Laurent Condat — Curriculum Vitae

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King Abdullah University of Science and Technology
(KAUST), building 12, office 3122
P.O. Box 4700, 23955-6900 Thuwal, Saudi Arabia

E-mail: laurent.condat@kaust.edu.sa
Webpage: lcondat.github.io
Google Scholar profile

Born in 1980 in France. French citizenship

Current position: **Senior Research Scientist** at King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia. On leave from the French National Center for Scientific Research (CNRS) (life-long tenure, French civil servant)

Research area: **Large-scale continuous optimization**. Deterministic and stochastic algorithms, distributed computing. Applications to machine learning, signal and image processing

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1 EDUCATION

2021 Higher Education Teaching Certificate, Harvard's Derek Bok Center for Teaching and Learning (online)

2006 Ph.D., applied mathematics, Laboratory of Images and Signals (LIS), Grenoble Institute of Technology (INPG), Grenoble, France

2003 Master of Research Degree (DEA), applied mathematics, Univ. Joseph Fourier, Grenoble

2003 Master's Degree (Diplôme d'Ingénieur), computer science, Graduate School of Engineering in Applied Mathematics and Computer Sciences (ENSIMAG), Grenoble

2 EMPLOYMENT

2023 – Affiliated staff with the Saudi Data & AI Authority (SDAIA)–KAUST Center of Excellence in Data Science and Artificial Intelligence (SDAIA-KAUST AI). Funded part-time affiliation

2022 – Senior Research Scientist at King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia

2019 – 2022 Research Scientist at KAUST

2012 – 2019 Chargé de Recherche (research scientist), promoted *hors classe* (senior) in 2024, of the National Center for Scientific Research (CNRS) at Grenoble Image Speech Signal and Control (GIPSA-Lab), Grenoble, France. On leave since Nov. 2019.

2008 – 2012 Chargé de Recherche of the CNRS at Research Lab in Digital Sciences (GREYC), Caen, France

2006 – 2008 Postdoctoral Research Associate at Helmholtz Zentrum München, Munich, Germany

2003 – 2006 Moniteur (teaching assistant) at Faculty of Mathematics, Univ. Joseph Fourier, Grenoble, France

3 DISTINCTIONS

2020 – In Stanford's list of the world's top 2% most influential scientists

2025 Best reviewer award at the conference AISTATS 2025

2025 Paper [CI58] at the conference ICLR selected as *Spotlight* (5% of submitted papers)

2024 Promoted Chargé de recherche hors classe (senior research scientist) by the CNRS

2023 Meritorious Service Award from *Mathematical Programming* "in recognition of your exceptional contribution as a peer reviewer"

2022 Best reviewer award (top 10%) at the conference ICML 2022

2021 Designated as an Expert Reviewer for the conference ICML 2021 "based on high quality reviews in past Machine Learning conference and overall experience"

2020 Best reviewer award (top 10%) at the conference NeurIPS 2020

2020 Paper [J27] chosen for the cover of the journal *Sensors* (vol. 20, no. 10, 261 papers)

2019 Elevated to the rank of IEEE senior member by the IEEE Signal Processing Society

2018 – 2021 Bonus award for outstanding research (PEDR) from the CNRS

2014 Paper [CI29] at the conference IEEE ICIP 2014 finalist for the best paper award (9 papers selected out of 1219 presented)

2007 Best PhD thesis award from Grenoble Institute of Technology (INPG)

2005 Best student paper award at the conference IEEE ICIP 2005

2004 Fellowship for a 6-month foreign research stay during the PhD, Eurodoc Program

4 PAPERS

Preprints

[U8] Z. Tovmasyan, G. Malinovsky, L. Condat, and P. Richtárik, "Revisiting Stochastic Proximal Point Methods: Generalized Smoothness and Similarity," preprint arXiv:2502.03401, 2025.

[U7] G. Meinhardt, K. Yi, L. Condat, and P. Richtárik, "Sparse-ProxSkip: Accelerated Sparse-to-Sparse Training in Federated Learning," preprint arXiv:2405.20623, 2024.

[U6] L. Condat and P. Richtárik, "A Simple Linear Convergence Analysis of the Point-SAGA Algorithm," preprint arXiv:2405.19951, 2024.

[U5] A. Sadiev, L. Condat, and P. Richtárik, "Stochastic Proximal Point Methods for Monotone Inclusions under Expected Similarity," preprint arXiv:2405.14255, 2024. Presented at the NeurIPS Workshop on Optimization for Machine Learning (OPT), Dec. 2024.

[U4] K. Yi, G. Meinhardt, L. Condat, P. Richtárik, "FedComLoc: Communication-Efficient Distributed Training of Sparse and Quantized Models," preprint arXiv:2403.09904, 2024.

[U3] L. Guo, S. A. Alghunaim, K. Yuan, L. Condat, and J. Cao, "Revisiting Decentralized ProxSkip: Achieving Linear Speedup," preprint arXiv:2310.07983, 2023.

[U2] L. Condat, I. Agarský, G. Malinovsky, and P. Richtárik, "TAMUNA: Doubly Accelerated Federated Learning with Local Training, Compression, and Partial Participation," preprint arXiv: 2302.09832, 2023.

[U1] L. Condat, I. Agarský, and P. Richtárik, "Provably Doubly Accelerated Federated Learning: The First Theoretically Successful Combination of Local Training and Compressed Communication," preprint arXiv:2210.13277, 2022.

International peer-reviewed journals

[J36] K. Yi, L. Condat, and P. Richtárik, "Explicit personalization and local training: Double communication acceleration in federated learning," *Transactions on Machine Learning Research*, 2025, to appear.

[J35] D. Picone, M. Dalla Mura, and L. Condat, "Joint demosaicing and fusion of multiresolution coded acquisitions: A unified image formation and reconstruction method," *IEEE Transactions on Computational Imaging*, vol. 9, pp. 335–349, 2023.

[J34] L. Condat, D. Kitahara, A. Contreras, and A. Hirabayashi, "Proximal splitting algorithms for convex optimization: A tour of recent advances, with new twists," *SIAM Review*, vol. 65, no. 2, pp. 375–435, 2023.

[J33] A. Salim, L. Condat, K. Mishchenko, and P. Richtárik, "Dualize, split, randomize: Toward fast nonsmooth optimization algorithms," *J. Optimization Theory and Applications*, vol. 195, pp. 102–130 Oct. 2022.

[J32] L. Condat, "Tikhonov regularization of circle-valued signals," *IEEE Transactions on Signal Processing*, vol. 70, pp. 2775–2782, June 2022.

