Ara**, University of Sheffield, the Task Force focuses on identifying, structuring, and promoting nonclinical *in silico* applications across the maturity levels, with a particular emphasis on their **regulatory qualification and practical adoption in Europe and beyond**.

Over the past years, the Task Force has made significant progress in mapping the nonclinical *in silico* landscape, developing shared resources, and initiating a broader dialogue with regulators, industry, academia, and technology developers. At the same time, it has laid out an ambitious roadmap to accelerate the integration of *in silico* evidence—particularly virtual bench testing and animal approaches—into regulatory decision-making.



#### Mapping Existing and Emerging Nonclinical *In Silico* Applications

A major achievement of the Task Force has been the **systematic classification and clustering of existing nonclinical *in silico* applications and those in the development pipeline**. This work resulted in the development of a structured visual mapping whiteboard that captures:

- Different categories of nonclinical *in silico* applications
- Relevant **standards and frameworks**
- Key **entities and tools**, including examples of software already accepted or qualified by regulators (such as FDA-approved tools)
- The diversity of use cases across nonclinical development

This mapping exercise provided a comprehensive overview of the rapidly evolving *in silico* ecosystem. Importantly, it highlighted both the maturity of certain applications and the dynamic nature of the field, where technological innovation continues at a fast pace. As such, the Task Force recognises this mapping not as a static product, but as a **living resource** that will require continuous updates by the research and innovation community.

#### From Internal Mapping to a Public Resource

Recognising the broader value of the structured visual mapping whiteboard, the Task Force identified the need to **transform this internal synthesis into a publicly accessible and shareable tool**. One of next objectives will be therefore to explore how the board could be integrated into the **Avicenna Alliance website**. While this activity is still ongoing, good progress has been made in identifying suitable formats and approaches to make the content usable for a wide audience, including regulators, industry stakeholders, and researchers. This initiative reflects the Task Force's commitment to **transparency, knowledge sharing, and community building** around nonclinical *in silico* applications.

## A Review Article as a Cornerstone Deliverable

The **core scientific output** of the Task Force is the preparation of a **review article on nonclinical *in silico* applications**. This paper is intended to translate the insights of the structured visual mapping whiteboard into a structured narrative, describing:

- The current landscape of nonclinical *in silico* applications
- Representative use cases and maturity levels
- Regulatory considerations and challenges
- Opportunities for broader adoption

Although progress slowed during the summer months, the writing effort is now actively resuming, with contributions from several members of the task force being collected and consolidated. Submission of this first review paper is a **primary objective for the coming year**, and it is expected to become a reference point for both scientific and regulatory communities.

## Exploring Regulatory Qualification Pathways in Europe

Beyond mapping and review activities, the Task Force has identified a **critical strategic challenge**: understanding and facilitating the **regulatory qualification of concrete nonclinical *in silico* applications in the European Union**.

To address this, the Task Force plans to assess the regulatory pathway of **real, mature *in silico* models**—models whose scientific credibility has already been demonstrated. The key question driving this work is: *If a nonclinical *in silico* model is scientifically credible, how can it be formally accepted or qualified for regulatory use in Europe and beyond?*

Initial examples have already been identified, and discussions with regulatory stakeholders have begun. This work is expected to intensify in the coming year, forming the basis for practical guidance and informed dialogue with European regulators.

## Communication, Outreach, and Community Engagement

Communication has been another strong focus of the Task Force's activities. While initially planning to organise a single webinar, the Task Force ultimately delivered **two webinars**, each centred on **concrete examples of nonclinical *in silico* applications**. These events helped demonstrate real-world use cases and fostered engagement across the community.

Looking ahead, the Task Force plans to organise **two further webinars or workshops**:

- One dedicated to presenting and discussing the upcoming review article
- A second to be defined based on emerging priorities and related activities

These initiatives aim to make the Task Force's work visible, actionable, and directly relevant to stakeholders.

## Looking Forward: Virtual Animals and Regulatory Readiness



A key thematic focus for the future is the development and regulatory acceptance of **virtual animal models**, including *in silico* approaches designed to **replace, refine or reduce animal studies**. The Task Force aims to:

- Identify key players and initiatives in the field of virtual animals
- Promote *in silico* animal studies as credible nonclinical tools
- Support the use of *in silico*-generated data in nonclinical development planning

In parallel, the Task Force intends to develop **strategies**

**linked to technological and regulatory readiness**, helping developers understand:

- Where their applications stand on the readiness spectrum
- How to efficiently advance toward regulatory acceptance
- What evidence and validation approaches are needed at each stage

Under the leadership of **Julien Clin and Enrico Dall’Ara**, the Avicenna Nonclinical Application Task Force is building a structured, forward-looking approach to the use of *in silico* evidence in nonclinical development. By combining **mapping, scientific synthesis, regulatory engagement, and practical outreach and engagement**, the Task Force is positioning itself as a key contributor to the evolution of nonclinical regulatory science in Europe and beyond.

The coming year will be pivotal, with the submission of the first review paper, deeper engagement on regulatory qualification, and continued efforts to translate innovation into accepted practice.

