

Paul HONEINE

Full Professor

Université de Rouen Normandie

LITIS Lab, NormaSTIC (CNRS)

France

UFR Sciences et Techniques, Avenue de l'Université
76800 Saint Etienne du Rouvray, France

☎ +33 (0)2 32 95 52 13

FAX +33 (0)2 32 95 50 22

✉ paul.honeine@univ-rouen.fr

🌐 www.honeine.fr

Employment History

- 2015

2015

Full Professor, *Université de Rouen Normandie (Normandie Université)*.
Laboratoire d'Informatique, du Traitement de l'Information et des Systèmes (LITIS)
- 2008-2015

2015

Associate Professor, *Université de technologie de Troyes*, Institut Charles Delaunay (CNRS), group LM2S.
- 2007-2008

2008

Post-doctoral research associate, *Institut Charles Delaunay (CNRS)*.
Collaboration between INSA Rouen, Univ. Rouen, LAGIS Lille and ENST Paris
- 2003-2007

2007

R&D engineer, at *Sonalyse s.a.s. (startup)*, Alès (Gard), France.
(Acoustic and vibration solutions for quality control)

University Education

- 2013

2013

Habilitation à Diriger des Recherches, *machine learning and signal processing*.
Université de technologie de Compiègne, France
- 2003-2007

2007

Ph.D. in “Systems Optimisation and Security”, *machine learning and signal processing*.
Université de technologie de Troyes, France
- 2002-2003

2003

M.Sc. in “Industrial Control”.
Lebanese University, Lebanon, with 6 months at Université de technologie de Troyes, France
- 1997-2002

2002

Eng. degree in “Mechanics”.
Lebanese University, Lebanon

Honors and distinctions

- 2019-2023

2023

Achievement Grant in Research (PEDR), 2019–2023, with the highest rank.
- 2018

2018

Nominated for the price of **Best Paper** at the 6th CMMNO, for the paper [C20] (first author).
- 2017

2017

Sentinel of Science Awards “publons.com”: ranked 2rd in France in all disciplines,
Top 1% of peer reviewers in Computer Science and Top 1% in Engineering (as well as in 2018).
- 2015-2019

2019

Achievement Grant in Research (PEDR), 2015–2019, with the highest rank.
- 2010-2014

2014

Recipient of the **Scientific Excellence Grant** (Prime d'Excellence Scientifique), 2010–2014.
- 2009

2009

Best Paper Award at the 19th IEEE MLSP workshop, for the paper [C103] (first author).
- 2008

2008

Finalist in the **Ph.D. Prize** from the Rectorate of Reims Academy, France.

International Visits (Long-stay)

- juin 2015

2016

Invited researcher, *1 month*.
Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University, China
- 2010-2015

2015

Invited researcher and lecturer, *10 days per year, for 5 consecutive years*.
Lebanese University, Lebanon.

Contents

Curriculum Vitæ	1	Service and Scientific Outreach	8
Summary of publications	2	Supervised Theses	13
Main International Activities	3	Teaching Activities	17
Research Grants	5	Publications	20

Summary of publications

- Chapters** 8 chapters in books (2016, 2×2015, 2014, 2×2013, 2012, 2010)
- Journals** 48 papers in international refereed journals (including 29 IEEE)
3 papers in french refereed journals, invited papers (Traitement du Signal)
- Conferences** 91 papers in international refereed conferences with proceedings
27 papers in french refereed conferences with proceedings
13 papers in workshops (with proc.) and thematic presentations (CNRS GdR and international)
- Patent** 1 filed, international (2010)
- Award** 1 nominated for the price of best paper at 6th CMMNO 2018 [C20] (first author)
1 best paper award at 19th IEEE MLSP workshop 2009 [C103] (first author)
- h-index** (from h-index = 25 (22 since 2015)
Google Scholar) i10-index = 69 (51 since 2015)
- Citations** (from 2861 (2017 since 2015)
Google Scholar) Most cited paper : 403 citations
- Erdős number** 4
- Largest impact factor** ≈ 6, as sole author (2012)
≈ 9, in second position after PhD student (2014)

IdHAL 679546

ORCID <https://orcid.org/0000-0002-3042-183X>

Twitter <https://twitter.com/paulhoneine>

ResearchGate https://www.researchgate.net/profile/Paul_Honeine

Google Scholar <https://scholar.google.com/citations?user=yxk7n1kAAAAJ>

DBLP <https://dblp.org/pid/53/7011>

Semantic Scholar <https://www.semanticscholar.org/author/1703806>

HAL https://hal.archives-ouvertes.fr/search/index/q/*/authIdHal_s/paul-honeine

LinkedIn <https://www.linkedin.com/in/paulhoneine/>

Societies

Membership in societies: IEEE (Signal Processing Society) and EURASIP
Membership in GdR ISIS, GdR MaDICS, pré-GdR IA, GDR Robotics and Club EEA.

Main International Activities

International Visits (Long-stay)

juin 2015
2016

Invited researcher, 1 month.

Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University, China

2010-2015
2015

Invited researcher and lecturer, 10 days per year for 5 consecutive years.

Lebanese University, Lebanon.

Main International Collaborations

2015

Badong Chen & Nanning Zheng, Xi'an Jiaotong University, China.

[J10, J14, J15, C27]

2015
2017

Steve McLaughlin, Heriot-Watt University, Edinburgh, UK.

[J16, C25, C26, C37]

2007

2015

José C. M. Bermudez, Federal University of Santa Catarina, Brazil.

[J29, J35, J51, J55, J57, C54, C57, C80, C88, C95, C105, C109, C115, C114]

2010

2016

Clovis Francis, Université Libanaise, Lebanon.

[J22, J39, J40, C36, C46, C47, C50, C55, C62]

2010

2013

Hassan Amoud, Centre AZM en biotechnologie, Lebanon.

[J39, J40, J49, J53, C75, C76, C77, C81, C82, C85, C86, C89, C91, C94, C96]

2012

2016

Roger Achkar, American University of Science and Technology, Lebanon.

[J27, J42, C56, C67]

2013

2016

Joumana Farah, Université Saint-Esprit de Kaslik, Lebanon.

[J19, J22, J23, J30, J34, C33, C36, C42, C46, C47, C48, C49, C50, C53, C55, C60, C62, C63]

International Project Coordinator

2011-2012
2012

CEDRE (Partenariats Hubert Curien), programme franco-libanais de Coopération pour l'Evaluation et le Développement de la Recherche, a collaborative effort to support PhD studies of M. Kallas.

Project PI: P. Honeine, and co-advisor of M. Kallas, a Ph.D. student within this project.

International PhD co-advisor

2013-2015
2015

Nisrine Ghadban, Monitoring of physical phenomena by information fusion in sensor networks, co-supervised with Clovis Francis, Lebanese University, Lebanon.

See Page 15

2010-2012
2012

Maya Kallas, Pattern recognition, prediction, and classification of biomedical signals, co-supervised with Clovis Francis, Lebanese University, Lebanon.

See Page 16

International Expertise

Panel Member Member of the "Electrical engineering, electronic engineering, information engineering" panel at the "Stimulus of Scientific Employment – Individual Support" (CEECLnd, 2018 call), Fundação para a Ciência e a Tecnologia (FCT), Portugal

Project Refereeing Member of College of Expert Reviewers, European Science Foundation (www.esf.org, 2018-2021)
AXA Fellowships Research Projects (Europe, 1× in 2019)
Banff International Research Station (BIRS) proposals (USA, 1× in 2017)
Marsden Fund Council (Royal Society Te Apārangi - New Zealand, 1× in 2017)
European Science Foundation (www.esf.org, 3× in 2020, 3× in 2019, 1× in 2017)
BELSPO (Belgian Federal Science Policy Office, 1× in 2017)
ECOS Nord (1× in 2015)

Thesis expertise Rishi Raj Sharma (2018, Indian Institute of Technology Indore, India)

Teaching Abroad and International

Committee Member of the Steering committee of the MSc “Agricultural and Food Data Management” (International MSc at Institut Polytechnique UniLaSalle)

2018 **Machine Learning Methods for Agricultural and Food Data Management.**

- Master of Science “Agricultural and Food Data Management”, an international Master
- Lectures (30 h per year), since Spring 2019
- Students: more than half international, from Erasmus Mundus program.
- Language: lecture in English.

2010-2015
2015 **Estimation and prediction (advanced statistics).**

- M.Sc. for double diploma Université de technologie de Compiègne and Lebanese University
- Lectures (20 h per year), since 2010

Research Grants

→ Since 2008, I have attracted about **1.5 M€ for my team** as a coordinator, principal investigator (PI) or co-investigator (Co-PI) of research projects (this figure does not include funds received by partners in other labs thanks to my projects). Roughly speaking, half of the funding came from the French national research agency ANR (including as principal coordinator); The other half came from the industrial contracts (SNECMA, DataHertz, CETIM), Abondement Carnot, the Region, and an international project PHC. .

Main Current Research Grants (2021-...)

2021-2024
2024

Industrial Project CIFRE (ANRT Grant), “*Real-time indoor localization by embedded vision and deep learning*”, industrial collaboration with the “Startup” DataHertz (30 000 €).

Project PI: P. Honeine, and co-advisor of the Ph.D. student Andrea Daou.

2020-2022
2022

DIPORGA (ADEME Grant), “*In-situ detection of volatile halogenated organic pollutants by hyperspectral and deep learning*”, collaboration between startup TELLUX, ARCADIS, ESTIMAGES and LITIS.

Project PI: Antonin Van Exem (TELLUX, Rouen)

2019-2023
2023

APi (ANR Grant, funded under the plan for AI), “*Apprivoiser la Pré-image (Taming the Beast of the Preimage in Machine Learning for Structured Data: Signal, Image and Graph)*”, collaboration between LITIS Lab (Paul Honeine, coordinator), LTCI -Télécom ParisTech (local coord. Florence d’Alché-Buc), LIG - Université Grenoble Alpes (local coord. Ahlame Douzal).

Project PI: P. Honeine

2018-2021
2021

FishNet (Regional Grant), “*Deep Learning for Segmentation of Fish-eye Images with 6DoF*”, collaboration between Pascal Vasseur (group Intelligent Transport Systems of LITIS Lab) and Paul Honeine (group Machine Learning of LITIS Lab), as well as experts from the CEREMA (Center for Studies and Expertise on Risks, Environment, Mobility and Development), Project cost: $\approx 110\,000$ €.