[J31] L. Condat, G. Malinovsky, and P. Richtárik, "Distributed proximal splitting algorithms with rates and acceleration," *Frontiers in Signal Processing*, vol. 1, Jan. 2022. Special issue "Distributed Signal Processing and Machine Learning for Communication Networks".

[J30] H. Kamoshita, D. Kitahara, K. Fujimoto, L. Condat, and A. Hirabayashi, "Multiclass dictionary-based statistical iterative reconstruction for low-dose CT," *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, vol. E104-A, no. 4, Apr. 2021.

[J29] K. Polisano, M. Clausel, V. Perrier, and L. Condat, "Riesz-based orientation of localizable Gaussian fields," *Applied and Computational Harmonic Analysis*, vol. 50, pp. 353–385, Jan. 2021.

[J28] L. Condat, "Atomic norm minimization for decomposition into complex exponentials and optimal transport in Fourier domain," *Journal of Approximation Theory*, vol. 258, Oct. 2020.

[J27] D. Orive-Miguel, L. Di Sieno, A. Behera, E. Ferocino, D. Contini, L. Condat, L. Hervé, J. Mars, A. Torricelli, A. Pifferi, and A. Dalla Mora, "Real-time dual-wavelength time-resolved diffuse optical tomography system for functional brain imaging based on probe-hosted silicon photomultipliers," *Sensors*, vol. 20, no. 10, pp. 2815, 2020.

[J26] D. Orive-Miguel, L. Hervé, L. Condat, and J. Mars, "Improving Localization of Deep Inclusions in Time-Resolved Diffuse Optical Tomography," *Applied Sciences*, vol. 9, no. 24, pp. 5468, 2019. Special issue "New Horizons in Time-Domain Diffuse Optical Spectroscopy and Imaging".

[J25] M. Foare, N. Pustelnik, and L. Condat, "Semi-linearized proximal alternating minimization for a discrete Mumford-Shah model," *IEEE Transactions on Image Processing*, vol. 29, no. 1, pp. 2176–2189, Dec. 2019.

[J24] K. Polisano, L. Condat, M. Clausel, V. Perrier, "A convex approach to super-resolution and regularization of lines in images," *SIAM Journal on Imaging Sciences*, vol. 12, no. 1, pp. 211–258, 2019.

[J23] F. Iutzeler and L. Condat, "Distributed projection on the simplex and l1 ball via ADMM and gossip," *IEEE Signal Processing Letters*, vol. 25, no. 11, pp. 1650–1654, Nov. 2018.

[J22] J. Boulanger, N. Pustelnik, L. Condat, L. Sengmanivong, and T. Piolot, "Nonsmooth convex optimization for structured illumination microscopy image reconstruction," *Inverse Problems*, vol. 34, no. 9, pp. 095004 1–22, 2018.

[J21] N. Pustelnik and L. Condat, "Proximity operator of a sum of functions; application to depth map estimation," *IEEE Signal Processing Letters*, vol. 24, no. 12, pp. 1827–1831, Dec. 2017.

[J20] L. Condat, "Discrete total variation: New definition and minimization," *SIAM Journal on Imaging Sciences*, vol. 10, no. 3, pp. 1258–1290, 2017.

[J19] J. Frecon, N. Pustelnik, P. Abry, and L. Condat, "On-the-fly approximation of multivariate total variation minimization," *IEEE Transactions on Signal Processing*, vol. 64, no. 9, pp. 2355–2364, 2016.

[J18] L. Condat, "Fast projection onto the simplex and the l1 ball," *Mathematical Programming*, vol. 158, no. 1, pp. 575–585, July 2016.

[J17] L. Condat and A. Hirabayashi, "Cadzow denoising upgraded: A new projection method for the recovery of Dirac pulses from noisy linear measurements," *Sampling Theory in Signal and Image Processing*, vol. 14, no. 1, pp. 17–47, 2015.

[J16] J. Schmitt, N. Pustelnik, P. Borgnat, P. Flandrin, and L. Condat, "2-D Prony-Huang transform: A new tool for 2-D spectral analysis," *IEEE Transactions on Image Processing*, vol. 23, no. 12, pp. 5233–5248, Dec. 2014.

[J15] X. He, L. Condat, J. Bioucas-Dias, J. Chanussot et J. Xia, "A new pansharpening method based on spatial and spectral sparsity priors," *IEEE Transactions on Image Processing*, vol. 23, no. 9, pp. 4160–4174, Sept. 2014.

[J14] L. Condat, "A generic proximal algorithm for convex optimization — Application to total variation minimization," *IEEE Signal Processing Letters*, vol. 21, no. 8, pp. 985–989, Aug. 2014.

[J13] L. Condat, "A direct algorithm for 1D total variation denoising," *IEEE Signal Processing Letters*, vol. 20, no. 11, pp. 1054–1057, Nov. 2013.

[J12] L. Condat, "A primal-dual splitting method for convex optimization involving Lipschitzian, proximable and linear composite terms," *J. Optimization Theory and Applications*, vol. 158, no. 2, pp. 460–479, 2013.

[J11] A. Hirabayashi, Y. Hironaga, and L. Condat, "Sampling signals with finite rate of innovation and recovery by maximum likelihood estimation," *IEICE Transactions on Fundamentals Electronics, Communications, and Computer Sciences*, vol. E96-A, no. 10, pp. 1972–1979, Oct. 2013.

[J10] L. Condat, "Reconstruction from non-uniform samples: A direct, variational approach in shift-invariant spaces," *Digital Signal Processing*, vol. 23, no. 4, pp. 1277–1287, 2013.

[J9] G. A. Licciardi, M. M. Khan, J. Chanussot, A. Montanvert, L. Condat, and C. Jutten, "Fusion of hyperspectral and panchromatic images using multiresolution analysis and nonlinear PCA band reduction," *EURASIP Journal on Advances in Signal Processing*, vol. 2012, no. 207, Sept. 2012.

[J8] L. Condat, "A new color filter array with optimal properties for noiseless and noisy color image acquisition," *IEEE Transactions on Image Processing*, vol. 20, no. 8, pp. 2200–2210, Aug. 2011.

[J7] L. Condat and T. Möller, "Quantitative error analysis for the reconstruction of derivatives," *IEEE Transactions on Signal Processing*, vol. 59, no. 6, pp. 2965–2969, June 2011.

[J6] U. R. Alim, T. Möller, and L. Condat, "Gradient estimation revitalized," *IEEE Transactions on Visualization and Computer Graphics*, vol. 16, no. 6, Nov.-Dec. 2010.

[J5] L. Condat, "Color filter array design using random patterns with blue noise chromatic spectra," *Image and Vision Computing* vol. 28, no. 8, pp. 1196–1202, Aug. 2010.