You are an Avicenna or VPH member and are interested to join the Nonclinical Task Force, please contact Roberta Maggi ([manager@avicenna-alliance.com](mailto:manager@avicenna-alliance.com)) who will connect you with the Task Force leaders.

## Spotlight on our member Hemolens Diagnostics

By Ziemowit Ostrowski, CSO

### An overview of Hemolens' technology presented in the Avicenna webinar "Arm-in-Arm: How *In Silico* Modelling and AI Tackle the "Grey Zone" in Coronary Diagnostics"

On 13 January 2026, our member Hemolens Diagnostics, a Polish med-tech company, presented at the monthly Avicenna Alliance webinar on how combining Coronary Computed Tomography Angiography (CCTA), *in silico* patient-specific modelling, and AI may help address one of the most challenging areas in coronary diagnostics – the functional "grey zone" between clearly significant and clearly non-significant lesions.



In their presentation, CSO Ziemowit Ostrowski and co-founder Andrzej Kosior from [Hemolens Diagnostics Sp. z o.o.](https://www.hemolens.com) described an approach in which CCTA is treated not as an endpoint but as a data-rich starting point for broader physiological assessment. CCTA offers fast, non-invasive outpatient diagnostics with first-line guideline status and provides detailed anatomical information that remains underutilized in everyday clinical practice. In this context, CCTA becomes a natural entry point for *in silico* workflows that aim to transform static anatomy into dynamic physiology, deriving model-based metrics that may support therapeutic decision-making.



A key concept discussed was a "unique triple-engine" architecture that combines AI, biomedical engineering (BME), and computational fluid dynamics (CFD). In this framework, AI is used to accelerate precise coronary artery segmentation. Biomedical engineering modules are used to derive patient-specific boundary conditions, including microcirculatory resistance models, while CFD is applied to simulate blood flow (velocity fields and pressure drops)

along the coronary tree. Together, these components form an integrated workflow that can convert a single CCTA into continuous Fractional Flow Reserve (FFR)-like profiles, pressure maps, and diameter curves, effectively generating a functional map of the coronary circulation rather than a single FFR value.

The speakers also outlined an approach to boundary-condition modelling in non-invasive FFR-CT. In contrast to methods that rely mainly on geometric assumptions or fixed pressure inputs, the presented CNBP-based method uses non-invasive peripheral blood pressure waveforms recorded with a certified device. These signals are transformed into aortic waveforms using an in-house transfer function designed to preserve both shape and amplitude and then used as inputs for the FFR-CT calculation and lumped-parameter circulation model. Internal analyses suggest that such patient-specific boundary conditions may be particularly relevant in the "grey zone" (FFR range 0.75–0.85), where clinical decisions are most challenging. These methods are currently under evaluation in research settings and are not intended for diagnostic or therapeutic use.

Preliminary internal data indicate that, when CNBP-based boundary conditions are applied, FFR-CT diagnostic performance appears to remain within clinically relevant ranges in the 0.7–0.9 interval (still under

evaluation). These observations point to a potential role for AI-supported, physiology-grounded modelling in refining clinical decision-making in the most equivocal range of coronary stenosis severity.

Beyond FFR-CT, the presentation briefly addressed the diagnostic and prognostic value of CCTA-based plaque assessment. Special attention was given to high-risk plaque that, according to the most recent publications, has been associated with myocardial infarction even in the absence of severe luminal narrowing. Future integration of plaque-level information into *in silico* models could, in principle, contribute to improved patient stratification, more tailored pharmacotherapy, and more informed procedure planning. The speakers contrasted current cath-lab workflows – in which coronary anatomy is often delineated only after multiple contrast runs – with a possible future scenario in which CCTA-derived 3D anatomy and simulated hemodynamics inform interventional strategy before the first injection.

Finally, the discussion linked these concepts with international verification and validation initiatives for *in silico* models, evolving regulatory expectations, and practical workforce challenges in cardiology and imaging. In this setting, scalable, non-invasive, AI-supported diagnostic workflows are increasingly considered as potential components of future care pathways.

Hemolens Diagnostics positions CCTA-based *in silico* modelling as a promising foundation for end-to-end diagnostic and treatment-planning pathways, designed to complement clinical judgement and potentially support more precise and accessible coronary care in the years ahead.

Watch the full recording of the webinar [here](#).

All concepts presented in this webinar relate to ongoing research and development and do not represent currently approved diagnostic products or clinical recommendations.

## Spotlight on our Partner Abimed

by Fernando Silveira Filho  
Executive President

### ABIMED: Advancing Access to Health Technologies in Brazil

Among the valued partners of the Avicenna Alliance is ABIMED – the Brazilian Association of the Health Technology Industry. For nearly three decades, ABIMED has played a key role in representing and strengthening Brazil’s medical technology sector while promoting broader access to innovative healthcare solutions.



ABIMED brings together around 180 companies of different sizes and capital origins across Brazil. These companies operate 29 industrial plants and include manufacturers as well as importers and distributors of medical technologies. Together, ABIMED’s members represent approximately 65% of the Brazilian medical devices market, making the association a central voice for the sector both nationally and internationally. Having recently celebrated its 28th anniversary, ABIMED continues to represent the interests of the medical device industry by fostering dialogue with policymakers and stakeholders. The association works to promote the creation and maintenance of policies that support a favorable environment for innovation, competitiveness, and sustainable growth of its member companies in both Brazilian and global markets.