Project co-PI: P. Honeine, and co-advisor of Ph.D. student Ahmed Rida Sekkat funded by this project

Main Past Research Grants

2017-2020
2020

Industrial Project CIFRE (ANRT Grant), “*Design of an Indoor Localization System with a Wearable Camera*”, industrial collaboration with the “Startup” DataHertz (30 000 €).

Project PI: P. Honeine, and co-advisor of the Ph.D. student Silvère Konlambigue

2017-2019
2019

LASeR (Lebanese Association for Scientific Research), “*Adaptive Anti-abuse Protection of Online Social Networks Using Machine Learning*”, grant funding a 36-month PhD Thesis in France.

Project co-PI: P. Honeine, and co-advisor of N. EL Mawass (Ph.D. funded by this project)

2016-2019
2019

CSC PhD grant, “*Machine Learning for Analysis and Classification in Medical Imagery*”, grant funding a 42-month PhD Thesis.

Project co-PI: P. Honeine, and co-advisor of Y. Liu (Ph.D. funded by this project)

2014-2017
2017

Industrial Project CIFRE (ANRT Grant), “*Detection and automated identification of shifts in heat-sensitive paint applied on parts of turbojet engines*”, industrial collaboration with SNECMA (Group SAFRAN).

Project PI: P. Honeine, and co-advisor of the Ph.D. student A. Kouvтанovitch

2013-2016
2016

CSC PhD grant, “*Kernel Nonnegative Matrix Factorization: Application to Hyperspectral Imagery*”, grant funding a 42-month PhD Thesis at UTT.

Project PI: P. Honeine, and advisor of F. Zhu (Ph.D. funded by this project)

2012-2016
2016

HYPANEMA (ANR Grant), “*Hyperspectral data analysis with nonlinear unmixing algorithms*”, collaboration between Université de Nice Sophia-Antipolis (C. Richard), INP Toulouse (J.-Y. Tourneret), Gipsa-lab (J. Chanussot) and UTT (P. Honeine).

Project PI: C. Richard. UTT PI: P. Honeine

2013-2015
2015

Grant franco-lebanese for PhD thesis, “*Monitoring of physical phenomena by information fusion in sensor networks*”, grant funding of a PhD Thesis for a 18-month at UTT and 18-month at Lebanese University, Lebanon.

Project co-PI: P. Honeine, and co-advisor of N. Ghadban (Ph.D. funded by this project)

2012-2015
2015

WiDiD “Wireless Diffusion Detection” (Regional Grant), “*Detection and monitoring of biochemical diffusion with wireless sensor networks*”, a collaborative effort to support PhD studies of S. Mahfouz, 110 000 €.

Project PI: P. Honeine, and co-advisor of S. Mahfouz, a Ph.D. student within this project.

2012-2015
2015

SCALA (ANR Grant), “*Permanent Activity Monitoring and Attack Localization*”, collaboration between Suez environnement, Diateam, Eurawasser (Fraunhofer Institute) and UTT, Project cost: 1 178 000 €.

Project PI: F. Campan at Suez. P. Honeine is co-advisor of a PhD student within this project.

2011-2012
2012

CEDRE (Partenariats Hubert Curien), *programme franco-libanais de Coopération pour l’Evaluation et le Développement de la Recherche*, a collaborative effort that has supported the cooperation between the UTT (France) and the Lebanese University (Lebanon), 6 000 €.

Project PI: P. Honeine

2010-2012
2012

Grant Franco-Lebanese for PhD thesis, “*Pattern recognition, prediction, and classification of biomedical signals*”, grant funding of a PhD Thesis for a 18-month at UTT and 18-month at Lebanese University, Lebanon.

Project co-PI: P. Honeine, and co-advisor of M. Kallas (Ph.D. funded by this project)

2009-2012
2012

CSC PhD grant, “*System identification under non-negativity constraints – Applications in adaptive filtering and hyperspectral image analysis*”, funding a 42-month PhD Thesis at UTT.

Project co-PI: P. Honeine, and co-advisor of J. Chen (Ph.D. funded by this project)

2009-2012
2012

Detection (Carnot Grant), *Change detection by information processing in collaborative sensor networks*, Collaborative effort between UTC and UTT, 36 000 € for UTT.

Project PI: P. Honeine

2009-2012
2012

Vigirés’eau (ANR Grant), “*Real-time monitoring with machine learning of water quality in water distribution systems*”, partnership with Suez, 1 124 000 €, 430 000 € for UTT.

Three successive PI : C. Richard, L. Fillatre and P. Honeine

2007-2010
2010

StaRAC (ANR Grant), “*Relative stationarity and connected approaches*”, collaboration between ENS Lyon (P. Flandrin, P. Borgnat), GIPSA-lab Grenoble (P.-O. Amblard), and UTT (C. Richard, P. Honeine), 225 000 €.

Project PI: P. Flandrin at ENS Lyon. UTT PI: C. Richard

2006-2009
2009

KernSig (ANR Grant), "*Kernel machines for signal processing*", collaboration between INSA Rouen (S. Canu), Univ. Rouen (A. Rakotomamonjy), LAGIS Lille (M. Davy), ENST Paris (O. Cappé) and UTT (C. Richard), 193 000 €.

Project PI: S. Canu at INSA Rouen. UTT PI: C. Richard

2007

Young project investigator (oséo Anvar Grant), *for the organization of the conference GRETSI 2007*, a 9 month project, PI: P. Honeine, within my PhD studies.

2003-2006
2006

R&D engineer at Sonalyse s.a.s., under the **CIFRE/ANRT** (Convention Industrielles de Formation par la Recherche).

PI: P. Honeine, for 3 years of PhD studies.

Service and Scientific Outreach

Responsibilities and involvement in research councils

- 2020 **Head of the Machine Learning group, LITIS Lab**, since January 2020.
(19.5 permanent researchers at INSA and Univ. Rouen)
- 2020 **Member of the LITIS board**, since 2020.
(107 permanent members, 55 PhD students and 20 post-doc fellows and research engineers)
- 2018 Member of the Advisory Commission of the Specialists in Normandy University, *section 61*.
- 2015-2020
2020 Taking part in the LITIS Lab Board, *at least half of the meetings per year*.
- 2019 Member of the interviewing board for candidates on doctoral grants at the LITIS.
- 2012-2015
2015 **Member at the Council of the UMR CNRS 6281**, (*gathering all the researchers of UTT*).
- 2012-2015
2015 **Representative of the GdR ISIS**, *at the Institut Charles Delaunay (CNRS)*.
(ISIS: Information, Signal, Image & ViSion)

Responsibilities and involvement in teaching councils

- 2019 **Board/Council of the IUT of Rouen, Université de Rouen**.
(about 1500 students and 120 permanent teachers on three campuses)
- 2019 **Board/Council of the department Networks & Telecom, IUT of Rouen**.
- 2017 **Improvement Council of the department Networks & Telecom, IUT of Rouen**.
- 2017 **Teaching Council at the Professional Degree (Bachelor) ASUR, IUT of Rouen**.
- 2015 **Teaching Council of the department Networks & Telecom, IUT of Rouen**.
- 2017 Involvement at the national meeting of the Chefs of Department Networks & Telecom.
- 2017 Involvement at the jurys of Baccalaureate and jurys of professional experience validation.
- 2013-2015
2015 Working groups, including inter-UT cooperation (UTC-UTBM-UTT) and project UTT 2030.

Selection Committees

- 2020 President of Selection Committee for a position of Associate Professor, *Univ. of Rouen*.
- 2020 Vice-president of a Selection Committee for a position of Full Professor, *Univ. of Rouen*.
- 2020 Member of a Selection Committee for a position of Assistant Professor, *Polytech Nice*.
- 2019 Member of Selection Committees for 2 positions of Associate Professor, *Univ. of Rouen*.

Organization of Conferences

- 2021 Member of Programme Committee of Conference GRETSI, *in Nancy*.
(the french signal and image processing conference)
- 2018 Member of Organization Committee of CAP, *at LITIS in Rouen*.
(the francophone Machine Learning conference)
- 2007 Member of Organization Committee of Conference GRETSI, *at UTT in Troyes*.
(the french signal and image processing conference)

Thesis Committees

HDR committees Farah Chehade (Dec.'17, UTT)

Thesis committees **Rapporteur:**

Mahdi Khoder, xx.'21, Politecnico de Torino (Italy) & Université Libanaise (Liban)
Danny Schmitt, Dec.'20, Univ. Côte d'Azur (I3S, Sophia Antipolis)
Fei Hua, Jul.'20, Northwestern Polytechnical University (Xi'an, China) & Univ. Côte d'Azur
Moussab Djerrab, Dec.'19, Univ. Paris-Saclay (Télécom ParisTech)
Fernando José Garrido Carpio, Dec.'18, Mines ParisTech, INRIA
Anastasia Pampouchidou, Nov.'18, Burgundy University
Olivier Hotel, Dec.'17, UPMC et CEA LIST (Paris-Saclay)
Romain Brault, June'17, Univ. Paris-Saclay (Univ. d'Évry-Val-d'Essonne & Télécom ParisTech)
Saeid Soheily-Khah, Oct.'16, Université de Grenoble Alpes (LIG)
Wei Gao, Dec.'15, Northwestern Polytechnical University (Xi'an, China) & Univ. Nice
Maxime Sangnier, Jan.'15, CEA - Univ. Rouen (LITIS)

Examiner:

Mohamed Mroueh, Feb.'21, UTT et Université Libanaise
Farouk Ghallabi, Jun'20, Université de recherche Paris Sciences et Lettres PSL (INRIA Paris)
Ramzi Ben Mhenni, May'20, École Centrale de Nantes
Abraham Traoré, Nov.'19, Univ. Rouen - Président du jury
Riham Ginzarly, Sept.'19, ESIGELEC, IRSEEM - Président du jury
Guillaume Révillon, April'19, CentraleSupélec, L2S
Aline Taoum, Jan'19, UTT
Xiaoyi Chen, Mars'18, UTT
Nassara Elhadji Ille Gado, Dec.'17, UTT
Rita Ammanouil, Oct.'16, Univ. Nice
Soufien Kammoun, June'16, Telecom Paristech
Arnaud Le Bris, Dec.'15, IGN - Univ. Paris-Est - Président du jury
Xiaowei Lv, March'15, UTT
Tian Wang, May'14, UTT
Nguyen Hoang Nguyen, Dec.'13, Univ. Nice
Jihan Khoder, Oct.'13, Univ. Versailles
Chafic Saïdé, Sept.'13, UTT

International **Rapporteur:**

Rishi Raj Sharma (2018, Indian Institute of Technology Indore (India))
Wei Gao (2015, Northwestern Polytechnical University (Xi'an, China))