[J4] L. Condat, D. Van de Ville, and B. Forster-Heinlein, "Reversible, fast, and high-quality grid conversions," *IEEE Transactions on Image Processing*, vol. 17, no. 5, pp. 679–693, May 2008.

[J3] M. M. Khan, J. Chanussot, L. Condat, and A. Montanvert, "Indusion: fusion of multispectral and panchromatic images using induction scaling technique," *IEEE Geoscience and Remote Sensing Letters*, vol. 5, no. 1, pp. 98–102, Jan. 2008.

[J2] L. Condat and D. Van de Ville, "Quasi-interpolating spline models for hexagonally sampled data," *IEEE Transactions on Image Processing*, vol. 16, no. 5, pp. 1195–1206, May 2007.

[J1] L. Condat and D. Van de Ville, "Three-directional box-splines: characterization and efficient evaluation," *IEEE Signal Processing Letters*, vol. 13, no. 7, pp. 417–420, July 2006.

International peer-reviewed conference proceedings

[CI58] L. Condat, A. Maranjyan, P. Richtárik, "LoCoDL: Communication-efficient distributed learning with local training and compression," *Int. Conf. Learning Representations (ICLR)*, Apr. 2025, selected as a *Spotlight* (5% of submitted papers).

[CI57] G. Perez, L. Condat, and M. Barlaud, "Near-Linear time projection onto the l1,infinity ball; Application to sparse neural networks," *IEEE Int. Conf. Tools with Artificial Intelligence (ICTAI)*, Oct. 2024.

[CI56] L. Condat and P. Richtárik, "RandProx: Primal-dual optimization algorithms with randomized proximal updates," *Int. Conf. Learning Representations (ICLR)*, May 2023, Kigali, Rwanda.

[CI55] L. Condat, K. Yi, and P. Richtárik, "EF-BV: A unified theory of error feedback and variance reduction mechanisms for biased and unbiased compression in distributed optimization," *NeurIPS*, Dec. 2022, New Orleans, LA, USA. In *Advances in Neural Information Processing Systems*, vol. 35, pp. 17501–17514.

[CI54] L. Condat and P. Richtárik, "MURANA: A generic framework for stochastic variance-reduced optimization," *Mathematical and Scientific Machine Learning (MSML) Conference*, Aug. 2022, PMLR vol. 190, pp. 81–96.

[CI53] A. Salim, L. Condat, D. Kovalev, and P. Richtárik, "An optimal algorithm for strongly convex minimization under affine constraints," *Int. Conf. Artificial Intelligence and Statistics (AISTATS)*, Mar. 2022, PMLR vol. 151, pp. 4482–4498.

[CI52] G. Malinovsky, D. Kovalev, E. Gasanov, L. Condat, and P. Richtárik, "From local SGD to local fixed point methods for federated learning," *Int. Conf. Machine Learning (ICML)*, July 2020, PMLR vol. 119, pp. 6692–6701.

[CI51] J. Baderot, M. Desvignes, L. Condat, and M. Dalla Mura, "Tree of shapes cut for material segmentation guided by a design," *IEEE ICASSP*, May 2020.

[CI50] D. Orive-Miguel, L. Herve, J. Mars, L. Condat, and P. Jallon, "Time-resolved diffuse optical tomography: a novel method to compute datatypes allows better absorption quantification," *European Conferences on Biomedical Optics (ECBO)*, June 2019, Munich, Germany.

[CI49] D. Orive-Miguel et al., "The BitMap dataset: an open dataset on performance assessment of diffuse optics instruments," *European Conferences on Biomedical Optics (ECBO)*, June 2019, Munich, Germany.

[CI48] L. Condat, D. Kitahara, and A. Hirabayashi, "A convex lifting approach to image phase unwrapping," *IEEE ICASSP*, May 2019, Brighton, UK.

[CI47] D. Kitahara, L. Condat, and A. Hirabayashi, "One-dimensional edge-preserving spline smoothing for estimation of piecewise smooth functions," *IEEE ICASSP*, May 2019, Brighton, UK.

[CI46] D. Picone, L. Condat, and M. Dalla Mura, "Image fusion and reconstruction of compressed data: A joint approach," *IEEE ICIP*, Oct. 2018, Athens, Greece.

[CI45] D. Picone, L. Condat, and M. Dalla Mura, "Analysis of masks for compressed acquisitions in variational-based pansharpening," *5th International Workshop on Compressed Sensing applied to Radar, Multimodal Sensing, and Imaging (CoSeRa)*, Sept. 2018, Siegen, Germany.

[CI44] D. Picone, M. Dalla Mura, and L. Condat "Pansharpening of images acquired with color filter arrays," *SPIE Photonics Europe – Unconventional Optical Imaging*, vol. 10677, Apr. 2018, Strasbourg, France.

[CI43] M. Foare, N. Pustelnik, and L. Condat, "A new proximal method for joint image restoration and edge detection with the Mumford–Shah model," *IEEE ICASSP*, Apr. 2018, Calgary, Canada.

[CI42] L. Condat, "A convex approach to K-means clustering and image segmentation," *EMMCVPR*, Oct. 2017, Venice, Italy. In: M. Pelillo and E. Hancock eds., *Lecture Notes in Computer Science*, vol. 10746, Springer, pp. 220-234, 2018.

[CI41] A. Tiard, L. Condat, L. Drumetz, J. Chanussot, W. Yin, and X. Zhu, "Robust linear unmixing with enhanced sparsity," *IEEE ICIP*, Beijing, China, Sept. 2017.

[CI40] P. Addesso, M. Dalla Mura, L. Condat, R. Restaino, G. Vivone, D. Picone, and J. Chanussot, "Hyperspectral image inpainting based on collaborative total variation," *IEEE ICIP*, Beijing, China, Sept. 2017.

[CI39] P. Addesso, M. Dalla Mura, L. Condat, R. Restaino, G. Vivone, D. Picone, and J. Chanussot, "Collaborative total variation for hyperspectral pansharpening," *IEEE IGARSS*, Fort Worth, Texas, USA, July 2017.

[CI38] J. Zouaoui, L. Di Sieno, D. Orive-Miguel, L. Hervé, A. Pifferi, A. Farina, A. Dalla Mora, J. Derouard, J. Mars, L. Condat, J.-M. Dinten, "Performance evaluation of time-domain multispectral diffuse optical tomography in the reflection geometry", *European Conferences on Biomedical Optics (ECBO)*, Munich, Germany, June 2017.

