ROBIN POINTET

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RESEARCH INTERESTS

Health economics; resource allocation under scarcity; economics of innovation; medical innovation and technology diffusion; organ transplantation and advanced heart failure.

REFERENCES

Marie Coris
Professor of Economics, BxSE, University of Bordeaux
Relationship: PhD supervisor
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Julien Pénin
Professor of Economics, BETA, University of Strasbourg
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Stéphane Garrigue
Cardiologist, Saint-Augustin Surgical Center
Chief Scientific Officer, FineHeart
Relationship: PhD co-supervisor
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Mandeep R. Mehra
Executive Director, Center for Advanced Heart Disease, Brigham Health
Professor of Medicine, Harvard Medical School
Relationship: Fulbright host and research supervisor
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EDUCATION

PhD in Economics, University of Bordeaux — Expected Dec 2026
Dissertation: *The Economics of LVADs: Innovation, Clinical Trial Dilemmas and Allocation of Donor Heart under Scarcity.*
Supervisors: Marie Coris; Julien Pénin; Stéphane Garrigue.
Research stay: Fulbright Fellow, BWH / Harvard Medical School (Boston, USA) — Spring 2026

MSc in Applied Economics (Economics of Innovation), University of Bordeaux — Sep 2021 – Jun 2023
Honors (France: *Mention Bien*); top-ranked in cohort (*major de promotion*).
Master's thesis: *Innovation in Implantable Medical Devices Between Public Health Issues and Economic Opportunities: The Case of Heart Failure Treatments.* (Available here)

Double Bachelor's Degree: Economics & Management; Applied Foreign Languages (English, German), University of Strasbourg — Sep 2018 – Jul 2021
Honors (France: *Mention Bien*).
Bachelor's theses: *Spatial Determinants of Social Acceptability: A Case Study on Energy Innovations in Fessenheim* (German); *Open-Source Innovation: Towards Applications Beyond the Software Industry* (English).

RESEARCH

Research focus. Research at the intersection of health economics and innovation economics, with a focus on resource allocation, technological substitution, and patient access in advanced heart failure.

Publications

Mehra, M.R., Coris, M., Pointet, R. (2026). *Why LVAD Use is Stagnant: A Failure of Diffusion and a Path Forward.* Journal of Heart and Lung Transplantation [Preprint]. *Available here*

Working papers

Pointet, R., Coris, M. (working paper). *Complex Medical Devices Facing Innovation Bottlenecks? The Case of Ventricular Assist Devices.* *Draft available here*

Works in progress

Pointet, R. *Organ Scarcity and Therapeutic Sequencing: A Markov Evaluation of Survival, Graft Utilization, and the Welfare Consequences of LVAD-First Strategies*

Pointet, R. *Back to the Lab, Out of Capital: Clinical Learning and the Second Valley of Death in MedTech Startups*

Selected conference presentations

1. *The Technico-Medico-Economic Trajectory of LVADs: Rethinking innovation in class III medical devices* (Full Paper), Augustin Cournot Doctoral Days, Strasbourg, FR, Apr 2025.
2. *Are Cardiac Assist Devices facing an innovation bottleneck?* (Full Paper), ISPIM Connects, Cape Town, ZA, Mar 2025.
3. *The evolution of mechanical circulatory support devices for advanced heart failure* (Abstract and Paper), DRUID PhD Academy, Odense, DK, Jan 2024.

Research funding & fellowships

1. 2026 Fulbright Fellowship (USD 13,200).
2. 2023 Doctoral funding (competitive selection): awarded by both the University of Strasbourg and the University of Bordeaux; chose Bordeaux (€2,300/month over 3 years).
3. 2025 & 2026 Young Researcher Grants, University of Bordeaux (Social Sciences Dept.): two research travels to Boston (2x€1,000).

RESEARCH-RELEVANT EXPERIENCE

Fulbright Fellow Jan 2026 – Sept 2026

Brigham and Women's Hospital / Harvard Medical School. *Boston, MA, USA*

- Engaged with clinicians and researchers in advanced heart failure, mechanical circulatory support, and transplantation to inform economic analyses of treatment allocation.
- Developed ongoing research on technological substitution under donor heart scarcity, including LVAD-first treatment strategies and their welfare implications.

Research Assistant May 2022 – Jul 2022

IHU Liryc (leading French research center in cardiac electrophysiology) *Bordeaux, France*

- Analyzed 7,000+ patents to map the technological evolution of left ventricular assist devices (LVADs) across three generations.
- Identified key patterns (incremental innovation, performance trade-offs, and increased R&D outsourcing) and presented findings to interdisciplinary teams (economists, clinicians, medical researchers).

Research Assistant Jan 2022 – Apr 2022

Bordeaux School of Economics (CNRS UMR 6060) *Bordeaux, France*

- Studied how monopoly structures shape innovation incentives, with a focus on R&D outsourcing strategies in medical devices.
- Presented results in steering committees with academic and industry stakeholders (IHU Liryc, FineHeart), supporting subsequent research collaboration.

Research Assistant Mar 2021 – Jul 2021
CRESAT (UR 3436), CERDACC (UR 3992) *Mulhouse, France*

- Built a spatial analysis approach to assess social acceptability of energy innovation in the Upper Rhine region.
- Delivered a feasibility report and presented findings to institutional stakeholders (Interreg) in English and German.