PhD committees **Evaluation committees for 1st and 2nd year PhD Students:**

- Individual mid-term committee of Renaud Poncelet, Sorbonne Université (Oct'20)
- Individual mid-term committee of Safaâ Dafrallah, INSA Rouen and ENSA Kenitra (Sep'20)
- Individual mid-term committee of Haodi Zhang, INSA Rouen (Jul'20)
- Individual mid-term committee of Atif Anwer, INSA Rouen and UTP Malaysia (June'20)
- Individual mid-term committee of Mahdi Jammal, INSA Rouen (Sept'19)
- Individual mid-term committee of Marwa Kechaou, INSA Rouen (June'19 & June'20)
- Individual mid-term committee of Junaid Mir, Univ. de technologie de Troyes (May'19)
- Individual mid-term committee of Mohamed Mroueh, Univ. de technologie de Troyes (Apr.'19)
- Mid-term committee of Moussab Djerrab, Univ. Paris-Saclay (Télécom ParisTech) (Nov.'17)
- Evaluation committee of 1st year doctoral students, MINES-ParisTech, Paris (Sept.'17)
- Committee of mid-term for PhD School MIIS - LITIS, Normandie Université (Sept.'17)

Expert

- Panel Member** Member of the "Electrical engineering, electronic engineering, information engineering" panel at the "Stimulus of Scientific Employment – Individual Support" (CEECLnd, 2018 call), Fundação para a Ciência e a Tecnologia (FCT), Portugal
- International** Member of College of Expert Reviewers, European Science Foundation (www.esf.org, 2018-2021)
AXA Fellowships Research Projects (Europe, 1× in 2019)
Banff International Research Station (BIRS) proposals (USA, 1× in 2017)
Marsden Fund Council (Royal Society Te Apārangi - New Zealand, 1× in 2017)
European Science Foundation (www.esf.org, 3× in 2020, 3× in 2019 & 1× in 2017)
BELSPO (Belgian Federal Science Policy Office, 1× in 2017)
- National** ANR (6 full projects since 2012)
ANRT-CIFRE (1× in 2012)
AAP IDEX Recherche (Toulouse, 2015)

Review Statistics

Statistics from publons.com (part of Clarivate Analytics, previously Thomson Reuters).

- Annual awards 2018** *Top 1% of peer reviewers in the field Engineering*
- Annual awards 2017** *Top 1% of peer reviewers in the field Computer Science*
Top 1% of peer reviewers in the field Engineering
Top 1% of peer reviewers in all fields in France (2nd in France)
- Annual awards 2016** *Top 10% reviewers for Sentinels of Science Awards, in the field Computer Science*
Top 10% reviewers for Sentinels of Science Awards, in all fields in France (3rd in France)
- 63 Distinct journals
- 69 Reviewed papers in the last 12 months (47 papers per year on average)
- 209 Reviewed papers since January 2014
- 18% Acceptance rate (rate of papers I reviewed and were accepted in the same journal)
- 11% Journals with impact factor >5 (compared to 6.9% in computer science and 6.1% in engineering)
- 1.5% Journals with impact factor >9 (compared to 0.3% in computer science and 0% in engineering)

International Journals

- Advisory Board** International Journal of Distributed Sensor Networks (Sage, since 2017)
(founder member of the Advisory Board, for a 155-person Editor Board)
Impact factor 1.8 in 2019
- Editorial Board** Geomatics, (MDPI, new journal, since Oct. 2020)
Remote Sensing Image Processing, Section for Remote Sensing (MDPI, IF = 4.1, since 2019)
Geomatics (MDPI, new journal, since 2020)
Applied Intelligence (Springer, since 2017 - Review Board)
Mathematical Problems in Engineering (Hindawi, since 2017)
Wireless Communications and Mobile Computing (Hindawi, since 2016)
International Journal of Distributed Sensor Networks (Hindawi, since 2014)
SpringerPlus (Springer, 2014–2016)
- Reviewer (journals)** **Signal and Image Processing:**
Trans. on Signal Processing (IEEE, ≈ 75 articles since 2008), Trans. on Image Processing (IEEE, $\approx 10\times$), Trans. on Information Theory (IEEE), Signal Processing (Elsevier, $\approx 20\times$), Traitement du Signal (Gretsi), Digital Signal Processing (Elsevier), Journal of Signal Processing Systems (Springer), EURASIP Journal on Advances in Signal Processing (Springer) ...
- Machine Learning & Statistics:**
Pattern Recognition (Elsevier, $\approx 20\times$), Trans. on Neural Networks and Learning Systems (IEEE, $\approx 15\times$), Applied Intelligence (Springer $\approx 12\times$), Trans. on Pattern Analysis and Machine Intelligence (IEEE, $\approx 5\times$), Neurocomputing (Elsevier), Trans. on Cybernetics (IEEE), Lecture Notes in Artificial Intelligence (Springer), Journal of Machine Learning Research (JMLR), Engineering Applications of Artificial Intelligence (Elsevier), Statistical Analysis and Data Mining (Wiley), Journal of the American Statistical Association (Taylor & Francis), Neural Processing Letters (Springer), Machine Learning (Springer), Journal of Applied Statistics (Taylor & Francis), Applied Soft Computing (Elsevier), Journal of King Saud University - Computer and Information Sciences (Elsevier) ...
- Remote Sensing and Spatial Science:**
Trans. on Geoscience and Remote Sensing (IEEE, ≈ 15 articles), Geoscience and Remote Sensing Letters (IEEE, $\approx 10\times$), Journal of Spatial Science (Taylor & Francis)
- Sensors:**
Sensors Journal (IEEE), Sensors (MDPI AG, Basel) ...
- Communications:**
International Journal of Communication Systems (Wiley), Trans. on Wireless Communications (IEEE), Sensors Journal (IEEE) ...
- Other:**
Scientific Reports (Nature), Automatica (Elsevier), IEEE Access (IEEE), Electronic Letters (IET), Inverse Problems (IOP), Computer Networks (Elsevier), Journal of Parallel and Distributed Computing (Elsevier), Shock and Vibration (Hindawi), Frontiers Neuroscience (Frontiers), ...

Conferences

- Area Chair** EUSIPCO 2015
- Chairman** Sessions at 5th IEEE WHISPERS (2013), 19th ICT (2012), 18th IEEE SSP workshop (2011)

Member of prog. & technical committee AAAI'21, SSP'20, EUSIPCO'20, AAAI'20, GlobalSIP'19, IJCAI'19, NCWMC'18, DISP'19, ICACCP'19, ICEED'18 & '19, AALTD'18, '19 & '20, INAIT'19, ACML'17, '18 & '19, APPEEC'18, SIRS'18 & '19, ICACCI'18, EUSIPCO'17 & '18, ICCISN'18, SIRS'17, IEACon'17, ISTA'17, '18 & '19, AIStats'17 (Florida), SIPP'17 (Switzerland), IEEE SCORed'15, '16 & '17, CISP-BMEI'15, '16, '17 (IEEE tech sp.), IEEE PECON'14, '16 & '18, VisionNet'15, '16, ..., '19 & '20, CISP'12, '14 & '15 (IEEE),

Reviewer (conferences) **Signal and Image Processing:**
IEEE GlobalSIP'17, IEEE ICASSP'20-'12, ACM VisionNet'16, IEEE SAM'16, IEEE SSP'18, '16 & '11, EUSIPCO'17-'15 & '12, MALSIP'15, GretsI'17-'11, IEEE WHISPERS'13

Machine Learning:

NeurIPS'20-'19, NIPS'18-'16, ICML'20-'18, ICLR'21-'18, AIStats'21-'17, AAAI'21-'20, ACML'20-'17, ECML/PKDD'18, IJCAI'21-'20, IEEE SSP'16, MALSIP'15, ECML/PKDD'15, IEEE SSP'11,

Biomedical and Health Informatics:

IEEE EMBC'19, '18, '16-'12, IEEE BHI'18-'16, IEEE CISP-BMEI'12

Other Conferences:

IEEE IEACon '16, IEEE ISGT'14, IEEE Globecom'12 & '08, ICT'12, IEEE ISSPA'12

Subsidiary:

ISTA'18, SIRS'18, ICACCI'18, I4CT'18, ISTA'17, SIRS'17

Supervised Theses

Ongoing Theses (5)

jan'21-... **Andea Daou.**

Advisors Paul Honeine (main advisor) and Abdelaziz Bensrhair (co-advisor, from INSA-Rouen)
Title Real-time indoor localization by embedded vision and deep learning
Grant CIFRE
Partnership DataHertz s.a. (www.datahertz.fr)

sept'20-... **Clément Glédel.**

Advisors Paul Honeine (main advisor) and Benoit Gaüzère (co-advisor, from INSA-Rouen)
Title Preimage Problem for Graph Data
Grant ANR, project APi

déc'18-... **Rosana El Jurdi.**

Advisors Caroline Petitjean(co-advisor), Paul Honeine (co-advisor), Fahed Abdallah (co-advisor, Lebanese University)
Title Weakly supervised learning for medical image segmentation
Grant Thèse en cotutelle — Projet financé par AUF, CNRS-Liban et Université Libanaise
Publications [J1] [C3] [C11]

oct'18-... **Ahmed Rida Sekkat.**

Advisors Paul Honeine (co-advisor) and Pascal Vasseur (co-advisor)
Title Segmentation of Fish-eye Road Images with 6 Degrees of Freedom by Deep Learning (FishNet)
Grant Projet financé par la Région Normandie
Collaboration CEREMA
Publications [C7] [C6, C10]

oct'17-... **Linlin Jia.**

Advisors Paul Honeine (main advisor) and Benoit Gaüzère (co-advisor, from INSA-Rouen)
Title Machine Learning and Pattern Recognition for Chemoinformatics
Grant China Scholarship Council
Publications [C1, C2]

Defended PhD Theses (13 defended, since 2012)

jan'17-oct'20
2020 **Nour EL Mawass.**

Advisors Paul Honeine (main advisor) and Laurent Vercouter (co-advisor, from INSA-Rouen)
Title Anti-abuse Protection of Online Social Networks Using Machine Learning
Grant Lebanese Association for Scientific Research (LASeR)
PhD Internship PhD internship at Google (Munich) for 3 months — July-Sept. 2019
Publications [J3] [C18]
Defense October 14, 2020 (delayed PhD Defense due to COVID-19)
Future ...