Through this work, ABIMED contributes significantly to the development and modernization of the healthcare technology sector in Brazil.

At the heart of ABIMED’s mission is a commitment to expanding the population’s access to advanced health technologies. By advocating for innovation and responsible regulatory frameworks, the association aims to

ensure that more people can benefit from modern medical solutions that improve quality of life and support longevity.

ABIMED’s activities are guided by a strong set of values, including integrity, respect, and inclusion. The association promotes transparent action and ethical conduct while emphasizing respect for people and diversity. This approach reflects a broader vision of a more inclusive world in which barriers to accessing the best healthcare practices are progressively reduced.

These principles resonate strongly with the mission of the Avicenna Alliance. Both organizations are committed to fostering innovation in healthcare while ensuring that scientific advances translate into real benefits for patients and society. As healthcare technologies evolve, collaboration across international networks becomes increasingly important.

Through its partnership with the Avicenna Alliance, ABIMED contributes to ongoing dialogue on the future of health technology innovation, including the role of advanced methods such as modelling and simulation in supporting safer, more efficient development and evaluation of medical technologies.

The Avicenna Alliance values this collaboration and looks forward to continuing joint efforts with ABIMED to support innovation, strengthen the global health technology ecosystem, and ultimately improve patient access to advanced medical solutions.

As part of this collaboration, the Avicenna Alliance Board has recently provided comments on the review of a position paper on *in silico* evidence. This contribution reflects the Alliance's ongoing commitment to supporting the development and recognition of modelling and simulation methods in healthcare innovation. By sharing its expertise and perspectives, the Board aims to help ensure that emerging scientific approaches are appropriately considered in regulatory and policy discussions. Strengthening dialogue between industry, research, and regulatory stakeholders remains essential to advancing the use of *in silico* technologies and to enabling more efficient, safe, and innovative pathways for the development and evaluation of medical technologies.

## Avicenna's Webinars Series

by Roberta Maggi  
Office Manager, Avicenna Alliance

Every month, The Avicenna Alliance gives the opportunity to one of its members to present their world-class research. These webinars, alternating academic and industrial speakers, are open to both the Avicenna members and non-members.

This is a unique opportunity to stay up to speed with the fast-progressing *in silico* research and development. These webinars, offering a deep dive into the amazing work by our members, may nicely complement the ongoing research that you are leading and therefore lead to new collaborations to fast-track your work.

Do not hesitate to ask for information if you are interested in contributing as speakers and, if you are not an Avicenna member yet, we will be happy to give you all the information you need to become a member and enjoy all the privileges reserved for our members, including the opportunity to present one of these webinars and gain visibility for your organization and research/project!



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All 68 recordings are available in the [members only area](#) of the [Avicenna website](#). Last webinar, held on 10 March 2026 is available in the [public area](#) too.

For further information, please contact Roberta Maggi [manager@avicenna-alliance.com](mailto:manager@avicenna-alliance.com).

### Our future webinars

- 7 April 2026: **"The Trust Evolution: From Model Validation to Cryptographic AI Verification"** by Tina Morrison from Eqty Lab – [Click here to register](#)
- 12 May 2026: **"4D Digital Twins and their applications to Knee Replacement"** by Mathieu Rimaud and Antoine Perrier from Twinsight – [Click here to register](#)

### Our most recent webinars

- 10 March 2026: **"The role of standards toward *in silico* medicine"** by Fredric Constantino from ASME – [Watch the recording](#)

*Standards create a common language for manufacturers, healthcare providers, and regulators, reducing errors, protecting patients, and advancing technologies like in silico. ASME helps engineers tackle challenges in thermal medicine, bioprinting, and VVUQ for medical devices and pharmaceuticals. This presentation covers ASME's medical standards and how to contribute.*

- 10 February 2026: **"Is stroke being treated as a heart-brain axis disease?"** by Oscar Camara from UPV – [Watch the recording](#)

*Up to one-third of strokes are cardioembolic, yet cardiology and neurology often operate separately. This talk presents research merging computational modelling and data science across both fields, including atrial fibrillation simulations, digital twins, and device planning, from SimCardioTest to GEMINI, highlighting technical and clinical barriers to integrated heart-brain stroke management.*

**68** recording are available online. Learn more about what other members are doing.

## EU Policy and Regulatory updates

The European healthcare landscape continues to evolve rapidly, with regulatory bodies introducing key updates that impact medicines, medical devices, health data, and market access. From the European Medicines Agency (EMA) to national regulators like Italy's AIFA, updates in pharmacovigilance, and the rollout of health data and assessment frameworks, these developments are shaping the way medicines, medical devices, and health data are managed across the EU.



The pace of change in European healthcare regulation never slows — and the first two months of 2026 were no exception.