TEACHING EXPERIENCE (SELECTED COURSES)

Bordeaux University and partners Sep 2023 – Present
Approx. 32 hours of teaching per year (French/English); graduate and professional audiences.

- **Introduction to Economics and Management of Innovation** (12h, English) — Graduate Program Cardiac EP (Bordeaux University, IHU Liryc).
- **Business Strategy** (13.5h) — MSc Economics of Innovation (Bordeaux University).
- **Economics of Patents and Applications to Health Industries** (3h, French) — MA Philosophy: Care, Ethics, and Health (Bordeaux Montaigne University).
- **Organization and Industrial Economics** (13.5h, French) — BSc Social and Economic Administration (Bordeaux University).
- **Disrupt Campus** (10h, French) — supervision of multidisciplinary master's teams on real-world cases (social economy sector).

PROFESSIONAL DEVELOPMENT & GRADUATE TRAINING

Intensive Course on Computational Methods and Agent-Based Modelling in Social Sciences Feb 2023
Instructors: Tommaso Ciarli; Marco Valente (35-hour certified training)

Graduate Coursework in Quantitative Methods 2022–2023
MSc in Applied Economics (Economics of Innovation), University of Bordeaux
Selected courses: Advanced Microeconometrics (Oaxaca-Blinder decomposition, diff-in-diff, propensity score matching); Spatial Econometrics (SAR, SDM models; Moran tests); Social Network Analysis (Python).
Sample work: Determinants of GP location in Nouvelle-Aquitaine (SAR/SDM models, spatial autocorrelation)

LANGUAGES

French (native)
English (fluent)
German (fluent; Abibac, bilingual French–German curriculum)

LEADERSHIP & ACTIVITIES

Leadership: President, *Les Étudiants du Cœur* (2023-2025) — €6,000 raised for Mécénat Chirurgie Cardiaque; conferences on economics & health.
Athletics: Olympic weightlifting (national level; coach, Level 2 Federal Diploma; board member)

STATEMENT OF INTEREST —
NBER MENTORING PROGRAM ON AGING AND HEALTH ECONOMICS RESEARCH

Dear Dr Leder-Luis, Dear Dr Tello Trillo,

I am applying to the NBER Workshop on Health Economics and Aging because my research has progressively led me from economics of innovation toward questions that are fundamentally health economic in nature, while my formal training and mentoring remain rooted outside the field. I see this workshop as a natural place to connect work on technological substitution, aging populations, and constrained health systems with the type of empirical and policy-oriented health economics that the NBER network is known for.

My doctoral work, supervised by Marie Coris (University of Bordeaux) and Julien Pénin (University of Strasbourg), examines innovation and diffusion in active implantable medical devices, with a focus on left ventricular assist devices (LVADs) for advanced heart failure. The first part of my dissertation studies how expectations of future technological improvements can slow the adoption of existing devices, creating a self-reinforcing cycle that discourages investment in more radical innovation trajectories. This work led to a publication co-authored with Marie Coris and Mandeep Mehra (Brigham and Women's Hospital / Harvard Medical School), my Fulbright host.

As the project evolved, however, I became increasingly interested in a different question: how technological innovation affects welfare and resource allocation when access to a high-value treatment is constrained by biological scarcity. In advanced heart failure, donor hearts remain the clinical gold standard, yet their supply is structurally limited. LVADs provide a technological substitute that can extend survival, but they also introduce their own risks, costs, and quality-of-life trade-offs. Understanding when and how such technologies should substitute for scarce biological resources strikes me as a central health economics question, particularly in aging health systems.

My current research studies this issue through a multi-state Markov model comparing direct transplantation pathways to an LVAD-first sequential strategy. The broader objective is to evaluate how treatment sequencing affects both patient outcomes and the utilization of scarce donor hearts. Population aging makes these questions increasingly important because a growing share of advanced heart failure patients are either ineligible for transplantation or face substantially reduced access to donor organs, making long-term reliance on device-based therapies more common.

While my Fulbright experience provided extensive exposure to the clinical dimensions of advanced heart failure, I have largely developed the health economics components of this project independently. The next stage of the research requires expertise that I do not currently have access to through my doctoral environment. In particular, I seek training and mentorship in welfare analysis under resource constraints, cost-effectiveness and health policy evaluation, and empirical methods for administrative health data.

I am especially interested in developing an empirical extension using the French national health insurance database (SNDS), which offers longitudinal information on healthcare utilization and patient trajectories at the population level. Access to such data would allow me to move beyond clinically calibrated transition probabilities and toward real-world estimates of treatment pathways, costs, and outcomes in an aging population. In this two-day workshop, I am interested in receiving feedback on its feasibility and to connect with researchers who are more advanced in working with large health datasets and applied welfare analysis.

More broadly, I see this workshop as an opportunity to bridge my background in innovation economics with a long-term research agenda focused on resource allocation, technological substitution, and aging health systems. I believe I can contribute a perspective grounded in the economics of medical innovation while gaining the health economics training and mentorship necessary to develop this agenda rigorously, and to position it within the broader research themes typically discussed at NBER meetings on health and aging.

Best regards,
Robin Pointet