

Karim Lekadir

CONTACT INFORMATION	Universitat de Barcelona Facultat de Matemàtiques i Informàtica 08024 Barcelona, Spain	Homepage: www.bcn-aim.org ORCID ID: 0000-0002-9456-1612 ✉ E-Mail: karim.lekadir@ub.edu
ACADEMIC POSITION	ICREA Research Professor Universitat de Barcelona, Spain Departament de Matemàtiques i Informàtica Director, Artificial Intelligence in Medicine Lab (BCN-AIM)	2024 – Now
PAST POSITIONS	Associate Professor Universitat de Barcelona, Spain Departament de Matemàtiques i Informàtica	2022 – 2023
	Ramon y Cajal Senior Researcher Universitat de Barcelona, Spain Departament de Matemàtiques i Informàtica	2019 – 2022
	Ramon y Cajal Senior Researcher Universitat Pompeu Fabra, Barcelona, Spain Department of Information & Communication Technologies	2017 – 2019
	Visiting Post-Doctoral Researcher Stanford University, USA Integrative Biomedical Imaging Informatics at Stanford (IBIIS) Department of Radiology	2016 – 2017
	Marie-Curie Research Fellow (Cofund) Computer Vision Center, Barcelona, Spain	2016 – 2017
	Juan de la Cierva Research Fellow Universitat Pompeu Fabra, Barcelona, Spain Department of Information & Communication Technologies	2011 – 2015
	Research Associate Imperial College London, UK Department of Computing	2008 – 2010
	Software developer (CMRtools) Imperial College London, UK Royal Society/Wolfson Foundation Medical Imaging Laboratory	2003 – 2004
EDUCATION	Imperial College London, UK Doctor of Philosophy (PhD) in Medical Image Computing “Medical image segmentation and analysis using statistical shape modelling and inter-landmark relationships”	2005 – 2009
	Université de Montpellier II, France Master’s degree (DEA) in Computer Science “Robust skeletonisation of three-dimensional objects”	2001 – 2002

RWTH Aachen, Germany	2000 – 2001
Erasmus exchange student, final year of Engineering degree	
Mobility studentship awarded by the European Commission	
SupMéca Paris, France	1999 – 2001
Engineering degree (CESTI)	
Université de Bourgogne, France	1996 – 1998
Undergraduate degree in Mathematics and Computer Science	

RESEARCH
FUNDING:
> €15.0
MILLION

1. **AIM-SAFE, Horizon Europe project**
 “A Multi-Agent Framework for Safe, Specialised, and Adaptive Clinical Reasoning”
 Principal Investigator: Karim Lekadir (2026 – 2030)
 Funding: 16 665 156,25€ (UB: 666 250,00€). European Commission, Project # 101287214
2. **AIFIX, ERC Consolidator Grant project**
 “Inclusive Artificial Intelligence Using Adaptive Federated Learning Across High and Low-resource Settings”
 Principal Investigator & Project Coordinator: Karim Lekadir (2025 – 2027)
 Funding: 150 000,00€ (UB: 150 000,00€). European Commission, Project # 101213225
3. **YOUTHreach, Horizon Europe project**
 “Bridging Gaps in Mental Health Support: A Comprehensive European Strategy”
 Principal Investigator: Karim Lekadir (2025 – 2030)
 Funding: 8,5 millions € (UB: 575 000,00€). European Commission, Project # 101156514
4. **DVPS, Horizon Europe project**
 “The Diversis Viis, Plurima Solvens (DVPS)”
 Principal Investigator: Karim Lekadir (2025 – 2030)
 Funding: 24,98 millions € (UB: 695 041,25€). European Commission, Project # 101213369
5. **COMPASS-AI, Horizon Europe project**
 “Community Of Multidisciplinary Professionals Advancing Safe and Successful AI Implementation in Clinical Practice”
 Principal Investigator & Project Coordinator: Karim Lekadir (2025 – 2029)
 Funding: 5 057 004,04€ (UB: 865 362,50€). European Commission, Project # 101233553
6. **AIXPERT, Horizon Europe project**
 “An agentic, multi-layer, GenAI-powered backbone to make an AI system explainable, accountable, and transparent”
 Principal Investigator & Project Coordinator: Karim Lekadir (2025 – 2028)
 Funding: 7 499 753,75€ (UB: 477 250,00€). European Commission, Project # 101214389
7. **AFRICAI-RI, Horizon Europe project**
 “A Pan-African Research Infrastructure for Collaborative Biomedical Imaging and Artificial Intelligence”
 Principal Investigator & Project Coordinator: Karim Lekadir (2025 – 2029)
 Funding: 4 999 075,00€ (UB: 738 750,00€). European Commission, Project # 101190731
8. **STAGE, Horizon Europe project**
 “An Integrated Life-Course Approach for Person-Centred Solutions and Care for Ageing with Multi-morbidity in the European Regions – STAGE; Stay Healthy Through Ageing”

Principal Investigator: Karim Lekadir (2024 – 2029)

Funding: 17,7 millions € (UB: 663,000,00€). European Commission, Project # 101137146

9. AIMIX, ERC Consolidator Grant project

“Inclusive Artificial Intelligence for Accessible Medical Imaging Across Resource-Limited Settings”

Principal Investigator & Project Coordinator: Karim Lekadir (2023 – 2028)