sep'16-sep'20
2020 **Thi Phuong Thao (Thao) Tran.**

Advisors Ahlame Douzal (main advisor, Université Grenoble Alpes) and Paul Honeine (co-advisor, Univ. Rouen) and Saeed Varasteh Yazdi (co-advisor)
Title Interpretable time series kernel analytics by pre-image estimation
Publications [J2]
Defense Sept. 18, 2020 (delayed PhD Defense due to COVID-19)
Future ...

jan'17-mai'20
2020 **Silvère Konlambigue.**

Advisors Paul Honeine (main advisor) and Abdelaziz Bensrhair (co-advisor, from INSA-Rouen)
Title Design of an Indoor Localization System with a Wearable Camera
Grant CIFRE
Partnership DataHertz s.a. (www.datahertz.fr)
Publications [C9, C16]
Defense Mai 15, 2020 (industrial funding)
Future R&D engineer at DataHertz

fév'16-nov'19
2019 **Yuan (Flavie) Liu.**

Advisors Paul Honeine (main advisor) and Stéphane Canu (co-advisor, from INSA-Rouen)
Title ℓ_0 Based Sparse Representation
Grant China Scholarship Council
Publications [J5, J8] [C14] [C12, C23]
Defense November 25, 2019 (for a 42-month CSC funding)
Future ...

oct'15-nov'18
2018 **Daniel AlShamaa.**

Advisors Paul Honeine (co-advisor) and Farah Mourad-Chehade (co-advisor, from UTT)
Title Indoor Localization of Dependent Elderly People
Grant Projet financé par la Région Champagne-Ardenne (Programme Essaimage)
Collaboration Nursing home care Louis Pasteur at Romilly-sur-Seine

Publications [J7, J11, J13] [C15, C17, C19, C21, C22, C28] [C24]
Defense November 13, 2018 (at the 37th month)
Future R&D engineer in UTT since October 2018

fév'14-avr'18
2018

Axel Kouvtanovitch.

Advisors Paul Honeine (co-advisor) and Dominique Barchiesi (co-advisor, from UTT)
Title Detection and Automated Identification of Shifts in Heat-sensitive Paint Applied on Parts of Turbojet Engines
Grant CIFRE
Partnership SNECMA (group SAFRAN, at Villaroche, Paris)
Publications Confidential work – one pending patent
Defense April 12, 2018
Future Engineering researcher at Safran Engineering Services

oct'13-sept'16
2016

Fei Zhu.

Advisor Paul Honeine (sole-advisor)
Title Kernel Nonnegative Matrix Factorization: Application to Hyperspectral Imagery
Grant China Scholarship Council
Publications [J14, J17, J20] [C27, C34, C39, C44] [C31]
Defense Sept. 19, 2016 (at the 36th month)
Future Assistant Professor in Tianjin University (China) since December 2016

jan'13-déc'15
2015

Nisrine Ghadban.

Advisors Paul Honeine (co-advisor) and Clovis Francis (co-advisor, from Lebanese University, Lebanon)
Title Monitoring of physical phenomena by information fusion in sensor networks
Collaboration Farah Mourad (UTT) and Joumana Farah (USEK and Lebanese Univ, Lebanon)
Grant Double doctoral degree (Cotutelle) with Lebanese University
Publications [J22] [C36, C46, C47, C50] [C55, C62]
Defense December 14, 2015 (at the 36th month)
Future Postdoc at UTT, then Assistant Professor at the Lebanese University, Lebanon

oct'12-oct'15
2015

Sandy Mahfouz.

Advisors Paul Honeine (co-advisor) and Farah Mourad-Chehade (co-advisor, from UTT)
Title Kernel-based Machine Learning for Tracking and Environmental Monitoring in WSN
Grant Projet WiDiD funded by a regional grant
Publications [J19, J23, J30, J34] [C42, C48, C53, C60] [C33, C63]
Defense October 14, 2015 (at the 36.5th month)
Future Assistant lecturer (ATER), then Assistant Professor at UTT since September 2015

oct'12-sept'15
2015

Patric Nader.

Advisors Paul Honeine (co-advisor) and Pierre Beuseroy (co-advisor, from UTT)

Title One-class Classification fo Cyber Intrusion in Industrial Systems
Grant Projet SCALA funded by the ANR
Publications [J24] [J12, J33] [C30, C35, C40, C43, C45, C52]
Defense September 24, 2015 (at the 36th month)
Future Teacher-researcher at American University of the Middle East (AUM), Kuwait

avr'10-nov'12
2012

Maya Kallas.

Advisors Paul Honeine (co-advisor) and Clovis Francis (co-advisor, from Lebanese University, Lebanon)
Title Pattern recognition, prediction, and classification of biomedical signals
Grant Region, Lebanese University and UTT, as well as the Franco-Lebanese CEDRE funding program
Collaborations Hassan Amoud (Center AZM, Lebanese University)
Publications [J39, J40] [C75, C76, C77, C81, C82, C89, C91, C94, C96] [C85, C86]
Defense November 23, 2012 (at the 31st month)
Future Assistant Professor at the University of Lorraine (CRAN) since September 2013

dec'09-dec'12
2012

Zineb Noumir.

Advisors Paul Honeine (co-advisor) and Cédric Richard (co-advisor, from Université de Nice)
Title Real-time monitoring of water quality in water distribution systems with machine learning
Grant ANR, Program CSOSG (Concepts, Systèmes et Outils pour la Sécurité Globale)
Partnership Industrial partnership with Suez Environnement
Publications [J36] [J43] [C64, C65, C66, C68, C69, C72, C92] [C84]
Defense December 11, 2012 (at the 36.5th month)
Future Assistant lecturer (ATER) at Univ. Paris-Sud in Sept. 2013, then Data Stream Analyst at CEA, and recently Data Scientist Plateau simulation et calculs ADAS for Renault

oct'09-jan'13
2012

Jie Chen.

Advisors Paul Honeine (co-advisor) and Cédric Richard (co-advisor, from Université de Nice)
Title System identification under non-negativity constraints – Applications in adaptive filtering and hyperspectral image analysis
Grant China Scholarship Council
Collaborations Université de Nice Sophia-Antipolis : Henri Lantéri and Céline Theys
Publications [J37, J46, J51, J55] [C61, C70, C73, C79, C80, C90, C93, C95, C97] [C57, C87, C88, C102]
Defense January 28, 2013 (at the 40th month for a 42-month funding)
Future Postdoc at Michigan University, then Professor at Northwestern Polytechnical University (Xi'an, China) since June 2015

Teaching Activities

2015-... **Full Professor at University of Rouen Normandy.**

2018-... **Machine Learning Methods for Agricultural and Food Data Management.**

- Master of Science “Agricultural and Food Data Management”, an international Master
- Lectures (30 h per year) at Institut Polytechnique UniLaSalle (Rouen), since Spring 2019
- Students: more than half international, from Erasmus Mundus program.
- Language: lecture in English.
- Syllabus: Introduction to Python for Machine Learning (sci-kit learn), feature selection, Machine Learning algorithms for clustering, classification, and regression (Parzen windows, mean-shift, k -means, k -nn, neural networks, SVM, decision trees, random forests)

2018-... **Pattern Recognition in Biology and Medicine.**

- Faculty of Science and Technology, major “Engineering for Biomedical” (M.Sc., year 5)
- Lecture (21 h per year)
- Syllabus: Introduction to pattern recognition, Bayesian decision theory, Parzen estimation and k -NN, linear regression, classification, variable selection, dimensionality reduction, medical testing (sensitivity and specificity), applications in biology and medical engineering

2017-... **Data Compression.**

- Faculty of Science and Technology, major “Data Science” (M.Sc. and Ph.D., year 5)
- Lecture (8 h per year) and practical sessions (8 h per year)
- Syllabus: Information theory, signal and image compression

2017-2019
2019 **Sensor Networks.**

- Faculty of Science and Technology, major “Mobile and Embedded Computing Engineering” (M.Sc., year 4)
- Lecture (8 h per year) and practical sessions (8 h per year)
- Syllabus: Introduction to wireless sensor networks (WSN), topology of WSN, communication between different sensors, communication protocols such as Zigbee, applications to ambient intelligence such as Internet of Things, smart home, sensor-based medical applications

2017-... **Infrastructures for Telecommunications.**

- University Institute of Technology (Professional degree “Licence Pro”, year 3)
- Lecture (4 h) and practical sessions (6 h x 2 groups)
- Syllabus: signals (information coding, modulations, multiplexing), transmission media (cable, optical fiber, antenna ...).

2015-...

Local loop (The Last Mile).

- University Institute of Technology (Undergraduate technical degree, year 2)
- Lecture (9 h x 1 class), supervised sessions (6 h x 2 classes) and practical sessions (15 h x 3 classes), for students in classical cursus
Lecture (7.5 h), supervised sessions (4 h) and practical sessions (12 h), for students in apprenticeship
- Syllabus: local loop topology, copper (ADSL) and fiber optics (FFTH, FFTO), wireless local loop

2015-...

Directory Information Services.

- University Institute of Technology (Undergraduate technical degree, year 2)
- Lecture (6 h x 1 class), supervised sessions (6 h x 2 classes) and practical sessions (18 h x 3 classes), for students in classical cursus
Lecture (4.5 h), supervised sessions (4.5 h) and practical sessions (15 h), for students in apprenticeship
- Syllabus: Authentification, directory information services, conception, global catalog, ADDS, LDAP

2015-...

Internet Technologies.

- University Institute of Technology (Undergraduate technical degree, year 1)
- Lecture (15 h x 1 class), supervised sessions (12 h x 2 classes) and practical sessions (33 h x 4 classes), for students in classical cursus
Lecture (12 h), supervised sessions (10 h) and practical sessions (24 h), for students in apprenticeship
- Syllabus: Static routing, dynamic routing, RIP, OSPF, NAT, autonomous system, introduction to IPv6, TCP/IP

2008-2015

2015

Assistant Professor at Université de Technologie de Troyes.

2010-2015

2015

Estimation and prediction (advanced statistics).

- M.Sc. for double diploma Université de technologie de Compiègne and Lebanese University
- Lecture (20 h) at the Lebanese University, Lebanon, from 2010 till 2015
- Estimation theory, binary decision theory, ROC curves, multiple measurement generalization, multiple hypotheses, elements of sequential detection

2008-2015

2015

Pattern recognition.

- Université de technologie de Troyes (M.Sc. and Ph.D.)
- Lecture (6 h x 1 class), supervised sessions (10 h x 1 class), from 2008 till 2015
- Syllabus: Elements of statistical learning theory, regularization, reproducing kernel Hilbert spaces, support vector machines for classification and regression, mini-projects in Matlab

2011-2015
2015

Introduction to C language.