To help you stay ahead, we've put together a visual timeline of the most important EU healthcare milestones, highlighting what's new, why it matters, and who it impacts. Click on each entry for the official source and get the full picture of the regulatory landscape in just a few minutes.

### 23 February 2026 – AIFA Updates OTC/SOP Guidelines

The Italian Medicines Agency (**AIFA**) released updated guidance on the classification of **over-the-counter (OTC) and SOP medicines**, clarifying criteria for composition, therapeutic indications, and risk assessment. The guidelines also streamline submission and evaluation procedures for pharmaceutical companies.

**Impact:** These updates help align Italy's regulatory approach with broader EU expectations and improve transparency for manufacturers and healthcare professionals.

 [Read more](#)

### 12 February 2026 – EU Pharmacovigilance Regulation Changes



Key amendments to **Commission Implementing Regulation (EU) No 520/2012** came into force, enhancing the EU pharmacovigilance framework. Updates include stricter **post-marketing safety monitoring**, improved **risk management plans**, and harmonised **adverse event reporting standards** for all EU member states.

**Impact:** These changes also have implications for products authorised in both the EU and the UK due to cross-territory regulatory alignment mechanisms.

**Why it matters:** This strengthens the EU's safety oversight and harmonises reporting expectations for pharmacovigilance across member states.

 [Read more](#)

### 26–29 January 2026 – EMA CHMP Meeting Highlights

During its January session, the **EMA Committee for Medicinal Products for Human Use (CHMP)**:

- Recommended marketing authorisation for **6 new medicines**, including therapies for metabolic liver disease and influenza prevention;
- Extended therapeutic indications for existing medicines;
- Initiated a **data integrity referral procedure** for one product;
- Updated clinical data for **Mounjaro**, a treatment for type 2 diabetes and obesity.

**Impact:** CHMP opinions guide national authorities across the EU, determining which medicines become available and which indications are reimbursed, directly affecting patient access and market planning.

 [Read more](#)

## January 2026 – EU Health Technology Assessment (HTA) Regulation Implementation

The **HTA Regulation (EU 2021/2282)** continues to be implemented across member states, enabling joint clinical assessments for medicines and selected medical technologies. The European Health & Digital Executive Agency (**HaDEA**) supports collaborative assessment processes and facilitates cross-border alignment.

**Impact:** By harmonising clinical and economic evaluation methods, the HTA Regulation improves predictability for manufacturers, speeds up patient access, and reduces duplication of assessments across EU countries.

**Why it matters:** HTA harmonisation helps streamline access decisions across EU member states, affecting reimbursement, pricing, and market access.

 [Read more](#)

## Early 2026 – European Health Data Space (EHDS) Transition

The **EHDS Regulation** is now entering its **transition phase**, focusing on enabling secure cross-border health data exchange and supporting secondary use of health data for research, innovation, and regulatory purposes. Member states are preparing technical infrastructure and data governance frameworks ahead of full implementation.

Key milestones towards operational application are underway in 2026, notably in:

- Secure cross-border health data access and exchange;
- Protocols for secondary data use in research, innovation, and regulatory purposes.

**Timeline:** core implementing acts are due by March 2027 for gradual roll-out through 2035.

**Impact:** EHDS will transform access to electronic health records and health-related data across the EU, benefiting researchers, policymakers, and healthcare providers, while maintaining strong privacy and security standards.

 [Read more](#)

## December 2025 / Early 2026 – Provisional EU Pharmaceutical Legislation Reform

EU co-legislators reached a **provisional political agreement** on comprehensive pharmaceutical reform, part of the **EU Pharma Package**. The reform updates regulatory procedures, introduces stronger intellectual property protections, and implements measures to prevent medicine shortages.

**Status:** Political agreement text published — awaiting formal adoption and entry into force (expected later in 2026).

**Impact:** Once formally adopted, this will be the **core regulatory framework** for EU medicines, affecting clinical trial approvals, market authorisation processes, and supply chain resilience across member states.

 [Read more](#)

## Medical Devices & Digital Health Regulation Developments

### Ongoing MDR/IVDR Revisions

The European Commission proposed revisions to the **Medical Device Regulation (MDR)** and **In Vitro Diagnostic Regulation (IVDR)**:



- These include changes to **software classification** for medical devices and proposals related to AI in regulated devices.
- The **AI Act's adoption timeline** and its interaction with medical device regulation have also been a point of regulatory negotiation in Brussels.

**Why it matters:** Clarifying software and AI regulation will be critical for device manufacturers and digital health stakeholders operating in the EU single market.

## Recent news

### [The Board of the Avicenna Alliance invites the global \*in silico\* community to the Avicenna Days \(AAD\) 2026](#)



The Board of the Avicenna Alliance is glad to invite the global *in silico* community to register for Avicenna Days (AAD) 2026, a special anniversary edition celebrating 10 years of advancing *in silico* healthcare.

This free, online two-day event will take place on 28–29 April 2026 (2–6 pm CET / 8 am – Noon Eastern) and will bring together researchers, industry leaders, regulators, clinicians, policy makers and patient representatives.

Participants will reflect on a decade of progress in *in silico* medicine and engage in forward-looking discussions on priorities for the next ten years, from regulatory confidence and model credibility to patient-centred innovation.