Funding: 2 206 963,00€ (UB: 1 825 968,00 €). European Commission, Project # 101044779

10. AI4HF, Horizon Europe project

“Trustworthy Artificial Intelligence for Personalised Risk Assessment in Chronic Heart Failure”

UB Principal Investigator & Leader WP2: Karim Lekadir (2023 – 2027)

Funding: 6 411 076,25€ (UB: 861 250,00 €). European Commission, Project # 101080430

11. HappyMums, Horizon Europe project

“Understanding, predicting, and treating depression in pregnancy to improve mothers and offspring mental health outcomes”

UB Principal Investigator & Leader WP2: Karim Lekadir (2022 – 2026)

Funding: 8 925 241,00€ (UB: 938 306,00 €). European Commission, Project # 101057390

12. DataTools4Heart, Horizon Europe project

“European Health Data Toolbox for Enhancing Cardiology Data Interoperability, Reusability and Privacy”

Principal Investigator & Project Coordinator: Karim Lekadir (2022 – 2026)

Funding: 7 747 905,00€ (UB: 1 183 750,00€). European Commission, Project # 101057849

13. RadioVal, Horizon Europe project

“International Clinical Validation of Radiomics Artificial Intelligence for Breast Cancer Treatment Planning”

Principal Investigator & Project Coordinator: Karim Lekadir (2022 – 2026)

Funding: 5 838 576,00€ (UB: 801 250,00€). European Commission, Project # 101057699

14. Youth-GEMs, Horizon Europe project

“Gene Environment interactions in Mental health trajectories of Youth”

UB Principal Investigator & Leader WP6: Karim Lekadir (2022 – 2027)

Funding: 8 107 980.00 € (UB: 658 125,00€). European Commission, Project # 101057182

15. FUTURE-ES

“Trustworthy and multi-centre artificial intelligence for future medical imaging in Spain”

Principal Investigator & Project Coordinator: Karim Lekadir (2022 – 2024)

Funding: 125 235,00 €. Ministerio de Ciencia, Innovación y Universidades, Project # PID2021-126724OB-I00

16. EuCanImage, H2020 project

“A European Cancer Image Platform Linked to Biological and Health Data for Next-Generation Artificial Intelligence and Precision Medicine in Oncology”

Principal Investigator & Project Coordinator: Karim Lekadir (2020 – 2024)

Funding: 9 994 358,50 € (UB: 1 278 125,00€). European Commission, Project # 952103

17. EarlyCause, H2020 project

“Causative mechanisms & integrative models linking early-life-stress to psycho-cardio-metabolic multi-morbidity”

Principal Investigator & Project Coordinator: Karim Lekadir (2020 – 2023)

Funding: 5 997 381,25 € (UB: 680 937,50€). European Commission, Project # 848158

18. **euCanSHare, H2020 project**

“An EU-Canada joint infrastructure for next-generation multi-Study Heart research”

Principal Investigator & Project Coordinator: Karim Lekadir (2018 – 2022)

Funding: 5 395 292,50 € (UB: 685 697,31€). European Commission, Project # 825903

19. **LongITools, H2020 project**

“Dynamic longitudinal exposome trajectories in cardiovascular and metabolic non communicable diseases”

UB Principal Investigator & Leader WP7: Karim Lekadir (2020 – 2023)

Funding: 11 997 448,75 € (UB: 716 250,00€). European Commission, Project # 874739

20. **HealthyCloud, H2020 project**

“Health Research & Innovation Cloud”

UB Principal Investigator: Karim Lekadir (2021 – 2024)

Funding: 2 999 975,00 € (UB: 291 750,00 €). European Commission, Project # 965345

21. **HeartBrainCom**

“Un modelo de aprendizaje automático y de big data para evaluar la comorbilidad corazón-cerebro”

Principal Investigator & Project Coordinator: Karim Lekadir (2019 – 2021)

Funding: 55 297,00€. Ministerio de Ciencia, Innovación y Universidades, Project # RTI2018-099898-B-I00

22. **DECARTS**

“Decision support system for arterial stenting”

Principal Investigator: Karim Lekadir (2019 – 2021)

Funding: 96 000,00€. European Commission and ACCIÓ Agency, Project # TECSPR-0027-00

PUBLICATIONS

1. B. Kocak, A. Ponsiglione, VN. Dang, M. Dietzel, **K. Lekadir**, R. Cuocolo. “Bias and Fairness Across the Healthcare AI Lifecycle: A Clinician-Oriented Review”, *Balkan Medical Journal*, 43 (8):418-433, 2026.
2. DA. Kessler, M. Bobowicz, M. Kosno, S. Joshi, K. Marias, O. Díaz, **K. Lekadir**. “MRI radiomics for predicting pathological complete response in breast cancer: a systematic review of current evidence and limitations”, *European Journal of Radiology*, 113101, 2026.
3. AM. Salih, E. Rauseo, IB. Galazzo, ER. Pujadas, VM. Campello, **K. Lekadir**, N. Aung, GG. Slabaugh, GS. Dabbagh, AA. Chahal, G. Menegaz, SE. Petersen. “Advancing Heart Ageing in Ischemic Heart Disease: Insights from CMR and ECG Analysis”, *Journal of Cardiovascular Magnetic Resonance*, 102776, 2026.
4. S. Pe, A. Angi, C. Izquierdo, E. Parimbelli, MJ. Boonstra, F. Wouter Asselbergs, **K. Lekadir**. “Contrastive explainable AI in healthcare: a systematic review of trends, benefits, research gaps, and future directions”, *BMC Medical Informatics and Decision Making*, 2026.
5. J. Perramon-Llussà, G. Skorupko, S. Rao, E. Ruiz Pujadas, SJ. El Kaderi, I. Stepin, M. Mamouei, M. Boonstra, A. Triantafyllidis, F. W Asselbergs, G. Salimi-Khorshidi, **K. Lekadir**, P. Gkontra. “Big data and trustworthy ai for heart failure: A review”, *Circulation: Heart Failure*, 19 (7), e013823, 2026.