- Université de technologie de Troyes (B.Sc. degree level, year 2)
- Lecture (34 h) and practical sessions (28 h x several groups), from 2011 till 2015
- Syllabus: Introduction to the C language, conventional data structures (tables, files, articles ...), from the algorithm to the program, code control and software quality, advanced C elements, files

2008-2015
2015

Information theory and coding.

- Université de technologie de Troyes (B.Sc. degree level, year 3/4)
- Lecture (34 h) and supervised sessions (34 h), from 2008 till 2015
- Syllabus: quantitative measurement of information, source characterization, source coding, discrete channel models, linear channel coding methods

2008-2015
2015

Tools for decision-making strategy (game theory).

- Université de technologie de Troyes (B.Sc. degree level, year 4/5)
- Lecture (17 h) and supervised sessions (34 h), from 2008 till 2015
- Syllabus: Decision theory, information value, utility theory, zero-sum games and non-zero sum games, repetitive games, cooperative games

2008-2015
2015

More Teaching.

Pattern Recognition (year 5), Signal Processing (year 4/5), Statistics for Engineers (year 3)...

Refereed Journals and Book Chapters

— 2020 —

- [J1] Rosana El Jurdi, Caroline Petitjean, Paul Honeine, and Fahed Abdallah. **BB-UNet: U-Net with Bounding Box Prior**. *IEEE Journal of Selected Topics in Signal Processing*, 14(6):1189–1198, October 2020. [[doi](#)], [[Paper](#)].
- [J2] Thao Tran Thi Phuong, Ahlame Douzal, Saeed Varasteh Yazdi, Paul Honeine, and Patrick Gallinari. **Interpretable time series kernel analytics by pre-image estimation**. *Artificial Intelligence*, 286:103342, June 2020. [[doi](#)], [[Link](#)].
- [J3] Nour El-Mawass, Paul Honeine, and Laurent Vercouter. **SimilCatch: Enhanced social spammers detection on Twitter using Markov random fields**. *Information Processing and Management*, 57(6):102317, 2020. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J4] Daniel AlShamaa, Farah Chehade, Paul Honeine, and Aly Chkeir. **Fusion of multiple mobility and observation models for indoor zoning-based sensor tracking**. *IEEE Transactions on Aerospace and Electronic Systems*, 56(6):4315–4326, December 2020. [[doi](#)], [[Paper](#)].
- [J5] Yuan Liu, Stéphane Canu, Paul Honeine, and Su Ruan. **Incoherent dictionary learning via mixed-integer programming and hybrid augmented Lagrangian**. *Digital Signal Processing*, 101:102703, 2020. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J6] Daniel AlShamaa, Farah Chehade, Paul Honeine, and Aly Chkeir. **An evidential framework for localization of sensors in indoor environments**. *Sensors*, 20(1):318, January 2020. [[doi](#)], [[Paper](#)].

— 2019 —

- [J7] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Decentralized kernel-based localization in wireless sensor networks using belief functions**. *IEEE Sensors Journal*, 19(11):4149–4159, June 2019. [[doi](#)], [[Paper](#)].
- [J8] Yuan Liu, Stéphane Canu, Paul Honeine, and Su Ruan. **Mixed integer programming for sparse coding: Application to image denoising**. *IEEE Transactions on Computational Imaging*, 5(3):354–365, September 2019. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J9] P J Sudharshana, Caroline Petitjean, Fabio Spanhol, Luis Oliveira, Laurent Heutte, and Paul Honeine. **Multiple instance learning for histopathological breast cancer image classification**. *Expert Systems With Applications*, 117:103–111, March 2019. [[doi](#)], [[Paper](#)], [[Link](#)].

— 2018 —

- [J10] Chen Liangjun, Paul Honeine, Qu Hua, Zhao Jihong, and Sun Xia. **Correntropy-based robust multilayer extreme learning machines**. *Pattern Recognition*, 84:357 – 370, December 2018. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J11] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **A hierarchical classification method using belief functions**. *Signal Processing*, 148:68 – 77, July 2018. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J12] Patric Nader, Paul Honeine, and Pierre Beausery. **One-class classification framework based on shrinkage methods**. *Journal of Signal Processing Systems*, 90(3):341 – 356, March 2018. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J13] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Tracking of mobile sensors using belief functions in indoor wireless networks**. *IEEE Sensors Journal*, 18(1):310–319, January 2018. [[doi](#)], [[Link](#)].

— 2017 —

- [J14] Fei Zhu, Abderrahim Halimi, Paul Honeine, Badong Chen, and Nanning Zheng. **Correntropy maximization via admm - application to robust hyperspectral unmixing**. *IEEE Transactions on Geoscience and Remote Sensing*, 55(9):1–12, September 2017. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J15] Xi Liu, Badong Chen, Bin Xu, Zongze Wu, and Paul Honeine. **Maximum correntropy unscented filter**. *International Journal of Systems Science*, 48(8):1607–1615, 2017. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J16] Abderrahim Halimi, Gerald S. Buller, Steve McLaughlin, and Paul Honeine. **Denoising smooth signals using a bayesian approach: Application to altimetry**. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 10(4):1278 – 1289, April 2017. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J17] Fei Zhu and Paul Honeine. **Online kernel nonnegative matrix factorization**. *Signal Processing*, 131:143 – 153, February 2017. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].

- [J18] Abderrahim Halimi, Paul Honeine, and José Bioucas-Dias. **Hyperspectral unmixing in presence of endmember variability, nonlinearity or mismodelling effects.** *IEEE Transactions on Image Processing*, 25(10):4565 – 4579, October 2016. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J19] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Gas sources parameters estimation using machine learning in WSNs.** *IEEE sensors journal*, 16(14):5795 – 5804, July 2016. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J20] Fei Zhu and Paul Honeine. **Bi-objective nonnegative matrix factorization: Linear versus kernel-based models.** *IEEE Transactions on Geoscience and Remote Sensing*, 54(7):4012 – 4022, July 2016. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J21] Abderrahim Halimi, Paul Honeine, Malika Kharouf, Cédric Richard, and Jean-Yves Tourneret. **Estimating the intrinsic dimension of hyperspectral images using a noise-whitened eigengap approach.** *IEEE Transactions on Geoscience and Remote Sensing*, 54(7):3811 – 3821, July 2016. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [J22] Nisrine Ghadban, Paul Honeine, Farah Mourad-Chehade, Clovis Francis, and Joumana Farah. **In-network principal component analysis and diffusion strategies.** *International Journal of Wireless Information Networks*, 23(2):97 – 111, June 2016. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J23] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Non-parametric and semi-parametric RSSI/distance modeling for target tracking in wireless sensor networks.** *IEEE sensors journal*, 16(7):2115 – 2126, April 2016. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J24] Patric Nader, Paul Honeine, and Pierre Beuseroy. **The role of one-class classification in detecting cyberattacks in critical infrastructures.** In Christos G. Panayiotou, Georgios Ellinas, Elias Kyriakides, and Marios M. Polycarpou, editors, *Critical Information Infrastructures Security*, chapter 25, pages 244 – 255. Springer, February 2016. [[Paper](#)], [[Link](#)].
- [J25] Paul Honeine. **Entropy of overcomplete kernel dictionaries.** *Bulletin of Mathematical Sciences and Applications*, 16:1 – 19, August 2016. [[Paper](#)], [[Link](#)].

- [J26] Paul Honeine. **Analyzing sparse dictionaries for online learning with kernels.** *IEEE Transactions on Signal Processing*, 63(23):6343 – 6353, December 2015. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J27] Chafic Saidé, Régis Lengellé, Paul Honeine, Cédric Richard, and Roger Achkar. **Nonlinear adaptive filtering using kernel-based algorithms with dictionary adaptation.** *International Journal of Adaptive Control and Signal Processing*, 29(11):1391 – 1410, November 2015. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J28] Paul Honeine. **Approximation errors of online sparsification criteria.** *IEEE Transactions on Signal Processing*, 63(17):4700 – 4709, September 2015. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J29] José C. M. Bermudez, Paul Honeine, Jean-Yves Tourneret, and Cédric Richard. **Kernel-based nonlinear signal processing.** In Coelho, Nascimento, Queiroz, Romano, and Cavalcante, editors, *Signals and Images: Advances and Results in Speech, Estimation, Compression, Recognition, Filtering, and Processing*, chapter 2, pages 29 – 50. CRC Press, Taylor & Francis Group, August 2015. [[Paper](#)], [[Link](#)].
- [J30] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Kernel-based machine learning using radio-fingerprints for localization in WSNs.** *IEEE Transactions on Aerospace and Electronic Systems*, 51(2):1324 – 1336, April 2015. [[doi](#)], [[Paper](#)].
- [J31] Hichem Snoussi, Paul Honeine, and Cédric Richard. **Kernel variational approach for target tracking in a wireless sensor network.** In Jean-François Giovannelli and Jérôme Idier, editors, *Regularization and bayesian methods for inverse problems in signal and image processing*, Digital signal and image processing series, chapter 10, pages 251 – 265. Wiley-ISTE, February 2015. [[Link](#)].
- [J32] Tian Wang, Jie Chen, Paul Honeine, and Hichem Snoussi. **Abnormal event detection via multikernel learning for distributed camera networks.** *International Journal of Distributed Sensor Networks*, 2015(Article ID 989450):1–9, 2015. [[doi](#)], [[Paper](#)], [[Link](#)].

— 2014 —

- [J33] Patric Nader, Paul Honeine, and Pierre Beuseroy. **ℓ_p -norms in one-class classification for intrusion detection in scada systems.** *IEEE Transactions on Industrial Informatics*, 10(4):2308 – 2317, November 2014. [[doi](#)], [[Paper](#)].
- [J34] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Target tracking using machine learning and Kalman filter in wireless sensor networks.** *IEEE Sensors Journal*, 14(10):3715 – 3725, October 2014. [[doi](#)], [[Paper](#)].
- [J35] Jie Chen, Cédric Richard, José C. M. Bermudez, and Paul Honeine. **Variants of non-negative least-mean-square algorithm and convergence analysis.** *IEEE Transactions on Signal Processing*, 62(15):3990 – 4005, August 2014. [[doi](#)], [[Paper](#)], [[Code](#)].
- [J36] Zineb Noumir, Blaise Kévin Guépié, Lionel Fillatre, Paul Honeine, Igor Nikiforov, Hichem Snoussi, Cédric Richard, Pierre-Antoine Jarrige, and Francis Campan. **Detection of contamination in water distribution network.** In Philippe Gourbesville, Jean Cunge, and Guy Caignaert, editors, *Advances in Hydroinformatics*, Springer Hydrogeology, chapter 12, pages 141 – 151. Springer Singapore, 2014. [[doi](#)], [[Link](#)].
- [J37] Jie Chen, Cédric Richard, and Paul Honeine. **Nonlinear estimation of material abundances of hyperspectral images with ℓ_1 -norm spatial regularization.** *IEEE Transactions on Geoscience and Remote Sensing*, 52(5):2654 – 2665, May 2014. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].