[CI37] P. Addesso, M. Dalla Mura, L. Condat, R. Restaino, G. Vivone, D. Picone, and J. Chanussot, "Hyperspectral pansharpening using convex optimization and collaborative total variation regularization," *IEEE WHISPERS*, Los Angeles, USA, Aug. 2016.

[CI36] K. Polisano, L. Condat, M. Clausel, and V. Perrier, "Convex super-resolution detection of lines in images," *EUSIPCO*, Budapest, Hungary, Aug. 2016.

[CI35] A. Hirabayashi, N. Nogami, T. Ijiri, and L. Condat, "Sequential image completion for high-speed large-pixel number sensing," *EUSIPCO*, Budapest, Hungary, Aug. 2016.

[CI34] J. Frecon, N. Pustelnik, H. Wendt, L. Condat, and P. Abry, "Multifractal-based texture segmentation using variational procedure," *IEEE IVMSP Workshop*, Bordeaux, France, July 2016.

[CI33] S. Mosaddegh, L. Condat, and L. Brun, "Digital (or touch-less) fingerprint lifting using structured light," *Workshop Forensics Applications of Computer Vision and Pattern Recognition (FACV2015)*, Santiago de Chile, Chile, Dec. 2015.

[CI32] N. Nogami, A. Hirabayashi, J. White, and L. Condat, "Improvement of pixel enhancement algorithm for high-speed camera imaging using 3D sparsity," *APSIPA Annual Summit and Conference*, Hong Kong, China, Dec. 2015.

[CI31] A. Hirabayashi, N. Nogami, J. White, and L. Condat, "Pixel enlargement in high-speed camera image acquisition based on 3D sparse representations," *IEEE SIPS*, Hangzhou, China, Oct. 2015.

[CI30] L. Condat and A. Hirabayashi, "Super-resolution of positive spikes by Toeplitz low-rank approximation," *EUSIPCO*, Nice, France, Sept. 2015.

[CI29] P. L. Combettes, L. Condat, J.-C. Pesquet, and B. C. Vũ, "A forward-backward view of some primal-dual optimization methods in image recovery," *IEEE ICIP*, Paris, France, Oct. 2014 (authors in alphabetical order).

[CI28] K. Polisano, M. Clausel, V. Perrier, and L. Condat, "Texture modeling by Gaussian fields with prescribed local orientation," *IEEE ICIP*, Paris, France, Oct. 2014.

[CI27] L. Condat, "Semi-local total variation for regularization of inverse problems," *EUSIPCO*, Lisbon, Portugal, Sept. 2014.

[CI26] L. Condat, J. Boulanger, N. Pustelnik, S. Sahnoun, and L. Sengmanivong, "A 2-D spectral analysis method to estimate the modulation parameters in structured illumination microscopy," *IEEE ISBI*, pp. 604–607, Beijing, China, April 2014.

[CI25] J. Boulanger, N. Pustelnik, and L. Condat, "Non-smooth convex optimization for an efficient reconstruction in structured illumination microscopy," *IEEE ISBI*, Beijing, China, April 2014.

[CI24] A. Hirabayashi, S. Makido, and L. Condat, "MAP recovery of polynomial splines from compressive samples and its application to vehicular signals," *SPIE Wavelets and Sparsity XV*, San Diego, USA, July 2013. In *Proc. of SPIE*, vol. 8858.

[CI23] L. Condat and A. Hirabayashi, "Robust spike train recovery from noisy data by structured low rank approximation," *SampTA*, Bremen, Germany, July 2013.

[CI22] L. Condat, A. Hirabayashi, and Y. Hironaga, "Recovery of nonuniform Dirac pulses from noisy linear measurements," *IEEE ICASSP*, Vancouver, Canada, May 2013.

[CI21] A. Hirabayashi, Y. Hironaga, and L. Condat, "Sampling and recovery of continuous sparse signals by maximum likelihood estimation," *IEEE ICASSP*, Vancouver, Canada, May 2013.

[CI20] L. Condat and S. Mosaddegh, "Joint demosaicking and denoising by total variation minimization," *IEEE ICIP*, Orlando, USA, Sept. 2012.

[CI19] X. He, L. Condat, J. Chanussot, and J. Xia, "Pansharpening using total variation regularization," *IEEE IGARSS*, Munich, Germany, July 2012.

[CI18] L. Condat, "Reconstruction of derivatives: Error analysis and design criteria," *EUSIPCO*, Barcelona, Spain, Aug. 2011.

[CI17] G. A. Licciardi, M. M. Khan, J. Chanussot, A. Montanvert, L. Condat, and C. Jutten, "Fusion of hyperspectral and panchromatic images using multiresolution analysis and nonlinear PCA band reduction," *IEEE IGARSS*, Vancouver, Canada, July 2011.

[CI16] L. Condat, "A simple, fast and efficient approach to denoisaicking: Joint demosaicking and denoising," *IEEE ICIP*, Hong Kong, China, Sept. 2010.

[CI15] L. Condat, "A new color filter array with optimal sensing properties," *IEEE ICIP*, Cairo, Egypt, Nov. 2009.

[CI14] L. Condat, "A generic variational approach for demosaicking from an arbitrary color filter array," *IEEE ICIP*, Cairo, Egypt, Nov. 2009.

[CI13] L. Condat, "A new random color filter array with good spectral properties," *IEEE ICIP*, Cairo, Egypt, Nov. 2009.

[CI12] L. Condat and D. Van De Ville, "New optimized spline functions for interpolation on the hexagonal lattice," *IEEE ICIP*, San Diego, USA, Oct. 2008.

[CI11] L. Condat and D. Van De Ville, "Fully reversible image rotation by 1-D filtering," *IEEE ICIP*, San Diego, USA, Oct. 2008.

[CI10] A. Hirabayashi and L. Condat, "Towards a general formulation for over-sampling and under-sampling," *EUSIPCO*, Poznan, Poland, Sept. 2007.

[CI9] L. Condat, B. Forster-Heinlein, and D. Van De Ville, "H2O: Reversible Cartesian-hexagonal grid conversion by 1-D filtering," *IEEE ICIP*, San Antonio, USA, Sept. 2007.

[CI8] A. Hirabayashi and L. Condat, "A compact image magnification method with preservation of preferential components," *IEEE ICIP*, San Antonio, USA, Sept. 2007.

[CI7] L. Condat, B. Forster-Heinlein, and D. Van De Ville, "A new family of rotation-covariant wavelets on the hexagonal lattice," *SPIE Wavelets XII*, San Diego, USA, Aug. 2007.

[CI6] M. M. Khan, J. Chanussot, L. Condat, and A. Montanvert, "Pan-sharpening using induction," *IEEE Int. Geoscience and Remote Sensing Symp. (IGARSS)*, Barcelona, Spain, July 2007.