Join us to celebrate the Alliance's 10th anniversary and help shape the future of *in silico* healthcare.

### [REGISTER TODAY](#)

### [More information](#)

For any question, contact Roberta Maggi ([manager@avicenna-alliance.com](mailto:manager@avicenna-alliance.com)).

### [Avicenna Days \(AAD\) 2026 – Celebrating 10 Years of \*In Silico\* Medicine](#)



2026 marks a major milestone for the **Avicenna Alliance: 10 years of advancing *in silico* medicine.**

To celebrate, we are delighted to invite our members, partners, and the wider *in silico* community to **Avicenna Days (AAD) 2026**, our special anniversary online event.

**28–29 April 2026**

Online | [Free registration](#)

This two-day event will bring together the global *in silico* community to:

- Reflect on a decade of scientific, regulatory, and clinical progress
- Share the latest developments in computational modelling and simulation for healthcare
- Explore priorities and opportunities shaping the next ten years of innovation

### Why attend?

- Celebrate the 10th anniversary of the Avicenna Alliance
- Learn from leading experts across academia, industry, regulators, hospitals, and patient organisations
- Connect with peers and key stakeholders in digital healthcare
- Gain insights into the future of *in silico* medicine and healthcare innovation

[Save the date and register today!](#)

[More information](#)

**Contact:** Roberta Maggi – [manager@avicenna-alliance.com](mailto:manager@avicenna-alliance.com)

Join us as we celebrate a decade of progress and look ahead to the future of *in silico* medicine. We look forward to welcoming you online for this special anniversary edition of Avicenna Days.

### [Cristina Curreli is the new Avicenna GSP Task Force Co-Chair](#)



We are delighted to welcome Dr. Cristina Curreli as the new Co-Chair of the GSP Task Force, joining Luca Emili in leading our activities.

Cristina is a biomedical engineer and healthcare researcher at the Rizzoli Orthopaedic Institute in Bologna. She holds a Master's degree and a PhD from the University of Pisa, with expertise in computational biomechanics, finite element modelling, and the credibility assessment of *in silico* methodologies. Her work includes participation in European

initiatives, contributions to higher education, and collaborations with renowned institutions.

Her strong background in computational modelling in medicine and her commitment to advancing *in silico* approaches will be a valuable asset to our community.

*"I'm excited to join the GSP TF and to contribute to the further development of this outstanding book, ensuring it reflects the latest scientific and technological advances in the field!"*, said Cristina after her appointment.

Please join us in warmly welcoming Cristina to her new role!

### [Working Group Leaders Elections 2025](#)



We are pleased to extend our sincere congratulations to:

- **Cécile Rousseau** (*In Silico* Application Working Group)
  - **Liesbet Geris** (Research & Technology Working Group)
  - **Martha De Cunha** (Policy Development Working Group)
  - **Marc Horner** (International Affairs Working Group)
- on their reappointment as Working Group Leaders of the Avicenna Alliance.

Their renewed mandates, with unanimity of the votes, reflect the strong confidence placed in their leadership.

We are confident that they will continue to provide outstanding guidance and make significant contributions to the Alliance, building on the impactful work achieved during their previous term.

## Members Corner

### Events



### AVICENNA DAYS (AAD) 2026

Free, Online, *In Silico* Healthcare Event

Tuesday 28 – Wednesday 29 April 2026, 2-6 pm CET

**Avicenna Days 2026** is a special anniversary edition celebrating **10 years** of the **Avicenna Alliance** and its mission to advance the adoption of *in silico* methods across healthcare.

This two-day online event will bring together the global *in silico* community to **look back at key milestones, share lessons learned, and define priorities for the next decade** of digital evidence, computational modelling and simulation in research, regulation, and clinical practice.

#### Looking Back: A Decade of *In Silico* Progress

Over the past ten years, the Avicenna Alliance has played a central role in:

- Advancing the scientific foundations of *in silico* medicine
- Supporting dialogue between academia, industry, regulators, clinicians, and patients
- Promoting the use of digital evidence in regulatory and clinical decision-making
- Building a strong, interdisciplinary international community

AAD 2026 will highlight **key achievements, landmark initiatives, and turning points** that have shaped the field since the Alliance's creation.

#### Looking Forward: The Next 10 Years

While progress has been significant, important challenges and opportunities remain. AAD 2026 will focus on:

- Scaling adoption of *in silico* methods across healthcare sectors

- Strengthening regulatory confidence and harmonisation
- Improving model credibility, transparency, and usability
- Ensuring patient-centred, inclusive, and impactful innovation

Participants will contribute to a **forward-looking discussion** on how *in silico* medicine can deliver safer, faster, and more effective healthcare in the decade ahead.

#### Who should attend?

- Academic and industry researchers and leaders in medical devices, bio/pharma, and digital health
- Scientists and regulatory affairs professionals working with digital evidence
- Clinicians and healthcare professionals interested in practical *in silico* applications
- Policy makers, notified bodies, patient representatives, and innovation stakeholders

#### What you will gain

By attending AAD 2026, you will:

- Gain a **comprehensive overview of 10 years of progress** in *in silico* medicine.
- Hear **strategic perspectives** from academic, industry, and regulatory leaders.
- Engage directly with experts and peers to discuss **future priorities and next steps** at the intersection of innovation and patient safety.