6. U. Anazodo, D. Zhang, C. Raymond, M. Kurt, **K. Lekadir**, A. Crimi. "Medical Image Computing in Resource Constrained Settings: First International Workshop, MIRASOL 2025, Held in Conjunction with MICCAI 2025, Daejeon, South Korea, September 27, 2025, Proceedings", Springer Nature, 2026.
7. M. Ferrara, L. Sáez-Ortuño, S. Forgas-Coll, J. Refugio Fabila-Fabián, C. Martín-Isla, **K. Lekadir**. "Quantum geometric-entropic optimization for customer lifetime value prediction: convergence theory and an empirical study on transactional retail data", *Statistics*, 1-25, 2026.
8. T. van Amelsvoort, A. Boonstra, **K. Lekadir**, E. Ruiz Pujadas, M. R Broome, S. Lowri Griffiths, G. Donohoe, A. Popma, G. de Girolamo, CM. Díaz-Caneja, AK. Oidermaa, A. Bechdorf, S. Evers, G. van Mastrigt, D. Horstkötter, R. Janssen, M. Bulgheroni, D. McDaid, J. R Boehnke, P. McGorry, M. Alvarez Jimenez, A. Schick, U. Reininghaus, S. Leijdesdorff. "Bridging gaps in youth mental health care: YOUTHreach—a comprehensive European strategy", *European Child & Adolescent Psychiatry*, 1-9, 2026.
9. J. Bai, Z. Zhou, Y. Tang, J. Gan, Z. Liang, J. Fan, L. B McGuire, J. L Clarke, W. Cai, J. Spurway, Y. Tan, S. Wang, W. Shen, W.Yu, Y. Li, P. Zhang, W.Jiang, Y. Li, S. Muhsin A. Binqahal Al Nasi, A. Abzhanov, N. Saeed, M. Yaqub, Z. Xia, H. Li, L. Lan, J. Ramesh, V. Bacher, M. Eid, H. Kalabizadeh, C. Rupprecht, A. IL Namburete, PH. Yeung, M. K Wyburd, N. K Dinsdale, A. Serikbey, J. Li, SL. Chen, Z. Hu, N. Liu, Y. Deng, W. Hu, C. Tan, W. Zhang, M. Tuyet Nhi, G. Koehler, R. Stock, K. Maier-Hein, M. Elbatel, X. Li, S. Slimani, VM. Campello, B. Ohene-Botwe, I. Khobo, Y. Huang, Z. Han, H. Hou, D. Qiu, Z. Zheng, G. Luo, D. Ni, Y. Lu, **K. Lekadir**, S. Li. "Beyond benchmarks of IUGC: Rethinking requirements of deep learning method for intrapartum ultrasound biometry from fetal ultrasound videos", *Medical Image Analysis*, 104043, 2026.
10. M. Elbatel, A. Wang, K. Liu, K. Mouheb, E. Almar-Munoz, L. Lin, Y. Yang, **K. Lekadir**, X.Li. "MedSapiens: Taking a pose to rethink medical imaging landmark detection", *Medical Image Analysis*, 104015, 2026.
11. E. Ruiz Pujadas, J. Hernández-González, V. Ngoc Dang, M. Camacho, **K. Lekadir**, M. PA Starmans. "Bias and Fairness in Radiomics: A Comparative Analysis of Machine Learning Models on Four Oncology Datasets", *International Journal of Imaging Systems and Technology*, 36 (2), e70329, 2026.
12. JP. Howard, Q. Zhang, AM. Salih, SE. Petersen, **K. Lekadir**, Z. Raisi-Estabragh. "Artificial intelligence in cardiovascular imaging: risks, mitigations and the path to safe implementation", *Heart*, 112 (5), 246-252, 2026.
13. J. Bai, Y. Tang, Z. Zhou, M. Islam, M. Tabassum, E. Almar-Munoz, H. Liu, H. Meng, N. Lv, B. Deng, Y. Chen, Z. Peng, Y. Xiao, L. Xiao, NK. Tran, DP. Phan-Le, HD. Nguyen, X. Liu, J. Hu, M. Huang, J. Liang, C. Feng, X. Zhang, L. Tong, B. Du, HH. Pham, TH. Nguyen, M. Xu, J. Jiang, J. Zhang, Y. Liu, MK. Hasan, J. Gan, Z. Liang, W. Cai, Y. Huang, G. Luo, M. Yaqub, **K. Lekadir**. "FUGC: Benchmarking Semi-Supervised Learning Methods for Cervical Segmentation", *IEEE Transactions on Medical Imaging*, 19, 1-1, 2026.
14. K. Priestley, R. Laijawala, K. Hazelgrove, R. Bind, L. Rebecchini, N. Mariani, S. Alford, M. Kirkpatrick, F. Mancino, S. Kim, S. Pushpakanthan, A. Biaggi, L. Cavaliere, MG. Di Benedetto, M. Matijaš, M. Žutić, M. Brekalo, S. Nakić Radoš, K. Żukowska, A. Braniecka, M. Jackowska, M. Bessi, E. Agnoletto, EMT. Melloni, F. Benedetti, M. Bulgheroni, M. La Gamba, C. Martín Isla, C. Izquierdo Morcillo, **K. Lekadir**, V. Salo, T. Seikku, K. Räikkönen, M. Godara, UM. Schneider-Schmid, S. Entringer, C. Buß, D. de Barra, A. Woods, P. Dazzan, A. Cattaneo, C. Pariante. "HappyMums mobile application study protocol: use of a smartphone application to gather data predictive of antenatal depression", *BMJ open*, 16 (2), e106978, 2026.