— 2013 —

- [J38] Hichem Snoussi, Paul Honeine, and Cédric Richard. **Approche variationnelle à noyau pour le suivi de cibles dans un réseau de capteurs sans fil.** In Jean-François Giovannelli and Jérôme Idier, editors, *Méthodes d'inversion appliquées au traitement du signal et de l'image*, pages 273 – 288. Hermes, December 2013. [[Paper](#)].
- [J39] Maya Kallas, Paul Honeine, Clovis Francis, and Hassan Amoud. **Kernel autoregressive models using yule-walker equations.** *Signal Processing*, 93(11):3053 – 3061, November 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J40] Maya Kallas, Paul Honeine, Cédric Richard, Clovis Francis, and Hassan Amoud. **Non-negativity constraints on the pre-image for pattern recognition with kernel machines.** *Pattern Recognition*, 46(11):3066 – 3080, November 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J41] Farah Mourad-Chehade, Paul Honeine, and Hichem Snoussi. **Polar interval-based localization in mobile sensor networks.** *IEEE Transactions on Aerospace and Electronic Systems*, 49(4):2310 – 2322, October 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J42] Chafic Saidé, Régis Lengellé, Paul Honeine, and Roger Achkar. **Online kernel adaptive algorithms with dictionary adaptation for mimo models.** *IEEE Signal Processing Letters*, 20(5):535 – 538, May 2013. [[doi](#)], [[Paper](#)].
- [J43] Paul Honeine, Zineb Noumir, and Cédric Richard. **Multiclass classification machines with the complexity of a single binary classifier.** *Signal Processing*, 93(5):1013 – 1026, May 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J44] Paul Honeine, Cédric Richard, and Nguyen Hoang Nguyen. **Approches géométriques pour l'estimation des fractions d'abondance en traitement de données hyperspectrales. extensions aux modèles de mélange non linéaires.** *Traitement du signal*, 30(1-2):61 – 86, 2013. [[doi](#)], [[Paper](#)].
- [J45] Nguyen Hoang Nguyen, Jie Chen, Cédric Richard, Paul Honeine, and Céline Theys. **Supervised nonlinear unmixing of hyperspectral images using a pre-image method.** In *New Concepts in Imaging: Optical and Statistical Models*, In Eds. D. Mary, C. Theys, and C. Aime, volume 59 of *EAS Publications Series*, pages 417 – 437. EDP Sciences, 2013. [[doi](#)], [[Link](#)].
- [J46] Jie Chen, Cédric Richard, and Paul Honeine. **Nonlinear unmixing of hyperspectral data based on a linear-mixture/nonlinear-fluctuation model.** *IEEE Transactions on Signal Processing*, 61(2):480 – 492, January 2013. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].

— 2012 —

- [J47] Paul Honeine. **Online kernel principal component analysis: a reduced-order model.** *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 34(9):1814 – 1826, September 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J48] Paul Honeine and Cédric Richard. **Geometric unmixing of large hyperspectral images: a barycentric coordinate approach.** *IEEE Transactions on Geoscience and Remote Sensing*, 50(6):2185 – 2195, June 2012. [[doi](#)], [[Paper](#)].
- [J49] Pierre Borgnat, Patrick Flandrin, Cédric Richard, André Ferrari, Hassan Amoud, and Paul Honeine. **Time-frequency learning machines for nonstationarity detection using surrogates.** In *Advances in Machine Learning and Data Mining for Astronomy*, In Eds. M. Way, J. Scargle, K. Ali, and A. Srivastava, Data Mining and Knowledge Discovery series, chapter 22, pages 487 – 503. Chapman and Hall / CRC Press (Taylor and Francis), April 2012.

— 2011 —

- [J50] Paul Honeine and Cédric Richard. **A closed-form solution for the pre-image problem in kernel-based machines.** *Journal of Signal Processing Systems*, 65(3):289 – 299, December 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J51] Jie Chen, Cédric Richard, José C. M. Bermudez, and Paul Honeine. **Non-negative least-mean-square algorithm.** *IEEE Transactions on Signal Processing*, 59(11):5225 – 5235, November 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J52] Paul Honeine and Cédric Richard. **Preimage problem in kernel-based machine learning.** *IEEE Signal Processing Magazine*, 28(2):77 – 88, March 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J53] Patrick Flandrin, Cédric Richard, Pierre-Olivier Amblard, Pierre Borgnat, Paul Honeine, Hassan Amoud, André Ferrari, Jun Xiao, Azadeh Moghtaderi, and Pepa Ramirez-Cobo. **Stationnarité relative et approches connexes.** *Traitement du signal*, 28(6):691 – 716, 2011. [[doi](#)], [[Paper](#)].

— 2010 —

- [J54] Pierre Borgnat, Patrick Flandrin, Paul Honeine, Cédric Richard, and Jun Xiao. **Testing stationarity with surrogates: A time-frequency approach.** *IEEE Transactions on Signal Processing*, 58(7):3459 – 3470, July 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J55] Paul Honeine, Cédric Richard, Hichem Snoussi, José C. M. Bermudez, and Jie Chen. **A decentralized approach for non-linear prediction of time series data in sensor networks.** *Journal on Wireless Communications and Networking*, Special issue on theoretical and algorithmic foundations of wireless ad hoc and sensor networks:12:1 – 12:12, January 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [J56] Paul Honeine, Cédric Richard, and Patrick Flandrin. **Nonstationary signal analysis with time-frequency kernel machines.** In *Handbook of Research on Machine Learning Applications and Trends: Algorithms, Methods and Techniques*, In Eds E. Soria, J.D. Martín, R. Magdalena, M. Martínez, and A.J. Serrano, Information Science Reference, chapter 10, pages 223 – 241. IGI Global, 2010. [[Link](#)].

— 2009 —

- [J57] Cédric Richard, José C. M. Bermudez, and Paul Honeine. **Online prediction of time series data with kernels.** *IEEE Transactions on Signal Processing*, 57(3):1058 – 1067, March 2009. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].

— 2008 —

- [J58] Paul Honeine and Cédric Richard. **Distribution temps-fréquence à paramétrisation radialement gaussienne optimisée pour la classification.** *Traitement du signal*, 2008. (invited paper). [[Paper](#)], [[Link](#)].

— 2007 —

- [J59] Paul Honeine, Cédric Richard, and Patrick Flandrin. **Time-frequency learning machines.** *IEEE Transactions on Signal Processing*, 55(7):3930 – 3936, July 2007. [[doi](#)], [[Paper](#)], [[Link](#)].

Refereed Journals and Book Chapters

— 2021 —

- [C1] Linlin Jia, Benoit Gaüzère, and Paul Honeine. **A graph pre-image method based on graph edit distances.** In *Proceedings of the IAPR Joint International Workshops on Statistical Techniques in Pattern Recognition (SPR) and Structural and Syntactic Pattern Recognition (S+SSPR)*, Venice, Italy, 21 - 22 January 2021.
- [C2] Linlin Jia, Benoit Gaüzère, Florian Yger, and Paul Honeine. **A metric learning approach to graph edit costs for regression.** In *Proceedings of the IAPR Joint International Workshops on Statistical Techniques in Pattern Recognition (SPR) and Structural and Syntactic Pattern Recognition (S+SSPR)*, Venice, Italy, 21 - 22 January 2021.

- [C3] Rosana El Jurdi, Thomas Dargent, Caroline Petitjean, Paul Honeine, and Fahed Abdallah. **Investigating coordconv for fully and weakly supervised medical image segmentation.** In *Proceedings of the 10th International Conference on Image Processing Theory, Tools and Applications (IPTA)*, Paris, France, 9 - 12 November 2020.
- [C4] Muhammet Balcilar, Guillaume Renton, Pierre Héroux, Benoît Gaüzère, Sébastien Adam, and Paul Honeine. **When spectral domain meets spatial domain in graph neural networks.** In *Proceedings of Thirty-seventh International Conference on Machine Learning (ICML 2020) - Workshop on Graph Representation Learning and Beyond (GRL+ 2020)*, Vienna, Austria, 12 - 18 July 2020. [[Paper](#)], [[PresentationVideo](#)], [[Code](#)].
- [C5] Muhammet Balcilar, Guillaume Renton, Pierre Héroux, Benoît Gaüzère, Sébastien Adam, and Paul Honeine. **Spectral-designed depthwise separable graph neural networks.** In *Proceedings of Thirty-seventh International Conference on Machine Learning (ICML 2020) - Workshop on Graph Representation Learning and Beyond (GRL+ 2020)*, Vienna, Austria, 12 - 18 July 2020. [[Paper](#)], [[PresentationVideo](#)], [[Code](#)].
- [C6] Ahmed Rida Sekkat, Yohan Dupuis, Pascal Vasseur, and Paul Honeine. **A comparative study of semantic segmentation using omnidirectional images.** In *Actes du Congrès Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP 2020)*, Vannes, Bretagne, France, 23 - 26 June 2020.
- [C7] Ahmed Rida Sekkat, Yohan Dupuis, Pascal Vasseur, and Paul Honeine. **The OmniScape dataset.** In *International Conference on Robotics and Automation (ICRA)*, Paris, France, 31 May–4 June 2020. [[Paper](#)].
- [C8] Fei Zhu, Paul Honeine, and Jie Chen. **Pixel-wise linear/nonlinear nonnegative matrix factorization for unmixing of hyperspectral data.** In *Proc. 45th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Barcelona, Spain, 4 - 8 May 2020. [[Paper](#)].