#### Join us

Celebrate the **10th anniversary of the Avicenna Alliance** and be part of the conversation shaping the future of *in silico* healthcare.

#### Want more information?

Please contact Roberta Maggi : [manager@avicenna-alliance.com](mailto:manager@avicenna-alliance.com)

**[REGISTER TODAY!](#)**


#### VPH 2026 — the Virtual Physiological Human Conference



Connect with leading researchers, clinicians, and decision-makers driving innovation in healthcare. Showcase your cutting-edge solutions, explore real-world applications of predictive models and digital twins, and engage with experts shaping the future of diagnosis, treatment, and personalized medicine. Position your organization at the forefront of impactful scientific and clinical collaboration.

You will be able to do this *and more* at **VPH 2026 — the Virtual Physiological Human Conference**.

Alongside scientists and industry leaders, you'll even meet **regulators and policymakers** shaping the future landscape of digital health.

 **Milan, Politecnico**


 **1–4 September 2026**

**Exhibition and Sponsorship packages** are now open for industry partners!

<https://vph-conference.org/industry/>

The scientific programme is in development, but here's a sneak peek at what's coming:

- Computational & AI-driven drug delivery and design
- Multi-omics data integration
- Neuroinformatics & brain–computer interfaces
- Decision support systems for clinical applications Industrial applications of digital twins
- *In silico* oncology & organ-on-a-chip trials
- Credibility, verification & validation of digital twins
- Regulatory science for digital twins
- Trusted AI in health and care
- ... and many more cutting-edge topics shaping the next decade of healthcare.

 **Join us in Milan and be part of the community building the future of virtual medicine.** <https://vph-conference.org/>

## Publications

### New Case Study: Advancing Device Innovation with Patient Twinning

[Edwards Lifesciences](#), in collaboration with [MDIC](#) and academic partners, applied *in silico* modelling validated by *in vitro* experiments to simulate device behaviour in a virtual patient—an approach often referred to as patient twinning.

This work highlights the growing potential of computational modelling and simulation to support medical device innovation, helping developers better understand device performance across diverse patient anatomies while maintaining a strong focus on safety and effectiveness.

Learn more at [Case Study: How Edwards is Driving Transformational Change for Patients - Medical Device Innovation Consortium](#)



### New Publication: First-Principles Insights into Iron(III) Oxide Complex Stability



A new peer-reviewed publication from the [InSilicoMinds](#) team, was recently published in ChemistrySelect. The study, “*First-Principles Insights Into the Stability of Iron(III) Oxide Complexes: A Comparative Study of Sucrose and Maltose Ligands*,” applies quantum-chemical and *in silico* modelling to investigate the stability of iron(III) oxide clusters and their interactions with carbohydrate ligands.

The research provides mechanistic insights into how cluster size and interactions with sucrose versus maltose influence the stability of iron colloidal systems—an area that is experimentally challenging but highly relevant for pharmaceutical iron formulations. The findings demonstrate how first-principles computational approaches can complement experimental work and support more rational, science-driven development strategies.

[Read the paper](#)

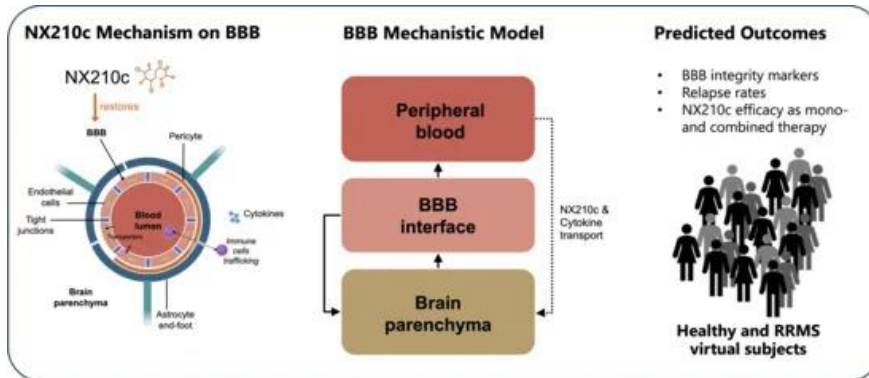
### New Publication: Modelling Insights on NX210c for Multiple Sclerosis

A new study published in the International Journal of Molecular Sciences highlights the potential therapeutic effect of **NX210c** in relapsing–remitting Multiple Sclerosis (RRMS). Conducted in collaboration with [InSilicoTrials](#), the research applies advanced modelling and simulation tools integrated into the R&D process to support faster and more informed evaluation of promising therapeutic approaches.

The study explores how disruption of the blood–brain barrier—a key factor in the development and progression of many neurodegenerative diseases—may be addressed by NX210c, an innovative peptide designed to combine blood–brain barrier restoration, neuroprotection, and enhancement of neurotransmission.