15. H. Naderi, T. Kaplan, S. van Duijvenboden, ER. Pujadas, N. Aung, C. Anwar A. Chahal, **K. Lekadir**, B. Chamling, M. Dörr, MRP. Markus, SE. Petersen, J. Ramírez, PB. Munroe. "Deep learning to predict left ventricular hypertrophy from the electrocardiogram", *Europace*, euag015, 2026.
16. J. Bai, Y. Tang, X. Liu, J. Hu, Y. Li, X. Chen, Y. Wang, C. Ma, Y. Li, B. Guo, J. Jiao, Y. Huang, K. Wang, L. Li, Y. Ma, X. Han, H. Shao, Z. Yang, Q. Liu, Y. Hu, J. Kuang, S. Song, A. Krishna, ZA. Khan, Z. Li, Z. Zhang, H. Zhang, Y. Cheng, X. Zhang, X. Chen, H. Yan, L. Tong, B. Du, B. Deng, Y. Chen, Z. Peng, S. Rezaei, J. Gan, W. Cai, F. Wang, KM. Curran, G. Silvestre, I. Khobo, Y. Lu, D. Ni, Y. Huang, M. Yaqub, J. Ma, K. Lekadir, S. Li. "IUGC: A benchmark of landmark detection in end-to-end intrapartum ultrasound biometry", *Medical Image Analysis*, 103960, 2026.
17. N. Konz, R. Osuala, P. Verma, Y. Chen, H. Gu, H. Dong, Y. Chen, A. Marshall, L. Garrucho, K. Kushibar, DM. Lang, GS. Kim, LJ. Grimm, JM. Lewin, JS. Duncan, JA. Schnabel, O. Diaz, **K. Lekadir**, MA. Mazurowski. "Fréchet radiomic distance (FRD): A versatile metric for comparing medical imaging datasets", *Medical Image Analysis*, 2026
18. AH. Youssef, H. Benhabiles, T. Akumu, M. Elbatel, **K. Lekadir**. "Fetal Abdomen-Guided Ultrasound Reconstruction via Autoencoder For Optimal Frame Selection and Segmentation", *International Workshop on Medical Image Computing in Resource Constrained Settings, LNCS*, volume 16398, 62-71, 2026.
19. Z. Chen, Z. Ou, Y. Lu, VM. Campello, J. Bai, **K. Lekadir**. "Uncertainty-fetal head and pubic symphysis segmentation with enhanced multi-scale features and sparse visual graph attention", *Expert Systems with Applications*, 296, 128998, 2026.
20. I. Mese, TA. D'Antonoli, C. Bluethgen, K. Bressem, R. Cuocolo, A. Chaudhari, AS. Tejani, A. Isaac, A. Ponsiglione, A. Meddeb, B. Khosravi, B. Le Guellec, CE. Kahn Jr, C. H. Suh, D. Pinto Dos Santos, DM. Koh, E. Tzanis, E. Kotter, E. Colak, F. Kitamura, F. Busch, F. Nensa, G. Yang, H. Müller, JN. Kather, J. Nawabi, J. Kleesiek, J. Zhong, J. Santinha, J. Haubold, J. Guilherme De Almeida, **K. Lekadir**, K. Marias, L. Noelle Reiner, L. Maier-Hein, L. Moy, LC. Adams, L. Martí-Bonmatí, M. Paschali, M. Moassefi, M. Dietzel, M. Huisman, M. Ingrisch, ME. Klontzas, N. Papanikolaou, O. Diaz, P. Kuriki, P. Seeböck, P. Rouzrokh, QD. Strotzer, S. Ho Park, S. Faghani, S. Tayebi Arasteh, S. Hwan Kim, VK. Venugopal, W. Kim, B. Kocak. "Reporting checklist for foundation and large language models in medical research (REFINE): an international consensus guideline ", *Diagnostic and Interventional Radiology*, 2026.
21. L. Maas, C. Contreras-Meca, S. Ghezzi, F. Belmans, A. Corsi, J. Cant, W. Vos, M. Bobowicz, M. Rygusik, DK. Laski, L. Annemans, M. Hilgsmann, **EuCanImage Working Group**. "Cost-effectiveness analysis of artificial intelligence (AI) in earlier detection of liver lesions in cirrhotic patients at risk of hepatocellular carcinoma in Italy", *Journal of Medical Economics*, 28 (1), 1023-1036, 2025.
22. AS. Panayides, H. Chen, ND. Filipovic, T. Geroski, J. Hou, **K. Lekadir**, K. Marias, GK. Matsopoulos, G. Papanastasiou, P. Sarder, G. Tourassi, SA. Tsaftaris, H. Fu, E. Kyriacou, CP. Loizou, M. Zervakis, JH. Saltz, FE. Shamout, KCL. Wong, J. Yao, A. Amini, DI. Fotiadis, CS. Pattichis, MS. Pattichis. "Position paper: Artificial intelligence in medical image analysis: Advances, clinical translation, and emerging frontiers", *IEEE Journal of Biomedical and Health Informatics*, 2025.
23. A. Franklin, JP. Davies, NE. Clifton, GET. Blake, R. Bamford, EM. Walker, B. Chioza, M. Frith, S. Baron-Cohen, C. Allison, V. Warrier, A. Tsompanidis, D. Adhya, R. Holt, J. Davis, G. Gu, Y. Zhang, N. Okewole, O. Al-Rubaie, DH. Geschwind, RAM. Ghoddousi, AEP. Heazell, J. Mill, ME. Hurlles, HC. Martin, M. Mousa, DH. Rowitch, KK. Niakan, GJ. Burton, F. Ghafari, DP. Srivastava, L. Dutan-Polit, A. Pavlinek, L. Sichlinger, R. Nagy, MA. Lancaster, J. Gonzalez-Martinez, T. Biron-Shental, LV. Gabis, D. Floris, R. Bethlehem, M. Lombardo, M. Radecki, MC. Lai, YD. Greenberg, E. Weir, F. Uzefovsky, Y. Khan, JP. Del Rio, A. Penn, R.