- [C9] Silvère Konlambigue, Jean-Baptiste Pothin, Paul Honeine, and Abdelaziz Bensrhair. **Performance evaluation of state-of-the-art filtering criteria applied to SIFT features.** In *Proc. 19th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, Ajman, United Arab Emirates, 10 - 12 December 2019. [[Paper](#)].
- [C10] Ahmed Rida Sekkat, Yohan Dupuis, Pascal Vasseur, and Paul Honeine. **Génération d'images omnidirectionnelles à partir d'un environnement virtuel.** In *Actes du 27-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lille, France, 26 - 29 August 2019. [[Paper](#)].
- [C11] Rosana El Jurdi, Caroline Petitjean, Paul Honeine, and Fahed Abdallah. **Organ segmentation in CT images with weak annotations: A preliminary study.** In *Actes du 27-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lille, France, 26 - 29 August 2019. [[Paper](#)].
- [C12] Yuan Liu, Stéphane Canu, Paul Honeine, and Su Ruan. **Apprentissage de dictionnaire faiblement cohérent par programmation quadratique mixte.** In *Actes du 27-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lille, France, 26 - 29 August 2019. [[Paper](#)].
- [C13] Daniel AlShamaa, Aly Chkeir, Farah Chehade, and Paul Honeine. **A hidden markov model for indoor trajectory tracking of elderly people.** In *Proc. 14th IEEE Sensors Applications Symposium (SAS)*, Sophia Antipolis, France, 11 - 13 March 2019. [[Paper](#)].

- [C14] Yuan Liu, Stéphane Canu, Paul Honeine, and Su Ruan. **K-SVD with a real L0 optimization: application to image denoising.** In *Proc. 28th IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1 – 6, Aalborg, Denmark, 17 - 20 September 2018. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C15] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **The belief functions theory for sensors localization in indoor wireless networks.** In Sébastien Destercke, Thierry Denoeux, Fabio Cuzzolin, and Arnaud Martin, editors, *Proc. 5th International Conference on Belief Functions (BELIEF 2018): Belief Functions: Theory and Applications*, pages 10–13, Compiègne, France, 17 - 21 September 2018. Springer International Publishing. [[Paper](#)].
- [C16] Silvère Konlambigue, Jean-Baptiste Pothin, Paul Honeine, and Abdelaziz Bensrhair. **Fast and accurate gaussian pyramid construction by extended box filtering.** In *Proc. 25rd European Conference on Signal Processing (EUSIPCO)*, pages 400–404, Rome, Italy, 3 - 7 September 2018. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C17] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Decentralized sensor localization by decision fusion of rssi and mobility in indoor environments.** In *Proc. 25rd European Conference on Signal Processing (EUSIPCO)*, pages 2300–2304, Rome, Italy, 3 - 7 September 2018. [[doi](#)], [[Paper](#)], [[Link](#)].

- [C18] Nour El-Mawass, Paul Honeine, and Laurent Vercoeur. **Supervised classification of social spammers using a similarity-based markov random field approach**. In *Proc. the 5th multidisciplinary international social networks conference*, MISNC '18, pages 14:1 – 14:8, New York, NY, USA, 16 - 18 July 2018. ACM. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C19] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **A weighted kernel-based hierarchical classification method for zoning of sensors in indoor wireless networks**. In *Proc. 19th IEEE International Workshop on Signal Processing Advances in Wireless Communications*, Kalamata, Greece, 25 - 28 June 2018. [[doi](#)], [[Paper](#)].
- [C20] Paul Honeine, Samira Mouzoun, and Mario Eltabach. **Neighbor retrieval visualizer for monitoring lifting cranes**. In Alfonso Fernandez Del Rincon, Fernando Viadero Rueda, Fakhri Chaari, Radoslaw Zimroz, and Mohamed Haddar, editors, *Advances in Condition Monitoring of Machinery in Non-Stationary Operations: Proc. 6th International Conference on Condition Monitoring of Machinery in Non-stationary Operations*, Applied Condition Monitoring, Santander, Spain, 20 - 22 June 2018. Springer International Publishing. - Nominated for the price of best paper (Condition Monitoring Non-Stationary Operations) -. [[Paper](#)], [[Link](#)].
- [C21] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Mobility-based tracking using WiFi RSS in indoor wireless sensor networks**. In *Proc. 9th IFIP International Conference on New Technologies, Mobility and Security*, Paris, France, 26 - 28 February 2018. [[doi](#)], [[Paper](#)].
- [C22] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Localization of sensors in indoor wireless networks: An observation model using WiFi RSS**. In *Proc. 9th IFIP International Conference on New Technologies, Mobility and Security - Workshop on Wireless Sensor Networks: Architectures, Deployments, and Trends*, Paris, France, 26 - 28 February 2018. [[doi](#)], [[Paper](#)].
- 2017 —
- [C23] Yuan Liu, Stéphane Canu, Paul Honeine, and Su Ruan. **Une véritable approche ℓ_0 pour l'apprentissage de dictionnaire**. In *Actes du 26-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Juan-Les-Pins, France, 5 - 6 September 2017. [[Paper](#)].
- [C24] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Classification paramétrique multi-classes à croyance**. In *Actes du 26-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Juan-Les-Pins, France, 5 - 6 September 2017. [[Paper](#)].
- 2016 —
- [C25] Abderrahim Halimi, Gerald S. Buller, Steve McLaughlin, and Paul Honeine. **Filtering smooth altimetric signals using a bayesian algorithm**. In *Proc. 23rd European Conference on Signal Processing (EUSIPCO)*, pages 2385–2389, Budapest, Hungary, 29 August–2 September 2016. IEEE. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C26] Abderrahim Halimi, Paul Honeine, José Bioucas-Dias, Gerald S. Buller, and Steve McLaughlin. **Nonlinear hyperspectral unmixing accounting for spatial illumination variability**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS)*, Los Angeles, CA, United States, 21 - 24 August 2016. [[doi](#)], [[Paper](#)].
- [C27] Fei Zhu, Abderrahim Halimi, Paul Honeine, Badong Chen, and Nanning Zheng. **ADMM for maximum correntropy criterion**. In *Proc. 28th (INNS and IEEE-CIS) International Joint Conference on Neural Networks*, pages 1420–1427, Vancouver, Canada, 24 - 29 July 2016. [[doi](#)], [[Paper](#)].
- [C28] Daniel AlShamaa, Farah Chehade, and Paul Honeine. **Zoning-based localization in indoor sensor networks using belief functions theory**. In *Proc. 17th IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Edinburgh, UK, 3 - 6 July 2016. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C29] Abderrahim Halimi, Paul Honeine, and José Bioucas-Dias. **Robust hyperspectral unmixing accounting for residual components**. In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, Palma de Mallorca, Spain, 26 - 29 June 2016. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C30] Patric Nader, Paul Honeine, and Pierre Beausery. **Detection of cyberattacks in a water distribution system using machine learning techniques**. In *Proc. sixth International Conference on Digital Information Processing and Communications*, pages 25–30, Beirut, Lebanon, 21 - 23 April 2016. [[doi](#)], [[Paper](#)], [[Link](#)].

- [C31] Paul Honeine and Fei Zhu. **Eviter la malédiction de pré-image : application à la factorisation en matrices non négatives à noyaux**. In *Actes du 25-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lyon, France, September 2015. [Paper], [Code].
- [C32] Abderrahim Halimi, Paul Honeine, Malika Kharouf, Cédric Richard, and Jean-Yves Tournet. **Estimation de la dimension intrinsèque des images hyperspectrales à l'aide d'un modèle à variances isolées**. In *Actes du 25-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lyon, France, September 2015. [Paper].
- [C33] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Modèle semi-paramétrique rssi/distance pour le suivi d'une cible dans les réseaux de capteurs sans fil**. In *Actes du 25-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Lyon, France, September 2015. [Paper].
- [C34] Fei Zhu and Paul Honeine. **Online nonnegative matrix factorization based on kernel machines**. In *Proc. 23rd European Conference on Signal Processing (EUSIPCO)*, pages 2381 – 2385, Nice, France, 31 August–4 September 2015. [doi], [Paper], [Link].
- [C35] Patric Nader, Paul Honeine, and Pierre Beuseroy. **Shrinkage methods for one-class classification**. In *Proc. 23rd European Conference on Signal Processing (EUSIPCO)*, pages 135–139, Nice, France, 31 August–4 September 2015. [doi], [Paper].
- [C36] Nisrine Ghadban, Paul Honeine, Farah Mourad-Chehade, Joumana Farah, and Clovis Francis. **Gossip algorithms for principal component analysis in networks**. In *Proc. 23rd European Conference on Signal Processing (EUSIPCO)*, pages 2366–2370, Nice, France, 31 August–4 September 2015. [doi], [Paper], [Link].
- [C37] Abderrahim Halimi, Nicolas Dobigeon, Jean-Yves Tournet, Steve McLaughlin, and Paul Honeine. **Unmixing multitemporal hyperspectral images accounting for endmember variability**. In *Proc. 23rd European Conference on Signal Processing (EUSIPCO)*, pages 1656–1660, Nice, France, 31 August–4 September 2015. [doi], [Paper], [Link].
- [C38] Abderrahim Halimi, Nicolas Dobigeon, Jean-Yves Tournet, and Paul Honeine. **Hyperspectral unmixing accounting for spatial correlations and endmember variability**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, Tokyo, Japan, 2 - 5 June 2015. [doi], [Paper], [Link].
- [C39] Fei Zhu and Paul Honeine. **Pareto front of bi-objective kernel-based nonnegative matrix factorization**. In *Proc. 23rd European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN)*, pages 585 – 590, Bruges, Belgium, 22 - 24 April 2015. [Paper].
- [C40] Patric Nader, Paul Honeine, and Pierre Beuseroy. **Online one-class classification for intrusion detection based on the mahalanobis distance**. In *Proc. 23rd European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN)*, pages 567 – 572, Bruges, Belgium, 22 - 24 April 2015. [Paper].
- [C41] Abderrahim Halimi, Nicolas Dobigeon, Jean-Yves Tournet, and Paul Honeine. **A new Bayesian unmixing algorithm for hyperspectral images mitigating endmember variability**. In *Proc. 40th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2469 – 2473, Brisbane, Australia, 19 - 24 April 2015. [doi], [Paper], [Link].