The work also supports ongoing development efforts by Axoltis Pharma, including the **SEALS Phase 2 clinical trial** investigating NX210c in Amyotrophic Lateral Sclerosis, with results expected in Q2 2026.

[Read the paper](#)



## Guiding Principles of Good AI Practice in Drug Development | FDA



The Food & Drug Administration ([FDA](#)) and the European Medicines Agency ([EMA](#)) have jointly published a set of 10 guiding principles designed to support, improve, and encourage the use of artificial intelligence (AI) in generating evidence throughout all stages of the drug life cycle. [Guiding Principles of Good AI Practice in Drug](#)

[Development | FDA](#)

Incorporating AI into drug development holds the promise of transforming how medicines are discovered, tested, and evaluated, ultimately enhancing patient care. AI is expected to accelerate innovation, shorten time-to-market, bolster regulatory quality and pharmacovigilance, and reduce reliance on animal studies by better predicting human toxicity and efficacy.


These guiding principles provide a foundation for establishing good practices tailored to the distinctive characteristics of AI technologies and highlight opportunities for collaboration among global regulators, standards organizations, and other cooperative bodies.



[Download pdf](#)

## Other News and interesting links

### Advancing *In Silico* Coronary Research: A New Program for CCTA, CFD and AI-Based Modelling

 **HEMOLENS**<sup>®</sup> A new initiative from our member [Hemolens Diagnostics](#), a Polish med-tech company, which offers **tools and practical support** for clinicians and researchers who want to develop *in silico* projects based on CCTA. The Cardiolens Evidence LAB is open to scientists and physicians (especially cardiologists) interested in combining CCTA with computational fluid dynamics (CFD), hemodynamic modelling, and AI-assisted image analysis to produce academic work in non-invasive coronary diagnostics. All activities take place in a research and educational setting and do not represent clinical recommendations or product claims.

Participants are encouraged to propose **case reports, pilot studies, or real-world data analyses** that can be developed into abstracts and full manuscripts. For selected projects, the organizers provide research access to an AI-based platform, including 3D coronary reconstruction, automated stenosis detection, and, in the next phase, basic hemodynamic indices and preliminary plaque characterization. The goal is to allow teams to test and apply advanced analysis workflows to their own imaging data while building publishable evidence. Importantly, the program does not stop at technology. For projects that lead to accepted manuscripts or conference abstracts, the organizers may:

- **cover or co-fund** article processing charges (APC) or journal submission fees,
- **provide partial support for travel and registration** for major cardiovascular meetings,
- offer practical help in preparing oral presentations, posters, and case-based sessions.

In this way, clinicians and researchers who decide to write case studies and publications within the program can receive not only methodological and editorial support, but also **very concrete backing** to get their work presented and published.

The initiative is particularly attractive for early-career clinician-scientists who have interesting cases or datasets, but limited access to *in silico* tools or funding for conferences and publication fees. Interested researchers can submit a brief project idea and expression of interest via the online form: [Cardiolens Evidence Lab](#).

### Numalogics Joins IEC/TC 62 Standardization Efforts

[Numalogics](#), through its Scientific Director Julien Clin, has joined the **International Electrotechnical Commission (IEC) Technical Committee 62 (TC 62)** on medical equipment, software, and systems, as well as its Canadian mirror committee.

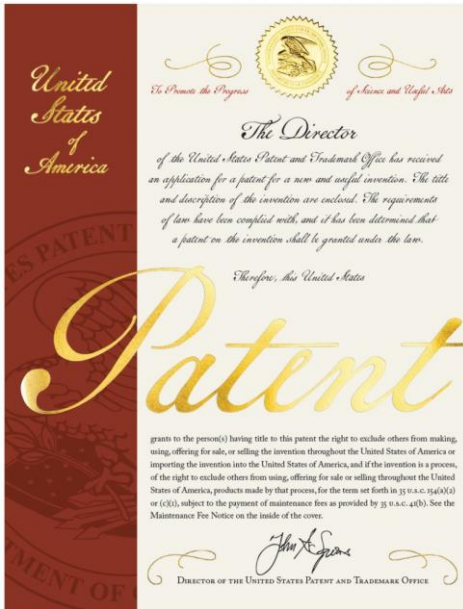


This engagement marks an important step in contributing to the development of global standards that support the safety, performance, and interoperability of medical devices and software. Through this collaboration, Numalogics looks forward to both contributing expertise and engaging with the broader IEC/TC 62 community to help advance high-quality, evidence-based medical technologies that support innovation and patient care worldwide.

## Virtonomy.io Secures US & EP Patents for Automated Virtual Patient Fitting

[Virtonomy](#) has been granted US and European patents for their system for automated virtual patient fitting of medical devices. This milestone recognizes their core technology for evaluating device fit using virtual patient models, including v-Patients web-app, which allows users to test devices in patient cohorts using real clinical data.

This patent strengthens their foundation as they continue advancing *in silico* methods for medical device development and regulatory decision-making.