- Knickmeyer, K. Kosidou, B. Rutten, S. Gülöksüz, T. van Amelsvoort, LK. Pries, BD. Lin, A. Arias-Magnasco, E. van Hell, M. Cannon, D. Cotter, M. Föcking, SR. Susai, E. Binder, J. van Os, J. Pasterkamp, A. Wiersema, M.Boks, W. Schalkwijk, **K. Lekadir**, E. Ruiz Pujadas, N. Lazrak, I. Kelleher, J. Leppänen, V. Kiesepä, S. Karbouniaris, L. van der Poel, M. Kanne, M. Kolk, H. Douwenga, J. Rambla, A. Navarro, L. Nagirnaja, A. Cabrelles Munoz, LA. Fromont, J. Harro, T. Kurrikoff, R.Reppo, D. Stevanovic, A. Milevic, J. Jancic, M. Nikolic, M. Bulgheroni, L. Giani, M. La Gamba, T. Franic, M. Plenkovic, CM. Diaz-Caneja, C. Arango, M. Ferrer-Quintero, R. Abregú-Crespo, E. Guerra-Blacio, N. Martín-Martínez, C. Middeldorp, E. M Byrne, SH. Gangaraju, S. Marla, E. Hannon, E. Dempster, P. Wells, R. Murray, A. Danese, AL. Richards, L. Riglin, MC. O'Donovan, J. Burrage, N. Owens, S. Prabhakar. "Cell-type-specific DNA methylation dynamics in the prenatal and postnatal human cortex", *Cell Genomics*, 5 (12), 2025.
24. R. Osuala, S. Joshi, A. Tsirikoglou, L. Garrucho, WHL. Pinaya, DM. Lang, JA. Schnabel, O. Diaz, **K. Lekadir**. "Simulating dynamic tumor contrast enhancement in breast MRI using conditional generative adversarial networks", *Journal of Medical Imaging*, 12 (s2), S22014-S22014, 2025.
25. GS. Ioannidis, K. Nikiforaki, A. Dovrou, V. Kilintzis, G. Kalliatakis, O. Diaz, **K. Lekadir**, K. Marias. "Explainable Radiomics-Based Model for Automatic Image Quality Assessment in Breast Cancer DCE MRI Data", *Journal of Imaging*, 11 (11), 417, 2025.
26. I. Stepin, MJ. Boonstra, X. Li, C. Kremser, M. Schwab, SE. Petersen, M. Haltmeier, A. Mayr, **K. Lekadir**. "Cine-CLIP: Reducing Cine-MRI Dimensionality with Temporal Variability for Left Ventricular Ejection Fraction Estimation", *Predictive Intelligence in Medicine: 8th International Workshop, PRIME 2025, Held in Conjunction with MICCAI 2025, Daejeon, South Korea, September 27, 2025, Proceedings*, 163, 2025.
27. G. Skorupko, F. Avgoustidis, C. Martín-Isla, L. Garrucho, DA. Kessler, E. Ruiz Pujadas, O. Díaz, M. Bobowicz, K. Gwoździejewicz, X. Bargalló, P. Jaruševičius, R. Osuala, K. Kushibar, **K. Lekadir**. "Federated nnU-Net for privacy-preserving medical image segmentation", *Scientific Reports*, 15 (1), 38312, 2025.
28. P. Lambin, HC. Woodruff, SA. Mali, X. Zhong, S. Kuang, E. Lavrova, H. Khan, **K. Lekadir**, A. Zwanenburg, J. Deasy, M. Bobowicz, L. Marti-Bonmati, A. Maidment, M. Dumontier, PE. Kinahan, JM. Nobel, S. Amirrajab, Z. Salahuddin. "Radiomics Quality Score 2.0: towards radiomics readiness levels and clinical translation for personalized medicine", *Nature Reviews Clinical Oncology*, 22 (11), 831-846, 2025.
29. MS. Sappia, CL. de Korte, B. van Ginneken, D. Ninalga, S. Kondo, S. Kasai, K. Hirasawa, T. Akumu, C. Martín-Isla, **K. Lekadir**, VM. Campello, J. Fabila, A. Beverdam, J. van Dillen, C. Neff, K. Murphy. "ACOUSLIC-AI challenge report: Fetal abdominal circumference measurement on blind-sweep ultrasound data from low-income countries", *Medical image analysis*, 105, 103640, 2025.
30. ER. Pujadas, CM. Díaz-Caneja, D. Stevanovic, M. Ferrer Quintero, C. Martín-Isla, J. Hernández-González, A. Atehortúa, N. Lazrak, L. Pries, P. Delespaul, M. Camacho, S. Gülöksüz, BPF. Rutten, **K. Lekadir**. "Longitudinal Prediction of Mental Health Outcomes in Vulnerable Youth using Machine Learning", *Cognitive Computation*, 17 (5), 152, 2025.
31. M. Riera-Marín, OK. Sikha, J. Rodríguez-Comas, MS. May, Z. Pan, X. Zhou, X. Liang, FX. Erick, A. Prenner, C. Hémon, V. Bousot, JL. Dillenseger, JC. Nunes, A. Qayyum, M. Mazher, SA. Niederer, K. Kushibar, C. Martín-Isla, P. Radeva, **K. Lekadir**, T. Barfoot, LC. Garcia Peraza Herrera, B. Glocker, T. Vercauteren, L. Gago, J. Englemann, JM. Kleiss, A. Aubanell, A. Antolin, J. García-López, MA. González Ballester, A. Galdrán. "Calibration and Uncertainty for multiRater Volume Assessment in multiorgan Segmentation (CURVAS) challenge results", *Computers in Biology and Medicine*, 197, 111024, 2025.