[CI5] L. Condat, D. Van de Ville, and M. Unser, "Efficient reconstruction of hexagonally sampled data using three-directional box-splines," *IEEE ICIP*, Atlanta, USA, Oct. 2006.

[CI4] L. Condat and A. Montanvert, "Fast reconstruction from non-uniform samples in shift-invariant spaces," *EUSIPCO*, Florence, Italy, Sept. 2006.

[CI3] L. Condat, T. Blu, and M. Unser, "Beyond interpolation: Optimal reconstruction by quasi-interpolation," *IEEE ICIP*, Genoa, Italy, Sept. 2005. **Best Student Paper Award**.

[CI2] L. Condat, D. Van de Ville, and T. Blu, "Hexagonal versus orthogonal lattices: A new comparison using approximation theory," *IEEE ICIP*, Genoa, Italy, Sept. 2005.

[CI1] L. Condat and A. Montanvert, "A framework for image magnification: Induction revisited," *IEEE ICASSP*, Philadelphia, USA, Mar. 2005.

National peer-reviewed conference proceedings

[CN17] L. Condat, "Transport optimal de mesures en domaine fréquentiel," *GRETSI*, Aug. 2019, Lille, France.

[CN16] K. Polisano, L. Condat, M. Clausel, and V. Perrier, "Une approche convexe de la super-résolution et de la régularisation de lignes 2D dans les images," *GRETSI*, Aug. 2019, Lille, France.

[CN15] D. Kitahara, L. Condat, and A. Hirabayashi, "1D piecewise smooth function estimation with spline functions," *IEICE Signal Processing (SIP) Symposium*, Tokyo, Japan, Nov. 2018.

[CN14] L. Condat, "Une approche convexe du partitionnement de données et de la segmentation d'image", *GRETSI*, Juan-les-Pins, France, Sept. 2017.

[CN13] L. Condat and A. Hirabayashi, "Super-résolution d'impulsions positives par approximation Toeplitz de rang faible", *GRETSI*, Lyon, France, Sept. 2015.

[CN12] L. Condat and N. Pustelnik, "Segmentation d'image par optimisation proximale", *GRETSI*, Lyon, France, Sept. 2015.

[CN11] K. Polisano, M. Clausel, V. Perrier, and L. Condat, "Modélisations de textures par champ gaussien à orientation locale prescrite", *GRETSI*, Lyon, France, Sept. 2015.

[CN10] A. Hirabayashi and L. Condat, "Recovery of pulse sequences from noisy linear measurements using convex optimization algorithm," *IEICE Signal Processing (SIP) Symposium*, no. A1-2, pp. 3–7, Shimonoseki, Japan, Nov. 2013.

[CN9] L. Condat, "Un nouvel algorithme proximal pour l'optimisation convexe non lisse", *GRETSI*, Brest, France, Sept. 2013.

[CN8] L. Condat, "Reconstruction d'impulsions de Dirac à partir de mesures linéaires bruitées", *GRETSI*, Brest, France, Sept. 2013.

[CN7] L. Condat and V. Roullier, "Système complet de reconstruction 2,5 D d'empreintes digitales : une étude de faisabilité", *RFIA*, Lyon, France, Jan. 2012.

[CN6] L. Condat, "Analyse quantitative de l'erreur pour la reconstruction de dérivées", *RFIA*, Caen, France, Jan. 2010.

[CN5] L. Condat, "Une nouvelle matrice de filtres couleurs pour l'échantillonnage optimal des images", *GRETSI*, Dijon, France, Sept. 2009.

[CN4] L. Condat, "Le dématriçage par sélection spectrale revisité", *GRETSI*, Dijon, France, Sept. 2009.

[CN3] A. Hirabayashi and L. Condat, "Image magnification method based on a consistent sampling theorem," *IEICE Signal Processing (SIP) Symposium*, B8-4, Kyoto, Japan, Nov. 2006.

[CN2] L. Condat and A. Montanvert, "Analyse multirésolution L_2-optimale : Estimation par quasi-projections", *GRETSI*, Louvain-La-Neuve, Belgium, Sept. 2005.

[CN1] L. Condat and A. Montanvert, "Agrandissement et compression d'images par induction", *CORESA*, p. 121–124, Lille, France, May 2004.

Theses

[T2] L. Condat, "Méthodes d'approximation pour la reconstruction de signaux et le redimensionnement d'images" [Approximation methods for signal reconstruction and image resizing], PhD thesis, INP Grenoble, Grenoble, France, Sept. 2006 [in French].

[T1] L. Condat, "Étude des méthodes de réduction/agrandissement pour la compression d'images" [Study of reduction/enlargement methods for image compression], master's thesis, INP Grenoble, Grenoble, France, June 2003 [in French].

Research reports

[R6] L. Condat, "Tikhonov Regularization of Sphere-Valued Signals," research report arXiv:2207.12330, 2022.

[R5] A. Albasyoni, M. Safaryan, L. Condat, and P. Richtárik, "Optimal Gradient Compression for Distributed and Federated Learning," research report arXiv:2010.03246, 2020. Presented at the NeurIPS Workshop on Scalability, Privacy, and Security in Federated Learning (SpicyFL), Dec. 2020.

[R4] K. Polisano, M. Clausel, L. Condat, and V. Perrier, "Simulation of oriented patterns with prescribed local orientation using anisotropic Gaussian fields," research report hal-01819990, Lab. Jean Kuntzmann, 2018, Grenoble, France.

[R3] L. Condat, "Least-squares on the simplex for multispectral unmixing," research report, GIPSA-Lab, Grenoble, France, 2017.

[R2] L. Condat, "A simple trick to speed up and improve the non-local means," research report hal-00512801, Caen, France, 2010.

[R1] L. Condat, "A generic variational framework for demosaicking and performance analysis of color filter arrays," research report hal-00442046, Munich, Germany, 2008.