## **JOB OPPORTUNITIES**



### **Virtonomy**

#### **Data & Software Engineer (m/f/d)**

#### **Full-time, Munich Metropolitan Region, Flexible Hybrid**

As we embark on an exciting growth phase and expand our market presence, we're seeking a dedicated and motivated Data & Software Engineer (m/f/d) to join us in our Munich office on this transformative journey.

#### **Key Responsibilities**

- Develop and maintain the Python SDK for our computer vision pipeline, including:
  - Image segmentation
  - Landmark detection
  - Measurement extraction based on landmarks
- Design, implement, and optimize CI/CD workflows for reliable software releases
- Build automated data mining and parsing solutions for streamlined data processing
- Establish robust quality control checkpoints throughout the data pipeline
- Develop and maintain patient data deployment pipelines with integrated quality inspection
- Manage and maintain structured or non-structured databases for medical data
- Uphold software quality standards through code reviews and best practices
- Contribute to backend development for clinical applications
- Support fellow engineers by automating manual workflows and tasks, acting as an infrastructure specialist to enhance team productivity and efficiency

#### **Required skills and expertise:**

- Bachelor's degree in Computer Science, a related field, or equivalent practical experience and knowledge
- Advanced proficiency in Python and its libraries (e.g., NumPy, pandas, scikit-learn)
- Skilled in leveraging AI coding tools to enhance productivity
- Highly efficient and organized in software development workflows
- Strong team player with excellent collaboration skills
- Experience with container-based environments and workflows (e.g., Docker, Podman) to ensure reproducible development and deployment
- Proven ability to design and implement CI/CD pipelines
- Adaptable to various databases, data types, and libraries
- Quick to learn and apply new technologies and tools
- Excellent problem-solving skills, attention to detail

#### **Mindset & attitude:**

- **Autonomous & Proactive:** Able to take initiative, identify new challenges, and drive projects from concept to completion.
- **Passionate About Innovation:** Stays updated with the latest advancements in medical imaging and computer vision research, with a curiosity-driven mindset.
- **Collaborative Team Player:** Enjoys working closely with engineers and domain experts from diverse focus areas while communicating solutions clearly and effectively.

#### **What we offer**

- An international and very motivated team with high performance and a cooperative mindset

- A high degree of responsibility and extensive creative opportunities from day one with short decision-making processes
- A future-oriented business with high impact in the medical domain
- With us there are many career paths and development opportunities for you, what you can't do yet, you can learn with us!
- Flexible working hours & home office possible

### Why Join Us?

As a Data & Software Engineer at Virtonomy, you'll play a pivotal role in the development of cutting-edge medical imaging solutions. You'll have the opportunity to contribute to groundbreaking projects, work with a diverse team of experts, and make a tangible impact on healthcare innovation. Help us shape the future of medical device design and improve patient outcomes worldwide.

**Job Type:** Full-time

**Preferred Starting Date:** As soon as possible

**Preferred Location:** Munich, Germany, but open to discussion.

**Work Location:** Hybrid remote in 80336 Munich, Germany

### Application:

To apply, please submit your CV and a cover letter detailing your experience and motivation, exclusively to [careers@virtonomy.io](mailto:careers@virtonomy.io). For more information, feel free to contact us.

By doing so, you consent to sharing your personal data with us in accordance with all applicable privacy regulations, including GDPR, and that we may use this data for purposes of evaluating your candidacy for this and any relevant future roles with us. You may opt out of this consent by informing us in writing at any time.

We are looking forward to your application!



Opportunity for Early-Career Researchers & Network Champions recommended by our member **Numerikor**

**15 fully funded PhD positions available within [TrackAF](#) – a new Marie Skłodowska-Curie Doctoral Network** focused on advancing research and training in atrial cardiomyopathy and atrial fibrillation.

This interdisciplinary programme combines cutting-edge computational modelling, clinical AI, data-driven approaches, and wet lab science to tackle some of the most pressing challenges in cardiovascular health.

### Who should apply?

### 15 fully funded PhD positions!

Starting date:  
September 2026

Come to Spain,  
Germany, Austria,  
Italy, or The Netherlands  
for your PhD!

Biomedical Engineering  
Clinical Data Science  
Biology



Atrial fibrillation risk  
management

Better diagnosis

Manage dynamic  
substrate evolution

Personalized treatment

Become a leading medical  
scientist of tomorrow!

[www.TrackAF.eu](http://www.TrackAF.eu)

- Master's graduates (or soon-to-graduate) in fields like biomedical engineering, clinical data science, machine learning & signal processing, biology, numerical modelling & simulation and related areas looking for a PhD in a new country.
- Enthusiastic researchers eager to dive into an interdisciplinary, international training network.

These 36-month positions are hosted across leading academic, clinical, and industrial institutions in Europe, with rich training, formal courses, and international secondments embedded in the programme.

Application deadline: 12 April 2026

Start: 1 September 2026

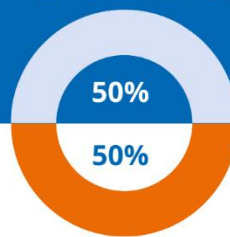
[Learn more and apply](#)

# Join the Avicenna Alliance!

## The Avicenna Alliance Membership



Representation of VPH Institute



Industry Representation