32. A. Casamitjana, R. Sala-Llonch, **K. Lekadir**, JE. Iglesias. "USLR: An open-source tool for unbiased and smooth longitudinal registration of brain MRI", *Medical image analysis*, 105, 103662, 2025.
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COMPETITIVE
FELLOWSHIPS

- | | | |
|----|--|------|
| 1. | Ramon y Cajal Fellow | 2017 |
| | Funded by Spanish Ministry of Science & Innovation | |
| 2. | Marie-Curie Research Fellow | 2016 |
| | Co-funded by the European Commission and ACCIÓ Agency | |
| 3. | Juan de la Cierva Fellow | 2011 |
| | Funded by the Spanish Ministry of Science & Innovation | |
| 4. | Erasmus Exchange Studentship | 2001 |
| | Awarded to 6 out of 102 students at my university. Spent at RWTH Aachen, Germany | |
| 5. | Leonardo da Vinci industrial studentship | 1999 |
| | Funded by the European Commission, carried out at Daimler AG, Mannheim, Germany | |

AWARDS

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|----|--|------|
| 1. | Best Paper Award in Physica Medica Journal 2021 | 2021 |
| 2. | 1st place MICCAI challenge on Federated Tumour Segmentation | 2021 |
| 3. | Best Paper Award at MyoPS 2020 | 2020 |
| 4. | Best Challenge Paper at STACOM 2015 | 2015 |
| 5. | 1st place MICCAI challenge on myocardial infarction classification | 2015 |
| 6. | Best Student Poster at EIT 2015 | 2015 |

SOFTWARE	1. OpenVRE for federated data analytics	2021
	2. euCanSHare platform for cardiovascular research data	2020
	3. CMRtools for CMR image quantification Commercialised and used in more than 250 clinical centers worldwide	2009
INDUSTRIAL EXPERIENCE	1. Terma GmbH, Darmstadt, Germany Internship as Software developer: Satellite communication simulation	2021
	2. MTU Aero Engines, Munich, Germany Internship as Software programmer: Test bed data analysis	2020
	3. EvoBus, Daimler AG, Mannheim, Germany Internship as Database programmer: Kaizen quality control database	1999
TEACHING	1. Master Sinology: “Inteligencia artificial y machine learning: bases y aplicaciones” Universitat de Barcelona, Barcelona	2020-now
	2. Master Computer Vision: “Optimisation & Inference” Universitat Pompeu Fabra, Barcelona	2017-now
	3. Master Intelligent Interactive Systems: “Pattern Recognition” Universitat Pompeu Fabra, Barcelona	2017-2019
	4. Master in Computing: “Computer Vision” class Imperial College London, UK	2009-2010
CURRENT PHD STUDENTS	1. Mahbod Issaiy (expected end date: 2030) “Transferable Foundation Models for Medical Imaging in Low-Resource Settings”	
	2. Thomas Keller (expected end date: 2029) “Robust and Explainable Deep Learning for Prenatal Ultrasound Analysis in Diverse Clinical Settings”	
	3. Xue Zhao (expected end date: 2029) “Artificial Intelligence solutions for medical imaging in fetal ultrasound”	
	4. Tanya Akumu (expected end date: 2028) “Development of Artificial Intelligence solutions aimed at providing access to antenatal screenings in developing countries”	
	5. Emmah (Ariana) Ng'ang'a (expected end date: 2028) “Inclusive Artificial Intelligence for Accessible Medical Imaging Across Resource-limited Settings: Social, cultural, and ethical challenges and requirements for inclusive AI in obstetric ultrasound in urban and rural Kenya”	
	6. Joan Perramon (expected end date: 2026) “Remote monitoring of cardiac pathologies through machine learning algorithms”	
	7. Smriti Joshi (expected end date: 2026) “Trustworthy radiomics AI for breast treatment planning”	
	8. Grzegorz Skorupko (expected end date: 2026)	