5 INVITED TALKS IN INTERNATIONAL CONFERENCES

2025 *Plenary speaker*, Workshop on Variational Analysis and Optimization (ICOVAO), Hanoi, Vietnam. Title: "Communication-efficient distributed optimization algorithms"

2024 *Keynote speaker*, MICCAI Workshop on Distributed, Collaborative and Federated Learning (DeCAF), Marrakesh, Morocco. Title: "Communication-efficient distributed optimization algorithms"

2024 *Keynote speaker*, TraDE-OPT Conference on Optimization for Machine Learning and Inverse Problems, Sestri Levante, Italy. Title: "Communication-efficient distributed optimization algorithms"

2024 33rd European Conference on Operational Research (EURO), Copenhagen, Denmark. Title: "TAMUNA: Doubly-accelerated distributed optimization with local training, compression, and partial participation"

2024 *Semi-plenary speaker*, Workshop on Nonsmooth Optimization and Applications (NOPTA 2024), Antwerp, Belgium. Title: "RandProx: Primal-dual optimization algorithms with randomized proximal updates"

2023 Conference of the International Federation of Operational Research Societies (IFORS), Santiago, Chile. Title: "Communication-efficient distributed optimization algorithms"

2023 SIAM Conference on Optimization, Seattle, USA. Title: "RandProx: Primal-dual optimization algorithms with randomized proximal updates"

2022 SIAM Conference on Imaging Science, Berlin, Germany (virtual). Title: "Atomic norm minimization for decomposition into complex exponentials and optimal transport in Fourier domain"

2021 IFIP TC7 Conference on System Modelling and Optimization, Quito, Ecuador (virtual). Title: "Proximal splitting algorithms for convex nonsmooth optimization: An overview and new developments"

2021 IMA and OR Society Conference on Mathematics of Operational Research, London, UK (virtual). Title: "From Local SGD to local fixed-point methods for federated learning"

2020 *Invited speaker*, 3rd Workshop on Operator Splitting Methods in Data Analysis, New York, USA (canceled)

2019 Applied Inverse Problems Conference, Grenoble, France. Title: "Lifting based convex approaches to K-means clustering, image segmentation, and other labeling problems"

2017 French-Chilean Days Matter: Structure and Dynamics (MSD2017), Lyon, France. Title: "An introduction to proximal splitting algorithms for large-scale convex optimization"

2017 The International Biomedical and Astronomical Signal Processing (BASP) Frontiers Workshop, Villars-sur-Ollon, Switzerland. Title: "Proximal splitting methods on convex problems with a quadratic term: Relax!"

2016 Conference Problèmes Inverses, Contrôle et Optimisation de Formes (PICOF), Autrans, France. Title: "Primal-dual forward-backward splitting: A generic framework to design optimization algorithms for imaging"

2010 *Invited speaker*, BIRS Workshop Sampling and Reconstruction: Applications and Advances, Calgary, Canada. Title: "Evaluation and design of linear reconstruction methods with the frequency error kernel"

6 RECENT SEMINARS

2025 National University of Singapore, Singapore (School of Computing, CS seminar series). Title: "Communication-efficient distributed optimization algorithms"

2025 University of Cambridge, Cambridge, UK (guest lecture in the Federated Learning course of Nicholas Lane, online). Title: "Communication-efficient distributed optimization algorithms"

2025 Umeå University, Umeå, Sweden. Title: "Communication-efficient distributed optimization algorithms"

2024 KAUST, Thuwal, Saudi Arabia (AMCS/STATS graduate seminar). Title: "LoCoDL: Communication-efficient distributed optimization with local training and compression"

2023 Center for Computational Mathematics of the Flatiron Institute, New York City, USA. Title: "Proximal algorithms for large-scale convex nonsmooth optimization"

2023 KAUST, Thuwal, Saudi Arabia (Mathematics and Application Colloquium). Title: "Proximal algorithms for large-scale convex nonsmooth optimization"

2022 Federated Learning One World (FLOW) Seminar (international seminar series, online). Title: "EF-BV: distributed optimization with compressed communication"

2022 KAUST, Thuwal, Saudi Arabia (CS graduate seminar). Title: "EF-BV: distributed optimization with compressed communication"

2022 MBZUAI, Abu Dhabi, United Arab Emirates. Title: "Proximal algorithms for large-scale convex nonsmooth optimization"

2021 FLOW seminar. Title: "From Local SGD to local fixed-point methods for federated learning"

2019 KAUST, Thuwal, Saudi Arabia (CS graduate seminar). Title: "Proximal splitting methods for convex optimization: An introduction"

2019 KAUST, Thuwal, Saudi Arabia. Title: "Sparse models and optimization methods for signals and images"

2018 Tokyo Institute of Technology, Tokyo, Japan. Title: "A convex lifting approach to image phase unwrapping"

2018 Keio University, Yokohama, Japan. Title: “A convex lifting approach to image phase unwrapping”

2018 Ritsumeikan University, Kyoto, Japan. Title: “Discrete Total Variation: New Definition and Minimization”

2018 Tokyo Institute of Technology, Tokyo, Japan. Title: “Convex approaches to K-means clustering and image labeling problems”

2018 Ritsumeikan University, Kyoto, Japan. Title: “A very short introduction to proximal algorithms for large-scale convex optimization”

2018 Ritsumeikan University, Kyoto, Japan. Title: “Convex approaches to K-means clustering and image labeling problems”

7 NATIONAL RESPONSIBILITIES IN FRANCE

2016 – 2019 Elected Member of Section 7 (signal and image processing, computer vision and graphics, embedded systems, robotics, control, human machine interaction, speech and language processing) of the National Committee for Scientific Research

2017 Expert for the High Council for Evaluation of Research and Higher Education (HCERES), member of the evaluation committee of the research center LSIS, Marseille, France

2016 – 2017 Jury member for the annual EEA-ISIS-GRETSI best PhD award in signal and image processing and vision

8 PARTICIPATION TO PHD COMMITTEES

2025 Opponent, PhD of Ali Dadras, Umeå University, Umeå, Sweden

2022 Examiner, PhD of Alban Gossard, University of Toulouse, Toulouse, France

2022 Examiner, PhD of Martin Morin, Lund University, Lund, Sweden

2020 Rapporteur, PhD of Paul Catala, PSL University, Paris, France

2017 Examiner, PhD of Simon Labouesse, Aix-Marseille University, Marseille, France

2017 Examiner, PhD of Miguel Simoes, University of Lisbon and Univ. Grenoble Alpes, Lisbon, Portugal

2016 Rapporteur, PhD of Emrah Bostan, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

2016 Examiner, PhD of Pauline Tan, École Polytechnique, Palaiseau, France

9 EDITORIAL ACTIVITIES

2021 – Associate editor of the journal *IEEE Transactions on Signal Processing*

2013 – Member of the founding editorial board and Field Chief Editor of the journal *Statistics, Optimization and Information Computing*

2004 – Regular reviewer for several international journals in optimization, signal and image processing

10 CONFERENCE ACTIVITIES

Organization, international events

2025 Organizer of 6 sessions in 3 different streams (18 talks) at the International Conference on Continuous Optimization (ICCOPT), Los Angeles, USA

2024 Organizer of a session (4 talks) “Fast randomized algorithms for distributed optimization” at the International Symposium on Mathematical Programming (ISMP), Montréal, Canada