“Federated learning with real-world multi-modal data”

PAST PHD
STUDENTS

1. **Carlos Martin Isla (2024)**
“Automatic Cardiac Segmentation of Complex morphologies, modalities and tissues using deep learning”
2. **Victor Campello (2023)**
“Multi-centre cardiac image analysis”
3. **Cristian Izquierdo (2024)**
“Machine learning and radiomics for survival analysis”
4. **Vien Ngoc Dang (2026)**
“Fair machine learning in mental health”
5. **Lidia Garrucho (2025)**
“Trustworthy AI in breast mammography”
6. **Richard Osuala (2025)**
“Data synthesis for trustworthy AI in medical imaging”
7. **Marco Pereañez (2016):**
“Enlargement, subdivision and individualisation of statistical shape models”
8. **Xenia Alba (2016)**
“Automated cardiac MR image analysis for population imaging”

MISC.
ACTIVITIES

1. **Associate Editor**
 - IEEE Transactions on Medical Imaging (2017 – 2023)
 - IEEE Journal on Biomedical and Health Informatics (2021 – 2024)
2. **Guest Editor**
 - Frontiers in Cardiovascular Medicine, Special Issue on Artificial Intelligence in Cardiac Imaging (2020, 2022)
3. **Paper reviewing**
 - Medical Image Analysis, JOurnal of Medical Imaging, IEEE Transactions on Medical Imaging, IEEE Transactions on Biomedical Engineering, Journal of Biomechanics, Frontiers, PLoS ONE, Journal of Cardiovascular Magnetic Resonance, European Heart Journal.
4. **Grant reviewing**
 - Medical Research Council (UK), German Research Foundation (Germany), National Research Evaluation Agency (Spain), Dutch Organisation for Scientific Research (Netherlands), Swiss National Science Foundation (Switzerland), Horizon Europe (European Commission)
5. **Event organisation**
 - MICCAI 2024, Marrakesh, Morocco (General Chair)
 - IEEE-ISBI 2023, Cartagena, Colombia (Diversity Chair)
 - MICCAI 2018, Grenada, Spain (Student Event Chair)
 - IEEE-ISBI 2012, Barcelona, Spain (Publications Chair)
 - MICCAI 2009, London, UK (Local Organising Committee Member)

6. Program committees

- MICCAI 2019, Shenzhen, China
- SPIE Medical Imaging, USA (2017-2023)
- MICCAI 2009, London, UK

7. Invited speaker (selection)

- "La crisis de la evidencia en los tiempos de la IA: ¿hacia un nuevo modelo de consenso científico?", *Simpósio IA en salut real*, September 2026, Barcelona.
- "Reliability of AI Systems in Medical Imaging: From Human-Centred Design to Real-World Validation", *Research Center for Advanced Science and Technology (RCAST)*, June 2026, Tokyo.
- "From Multimodal Models to Trustworthy Decision Support: Bridging Data Driven AI and Clinical Impact", *Nordic Conference on Digital Health and Wireless Solutions 2026 (NCDHWS)*, June 2026, Oulu.
- "AI-Powered Obstetric Ultrasound Supporting the Local Workforce in Low-Resource Settings" and "Building Trustworthy AI for Global Access to Medical Imaging Through Public Engagement", *2026 International Congress of Radiology (ICR)*, May 2026, Cartagena de Indias.
- "When is AI "Ready" for RP of patients?", *Technical Meeting on Artificial Intelligence and Radiation Protection in Medicine (IAEA)*, April 2026 (online).
- "Best practices for trustworthy AI in healthcare", *China Anti-Cancer Association Annual Conference, Affiliated Hospital of Jihan University & University of Science and Technology*, November 2025, Guangzhou.
- "DataTools4Heart Communication, Dissemination and Sustainability Meeting", *ESC premises*, October 2025, Brussels.
- "Masterclass in AI and Cardiovascular Health", *Kimpton De Witt*, June 2025, Amsterdam.
- "How to ensure trustworthiness in AI for healthcare: FUTURE-AI guidelines", *Guermantes*, March 2025, Paris.
- "Best practices for trustworthy and ethical AI in biomedicine", *Barcelona Supercomputing Center*, March 2025, Barcelona.
- "Building trustworthy AI for education and the FUTURE-AI principles", *European Heart House*, March 2025, Sophia-Antipolis.
- "Advancing Innovation for Early Detection", *High-Level Political Summit: Equity in Action – Driving Progress in Cancer Care*; SHUATS, Prayagraj, February 2025, Uttar Pradesh, India.
- "An Ethics Framework for Healthcare AI in the UAE", *2025 Arab Health Congress*, January 2025, Dubai.
- "A Structural Equation Model Linking Early-Life Stress to Adult Mental and Cardiovascular Disease", *20th International Symposium on Medical Information Processing and Analysis*, November 2024, La Antigua.
- "Around the world: From ethical to trustworthy AI in healthcare", *Bioinformatics Barcelona (BIB)*, July 2024 (online).
- "The whole picture: Building trustworthy AI in medical imaging from the ground up", *Medical Imaging with Deep Learning*, July 2024, Paris.
- "Trustworthy artificial intelligence for accessible healthcare in low-resource settings", July 2024, Marrakech.
- "Inclusive Artificial Intelligence for Accessible Medical Imaging in Low-Resource African Settings", *University of Cape Town*, March 2023, Cape Town.