2024 Organizer of the stream (2 sessions, 7 talks) “Randomized optimization algorithms” at the Conference on Advances in Continuous Optimization (EUROPT), Lund, Sweden

2023 Organizer of a session (3 talks) “Optimization Algorithms: Some Recent Advances” at the Conference of the International Federation of Operational Research Societies (IFORS), Santiago, Chile

2023 Organizer of a mini-symposium (12 talks) “Recent advances in operator splitting and fixed-point algorithms” at the SIAM Conference on Optimization, Seattle, USA

2021 Organizer of a special session (5 talks) “Recent advances in large-scale convex nonsmooth optimization and beyond” at the INFORMS Annual Meeting, Anaheim, CA, USA (virtual)

2021 Organizer of a mini-symposium (4 talks) “Recent advances in primal-dual splitting for convex optimization” at the SIAM Conference on Optimization, Spokane, USA (virtual)

2019 Organizer of a mini-symposium (12 talks) “Variational methods for inverse problems in imaging” at the conference Applied Inverse Problems, Grenoble, France

2019 Co-organizer (with Konstantin Usevich) of a special session “Advances in structured and constrained low-rank approximations” at the conference IEEE ICASSP, Brighton, UK

2016 Co-organizer (with Konstantin Usevich) of a special session “Structured low rank approximation” at the conference EUSIPCO, Budapest, Hungary

Organization, national events

2018 Member of the organization committee of the French Days on Optimization and Decision Science (SMAI-MODE), 3 days, Autrans

2016 Co-organizer (with Marianne Clausel, Julie Digne, Raphaëlle Chaine) of a thematic day “Machine Learning and Optimization”, sponsored by GdR MADICS and Région Rhône-Alpes, Lyon

2015 Co-organizer of the 2nd edition of the workshop Optimization for Image and Signal Processing, 3 days, Henry Poincaré Institute, Paris

2015 Co-organizer (with Caroline Chaux) of a double special session “Optimization” at the conference GRETSI, Lyon

2015 Co-organizer (with Konstantin Usevich) of the workshop Structured Low Rank Approximation, 2 days, Grenoble

2015 Member of the organization committee and webmaster of the conference STATLEARN, 2 days, Grenoble

2013 Co-organizer of the 1st edition of the workshop Optimization for Image and Signal Processing, 3 days, Palaiseau

Program committee member

2024 Scientific committee member of the Conference on Advances in Continuous Optimization (EUROPT), Lund, Sweden

2024 Invited to serve as Area Chair at IEEE ICIP 2024 (declined).

2015 – Program committee member, as a session/mini-symposium organizer, at ISMP 2024, EUROPT 2024, IFORS 2023, SIAM OP 2023, INFORMS Annual Meeting 2021, SIAM OP 2021, AIP 2019, IEEE ICASSP 2019, EUSIPCO 2016, GRETSI 2015

2009 – Session chair at IFORS 2023, SIAM OP23, INFORMS Annual Meeting 2021, SIAM OP21, AIP 2019, IEEE ICASSP 2019, EMMCVPR 2017, GRETSI 2017, EUSIPCO 2016, GRETSI 2015, IEEE ICIP 2009

2004 – 2022 Regular reviewer for conferences in signal and image processing, mainly IEEE ICIP, IEEE ICASSP, EUSIPCO, GRETSI

2020 – Regular reviewer for conferences in machine learning, mainly ICML, NeurIPS, ICLR, AISTATS

11 OTHER SERVICE TO THE PROFESSION

2022 External reviewer for the evaluation of the final candidates to a full professor position in applied mathematics and computer science, Saarland University, Germany

2021 Reviewer of an application for tenure and promotion to associate professor, Department of Mathematics, University of Massachusetts Boston, MA, USA

2019 Reviewer of grant applications for the French National Research Agency (ANR)

2018 Reviewer of a grant application for the Swiss National Science Foundation

2015 Organizer of the international summer school BIGOPTIM on optimization, 5 days, Grenoble, France. 42 participants. Budget of 12 000 EUR

2009 Representative of the GREYC at the CeBIT expo, Hannover, Germany

2005 Activity to introduce reasoning based on mathematical games in a high-school class, Isère, France

2004 – 2006 Founder and President of the association MALIS of the (∼50) PhD students in the Laboratory of Images and Signals, Grenoble, France

12 SUPERVISION

PhD students

2017 – 2021 PhD co-supervisor (with Mauro Dalla Mura) of Daniele Picone, GIPSA-Lab, Grenoble. Nonconventional spatio-spectral imaging in satellites. Current position: postdoc in GIPSA-Lab

2017 – 2021 PhD co-supervisor (with Michel Desvignes and Mauro Dalla Mura) of Julien Baderot, Pollen Metrology and GIPSA-Lab, Grenoble. Automatic pattern recognition in multimodal images of nanomaterials by deep learning. Current position: R&D in Pollen Metrology

2016 – 2019 PhD co-supervisor (with Jérôme Mars and Lionel Hervé) of David Orive-Miguel, CEA-LETI and GIPSA-Lab, Grenoble. Time-resolved optical tomography. Current position: R&D in a company, Madrid, Spain

2013 – 2017 PhD co-supervisor (with Valérie Perrier and Marianne Clausel), of Kevin Polisano, Lab. Jean Kuntzmann, Grenoble. Analysis and synthesis of oriented structures in images. Current position: research scientist of the CNRS, LJK, Grenoble

Postdoctoral researchers

2017 Co-supervisor (with Nelly Pustelnik) of Marion Foare, École Normale Supérieure (ENS) Lyon, France. Current position: tenured associate professor at the Chemistry and Digital Sciences Engineering School (CPE), Lyon, France

2014 Co-supervisor (with Jocelyn Chanussot) of Xiyan He, GIPSA-Lab, Grenoble.

2010 – 2012 Supervisor of Vincent Roullier, during 14 months, and then Saleh Mosaddegh, during 10 months, in the frame of the ANR project CARTES, GREYC, Caen. Current positions: R&D in companies

Master students

2015 Supervisor of the MSc final project of Vincent Espitalier, Master of Science in Industrial and Applied Mathematics (MSIAM), Grenoble. Exact finite time minimization of least-squares on the simplex, applications in multispectral unmixing. He continued on to a PhD in statistics at Fourier Institute, Grenoble

2013 Supervisor of the MSc final project of Marion Millien, Master of Science in Informatics at Grenoble (MoSIG), Grenoble. Deconvolution of 3-D volumes by proximal optimization

2011 Supervisor of the MSc final year 6-month project of Maxime Bouaoud and Benjamin Lainé, National Graduate School of Engineering (ENSICAEN), Caen, in partnership with Canon Research France. Compression of raw images by HEVC color prediction

2010 Supervisor of the MSc final project of Pierre Moser, Master Language, Image, Document (LID), Caen. Fast multidimensional filtering for mean-shift image segmentation

2007 Supervisor of a MSc semester project of Stephanie Kecskes, Technical University of Munich (TUM), Munich. 3-D segmentation of plant cells in confocal microscopy image stacks

2006 Participation to the supervision of the MSc final project of Muhammad Murtaza Khan, Lab. Images and Signals, Grenoble. Fusion of panchromatic and multispectral satellite images. Current position: assistant professor, University of Jeddah, Jeddah, Saudi Arabia

2005 Supervisor of the MSc final project of Hicham Esserhir, Master Signal, Image, Speech, Telecommunications (SIPT), Grenoble. Hybrid DPCM/wavelet coder for lossless image compression

Undergraduate students

2010 Supervisor of the semester project of Élodie Carel and Maxime Daisy, first year of ENSICAEN, Caen. Reproduction of color images by dithering. Maxime Daisy got a PhD in image processing from Univ. Caen Normandy, Caen, in 2015

13 GRANTS

Project management

2025 – 2028 Co-PI (PI: Peter Richtárik) of the 3-year KAUST Competitive Research Grant (CRG) project “New Stochastic and Adaptive Proximal Algorithms for Distributed Optimization and Federated Learning”. 675,000 USD

2023 – 2024 PI of the 1-year project “Versatile distributed optimization for federated learning algorithms”, SDAIA–KAUST Center of Excellence in Data Science and Artificial Intelligence (SDAIA-KAUST AI). 200,000 SAR

2013 – 2015 PI (with Michael Blum and Marianne Clausel) of the project “Algorithmic methods for complex and large-scale data analysis”, program “exploratory projects” of LabEx PERSYVAL, Grenoble. Collaborations between 21 faculty members from 4 research centers

2013 PI of the project “Spectral parsimony for artificial vision of colors”, program PEPS of the CNRS

2010 – 2012 Scientific leader of the project “Fast and Easy Capture of Latent Prints from Crime Scenes” (CARTES), French National Research Agency (ANR). Members: company Morpho (PI), GREYC, company ELDIM, forensic police and gendarmerie

Contracts

2016 Consulting for Pollen Metrology, Moirans, 6 000 EUR. Object detection in image series of nanomaterials

2013 Consulting for Resolution Spectra Systems, Meylan, 5 000 EUR. Spectral analysis of nonuniform under-sampled data

2005 Consulting for Philips Applied Technologies, Paris, 16 000 EUR. Image enlargement from the TV to HDTV format

14 TEACHING

2020 – I have been giving a few guest lectures in the *Federated Learning* and *Stochastic Gradient Descent Methods* courses of Peter Richtárik.

As instructor of record

▷ Course “Optimization and inverse problems”, 2nd (final) year of Master’s studies, Master of Research in Signal and Image Processing Methods and Applications (SIGMA) of Grenoble Institute of Technology, Grenoble. Taught 2 times in 2016–2017, 2017–2018. About 12 students. Annual volume: 12 h lectures, 6 h computer lab sessions. Taught with Nelly Pustelnik (L. C. 60%, N. P. 40%), entirely in English.

▷ Course “Image processing”, 1st year of Master’s studies, Graduate School of Engineering in Energy, Water and Environmental Sciences (ENSE3) of Grenoble Institute of Technology, Grenoble. Taught 5 times in 2013, 2014, 2015, 2016, 2017. About 50 students. Annual volume: 12 h lectures, 32 h computer lab sessions. Spoken in French but material in English.

As adjunct professor or teaching assistant

▷ Common core of mathematics (3 parts: Fourier analysis, probability theory, linear algebra), 3rd year of undergraduate studies, Graduate School of Engineering POLYTECH of Univ. Grenoble Alpes, Grenoble. Taught 4 times in 2013–2014, 2014–2015, 2015–2016, 2016–2017. Annual volume: 10 h lectures (probability theory, about 80 students), 50 h tutorials (with groups of about 30 students)

▷ Course “Programming in C”, 1st year of undergraduate studies, computer science program, University Institute of Technology (IUT), Grenoble. Taught in 2013. About 25 students. Annual volume: 16 h computer lab sessions

▷ Common core of mathematics, 1st and 2nd years of undergraduate studies, Univ. Joseph Fourier, Grenoble. Taught 3 times in 2003–2004, 2004–2005, 2005–2006. Groups of about 25 students. Annual volume: 64 h tutorials

Mini-courses

2025 (planned in September) Course “Stochastic variance-reduced optimization algorithms and applications to federated learning”, Belgian graduate school in systems, control, optimization and networks (SOCN), UCLouvain, Louvain-la-Neuve, Belgium. 15 h

2022 Course “Convex optimization: Theory and algorithms”, Division of Computer, Electrical and Mathematical Sciences and Engineering (CEMSE), KAUST, Saudi Arabia. 9 h lectures

2018 Course “Optimization and inverse problems”, College of Information Science and Engineering, Ritsumeikan University, Kyoto, Japan. 7 h lectures

2015 Course “Primal-dual proximal splitting methods for large-scale convex optimization”, summer school BIGOPTIM, Grenoble, France. 3 h lectures and 4.5 h labs in Python

15 RESEARCH VISITS

2018 10 months at Ritsumeikan Univ., Kyoto, Japan. Host: Akira Hirabayashi (competitive long-term fellowship from the Japanese Society for the Promotion of Science (JSPS))

2017 3 weeks at Instituto Superior Técnico (IST), Lisbon, Portugal. Host: José Bioucas-Dias

2012 3 months at Yamaguchi Univ., Ube, Japan. Host: Akira Hirabayashi (JSPS fellowship)

2011 1 week at Univ. Paris-Est Marne-La-Vallée, Paris, France. Host: Jean-Christophe Pesquet

2010 3 weeks at Chinese Univ. of Hong Kong. Host: Thierry Blu

2009 2 months at Simon Fraser Univ., Vancouver, Canada. Host: Torsten Möller

2007 2 weeks at Yamaguchi Univ., Ube, Japan. Host: Akira Hirabayashi

2004 – 2005 6 months at Biomedical Imaging Group, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. Hosts: Thierry Blu and Michael Unser (competitive Eurodoc Program of the French Région Rhône-Alpes)

16 PROFESSIONAL MEMBERSHIPS

▷ Member of the Institute of Electrical and Electronics Engineers (IEEE) and of the IEEE Signal Processing Society (student member 2004, member 2007, senior member 2019)