- “Holistic and Trustworthy AI Evaluation in Breast Cancer Imaging”, *European Congress of Radiology*, March 2023, Vienna.
- “Expert panel discussion: Launch of the European Cancer Imaging Launch”, *European Commission*, January 2023, Brussels.
- “MICCAI Goes to Africa and Beyond”, *German Cancer Research Center*, December 2022, Heidelberg.
- “FUTURE-AI: International Guidelines for Trustworthy & Deployable AI in Healthcare”. *ITU/WHO Focus Group on Artificial Intelligence for Health Meeting*, November 2022, Douala.
- “Fetal Ultrasound Plane Recognition: A Multi-Country Study in 5 African Countries”, *African Network for Artificial Intelligence in Biomedical Imaging*, July 2022 (Online)
- “The EarlyCause Project”, *Paula Rantakallio Symposium on Birth Cohorts and Longitudinal Studies*, June 2022, Oulu.
- “RadioVal EU Project: Trustworthy AI for Breast Cancer Treatment”. *Workshop on Ethical and Social Implications of AI in Biomedical Research on Cancer*, May 2022, Berlin.
- “Expert discussion: High-level forum on the EU vision for trustworthy AI in the world”, *World Expo*, March 2022, Dubai.
- “From Risky to Trustworthy AI in Healthcare”, *University of Glasgow, School of Computing Seminars*, February 2022.
- “Future of Artificial Intelligence in Radiology: Promises, Obstacles and Best Practices”, *The 35th Barcelona Clinic Liver Cancer*, November 2021, Barcelona.
- “Dear Doctor AI: Can I trust you? Insights on validating future AI solutions in healthcare”, *DataEthics Summer School*, July 14, 2021, Barcelona.
- “A research spot in radiomics: the EU EuCanImage project”, *European Congress of Radiology*, March 2021 (Online).
- “Data sharing and analytics platforms for medical imaging in the age of big data”, *European Society of Medical Imaging Informatics*, June 2020 (online).
- “Translational medicine and data analytics using next generation platforms”, *Bioworld Data*, November 2019, Basel.
- “International flagship collaboration with Canada for human data storage, integration and sharing to enable personalised medicine approaches”, *European Research and Innovation Days*, September 2019, Brussels.
- “euCanSHare: Next generation imaging analysis platform for cardiovascular precision medicine”, *Imaging in Precision Medicine Beacon Seminars*, June 2019, Nottingham.
- “Radiomics in CMR: Extracting More Information from Clinical Images”, *EuroCMR*, 2019, Venice.
- “euCanSHare: A Multi-Centre and Multi-Omics Big Data Platform to Enhance Future Research in Cardiovascular Personalised Medicine”, *Integrative Biomedical Imaging Informatics Stanford Seminars*, 2019, Stanford.
- “Radiomics for Cardiac Magnetic Resonance: Deep & Interpretable Imaging Phenotyping of CVD”, *Annual Meeting of Society of CMR*, February 2019, Bellevue, USA
- “Artificial Intelligence in Cardiac Imaging”, *Annual Workshop of SmartHeart*, January 2019, London, UK.
- “CMR Image Analysis Using Radiomics: An Alternative to Conventional Indices and Deep Learning?”, *UK Biobank Workshop*, October 2017, London.
- “Statistical shape modelling and application to personalised medicine”, *Hamlyn Winter School*, December 2016, London.

- “Personalization and optimization of medical treatments with in silico medicine: Illustration in patient-specific computational modeling of cardiac electrophysiology”, *International Symposium on Medical Information Processing and Analysis*, May 2013, Mexico City.

8. **Expert Groups**

- External Advisor SimCor H2020 project (2021 – 2024)
- Member, Scientific Advisory Board of the European Institute for Biomedical Imaging Research (EIBIR) (2023 – Present)
- Member, Digital Cardiology and Artificial Intelligence Committee of the European Society of Cardiology (ESC DCAI) (2024 – Present)
- Member, MICCAI Society Executive Board (2021 – 2026)
- Editorial Board, Artificial Intelligence in Global Health Journal (2026 – Present)

9. **Articles in Media**

- “La máquina que predice quién enfermará (Entrevista con Karim Lekadir)”, by Nuno Domínguez in El País, 2019.
- “Beautiful, healthy minds? Mathematics and mental health beyond the stereotypes”, Inspire the mind, by Karim Lekadir, August 2020.

LANGUAGES

- | | | |
|----|----------------|-------------------------|
| 1. | French | Fluent (Native speaker) |
| 2. | English | Fluent |
| 3. | Spanish | Fluent |
| 4. | German | Intermediate |
| 5. | Berber | Intermediate |