- [C42] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Combining a physical model with a nonlinear fluctuation for signal propagation modeling in WSNs**. In *Proc. 11th IEEE/ACS International Conference on Computer Systems and Applications*, pages 413–419, Doha, Qatar, 10-13 November 2014. [doi], [Paper], [Link].
- [C43] Patric Nader, Paul Honeine, and Pierre Beuseroy. **The role of one-class classification in detecting cyberattacks in critical infrastructures**. In Christos G. Panayiotou, Georgios Ellinas, Elias Kyriakides, and Marios M. Polycarpou, editors, *Proc. 9th International Conference on Critical Information Infrastructures Security*, Limassol, Cyprus, 13 - 15 October 2014. Springer International Publishing. [Paper].
- [C44] Fei Zhu, Paul Honeine, and Maya Kallas. **Kernel non-negative matrix factorization without the pre-image problem**. In *Proc. 24th IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1 – 6, Reims, France, 21 - 24 September 2014. [doi], [Paper], [Link], [Code].
- [C45] Patric Nader, Paul Honeine, and Pierre Beuseroy. **Mahalanobis-based one-class classification**. In *Proc. 24th IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1 – 6, Reims, France, 21 - 24 September 2014. [doi], [Paper], [Link].
- [C46] Nisrine Ghadban, Paul Honeine, Farah Mourad-Chehade, Clovis Francis, and Joumana Farah. **Diffusion strategies for in-network principal component analysis**. In *Proc. 24th IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1 – 6, Reims, France, 21 - 24 September 2014. [doi], [Paper], [Link].

- [C47] Nisrine Ghadban, Paul Honeine, Clovis Francis, Farah Mourad-Chehade, and Joumana Farah. **Strategies for principal component analysis in wireless sensor networks**. In *Proc. eighth IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 233–236, A Coruna, Spain, 22 - 25 June 2014. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C48] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Ridge regression and Kalman filtering for target tracking in wireless sensor networks**. In *Proc. eighth IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 237–240, A Coruna, Spain, 22 - 25 June 2014. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C49] Rita Ammanouil, Jean Abou Melhem, Joumana Farah, and Paul Honeine. **Spectral partitioning and fusion techniques for hyperspectral data classification and unmixing**. In *Proc. 6th International Symposium on Communications, Control, and Signal Processing (ISCCSP)*, pages 550–553, Athens, Greece, 21 - 23 May 2014. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C50] Nisrine Ghadban, Paul Honeine, Farah Mourad-Chehade, Clovis Francis, and Joumana Farah. **Mobility using first and second derivatives for kernel-based regression in wireless sensor networks**. In *Proc. 21st International Conference on Systems, Signals and Image Processing*, pages 203–206, Dubrovnik, Croatia, 12 - 15 May 2014. [[Paper](#)], [[Link](#)].
- 2013 —
- [C51] Paul Honeine, Henri Lantéri, and Cédric Richard. **Constrained kaczmarz’s cyclic projections for unmixing hyperspectral data**. In *Proc. 21th European Conference on Signal Processing (EUSIPCO)*, pages 1–5, Marrakech, Morocco, 9 - 13 September 2013. [[Paper](#)], [[Link](#)].
- [C52] Patric Nader, Paul Honeine, and Pierre Beausery. **Intrusion detection in scada systems using one-class classification**. In *Proc. 21th European Conference on Signal Processing (EUSIPCO)*, pages 1–5, Marrakech, Morocco, 9 - 13 September 2013. [[Paper](#)], [[Link](#)].
- [C53] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Decentralized localization using fingerprinting and kernel methods in wireless sensor networks**. In *Proc. 21th European Conference on Signal Processing (EUSIPCO)*, pages 1–5, Marrakech, Morocco, 9 - 13 September 2013. [[Paper](#)], [[Link](#)].
- [C54] Jie Chen, Cédric Richard, José C. M. Bermudez, and Paul Honeine. **Non-stationary analysis of the convergence of the non-negative least-mean-square algorithm**. In *Proc. 21th European Conference on Signal Processing (EUSIPCO)*, pages 1–5, Marrakech, Morocco, 9 - 13 September 2013. [[Paper](#)], [[Link](#)].
- [C55] Nisrine Ghadban, Paul Honeine, Clovis Francis, Farah Mourad-Chehade, Joumana Farah, and Maya Kallas. **Mobilité d’un réseau de capteurs sans fil basée sur les méthodes à noyau**. In *Actes du 24-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Brest, France, September 2013. [[Paper](#)].
- [C56] Chafic Saïdé, Paul Honeine, Régis Lengellé, Cédric Richard, and Roger Achkar. **Adaptation en ligne d’un dictionnaire pour les méthodes à noyau**. In *Actes du 24-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Brest, France, September 2013. [[Paper](#)].
- [C57] Jie Chen, Cédric Richard, José C. M. Bermudez, and Paul Honeine. **Identification en ligne avec régularisation l1. algorithme et analyse de convergence en environnement non-stationnaire**. In *Actes du 24-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Brest, France, September 2013. [[Paper](#)].
- [C58] Paul Honeine and Henri Lantéri. **Constrained reflect-then-combine methods for unmixing hyperspectral data**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS)*, Gainesville, Florida, USA, 25 - 28 June 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C59] Jie Chen, Cédric Richard, and Paul Honeine. **Estimating abundance fractions of materials in hyperspectral images by fitting a post-nonlinear mixing model**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS)*, Gainesville, Florida, USA, 25 - 28 June 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C60] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Kernel-based localization using fingerprinting in wireless sensor networks**. In *Proc. 14th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 744 – 748, Darmstadt, Germany, 16 - 19 June 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C61] Jie Chen, Cédric Richard, André Ferrari, and Paul Honeine. **Nonlinear unmixing of hyperspectral data with partially linear least-squares support vector regression**. In *Proc. 38th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2174 – 2178, Vancouver, Canada, May 2013. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C62] Nisrine Ghadban, Paul Honeine, Clovis Francis, Farah Mourad-Chehade, Joumana Farah, and Maya Kallas. **Estimation locale d’un champ de diffusion par modèles à noyaux**. In *Actes de la 14-ème conférence ROADEF de la Société Française de Recherche Opérationnelle et Aide à la Décision*, Troyes, France, 13 - 15 February 2013. [[Paper](#)].
- [C63] Sandy Mahfouz, Farah Mourad-Chehade, Paul Honeine, Joumana Farah, and Hichem Snoussi. **Localisation par fingerprinting et méthodes à noyaux dans les réseaux de capteurs sans fil**. In *Actes de la 14-ème conférence ROADEF de la Société Française de Recherche Opérationnelle et Aide à la Décision*, Troyes, France, 13 - 15 February 2013. [[Paper](#)].

- [C64] Zineb Noumir, Paul Honeine, and Cédric Richard. **Kernels for time series of exponential decay/growth processes**. In *Proc. 22nd IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1–6, Santander, Spain, 23 - 26 September 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C65] Zineb Noumir, Paul Honeine, and Cédric Richard. **Online one-class machines based on the coherence criterion**. In *Proc. 20th European Conference on Signal Processing (EUSIPCO)*, pages 664 – 668, Bucharest, Romania, 27 - 31 August 2012. [[Paper](#)], [[Link](#)].
- [C66] Zineb Noumir, Paul Honeine, and Cédric Richard. **One-class machines based on the coherence criterion**. In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 600 – 603, Ann Arbor, Michigan, USA, 5 - 8 August 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C67] Chafic Saidé, Régis Lengellé, Paul Honeine, Cédric Richard, and Roger Achkar. **Dictionary adaptation for online prediction of time series data with kernels**. In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 604 – 607, Ann Arbor, Michigan, USA, 5 - 8 August 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C68] Zineb Noumir, Paul Honeine, and Cédric Richard. **On simple one-class classification methods**. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, pages 2022 – 2026, MIT, Cambridge (MA), USA, 1 - 6 July 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C69] Zineb Noumir, Blaise Kévin Guépié, Lionel Fillatre, Paul Honeine, Igor Nikiforov, Hichem Snoussi, Cédric Richard, Pierre-Antoine Jarrige, and Francis Campan. **Detection of contamination in water distribution network**. In *2nd International Conference SimHydro: New trends in simulation hydroinformatics and 3D modeling*, pages 1 – 8, Nice, France, 12-14 September 2012. [[doi](#)], [[Link](#)].
- [C70] Jie Chen, Cédric Richard, Paul Honeine, and Jean-Yves Tourneret. **Prediction of rain attenuation series based on discretized spectral model**. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pages 2407–2410, Munich, Germany, 22 - 27 July 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C71] Nguyen Hoang Nguyen, Cédric Richard, Paul Honeine, and Céline Theys. **Hyperspectral image unmixing using manifold learning: methods derivations and comparative tests**. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pages 3086 – 3089, Munich, Germany, 22 - 27 July 2012. IEEE. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C72] Stéphane Deveughèle, Huan Yin, Lionel Fillatre, Paul Honeine, Igor Nikiforov, Cédric Richard, Hichem Snoussi, Nourddine Azaoui, Blaise Kévin Guépié, and Zineb Noumir. **Vigires'eau**. In *Proc. 10th International Conference on Hydroinformatics*, Hamburg, Germany, 14-18 July 2012.
- [C73] Jie Chen, Cédric Richard, and Paul Honeine. **Nonlinear unmixing of hyperspectral images based on multi-kernel learning**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS)*, pages 1–4, Shanghai, China, 4 - 7 June 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C74] Farah Mourad-Chehade, Paul Honeine, and Hichem Snoussi. **Indoor localization using polar intervals in wireless sensor networks**. In *Proc. 19th International Conference on Telecommunications (ICT)*, pages 1 – 6, Jounieh, Lebanon, 23 - 25 April 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C75] Maya Kallas, Clovis Francis, Paul Honeine, Hassan Amoud, and Cédric Richard. **Modeling electrocardiogram using yule-walker equations and kernel machines**. In *Proc. 19th International Conference on Telecommunications (ICT)*, pages 1–5, Jounieh, Lebanon, 23 - 25 April 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C76] Maya Kallas, Clovis Francis, Lara Kanaan, Dalia Merheb, Paul Honeine, and Hassan Amoud. **Multi-class svm classification combined with kernel pca feature extraction of ecg signals**. In *Proc. 19th International Conference on Telecommunications (ICT)*, pages 1–5, Jounieh, Lebanon, 23 - 25 April 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C77] Maya Kallas, Paul Honeine, Cédric Richard, Clovis Francis, and Hassan Amoud. **Prediction of time series using yule-walker equations with kernels**. In *Proc. 37th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2185 – 2188, Kyoto, Japan, 25 - 30 March 2012. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C78] Pierre-Olivier Amblard, Olivier J.J. Michel, Cédric Richard, and Paul Honeine. **A gaussian process regression approach for testing granger causality between time series data**. In *Proc. 37th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3357 – 3360, Kyoto, Japan, 25 - 30 March 2012. [[doi](#)], [[Paper](#)], [[Link](#)].

- [C79] Jie Chen, Cédric Richard, and Paul Honeine. **A novel kernel-based nonlinear unmixing scheme of hyperspectral images.** In *Proc. 45th Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, pages 1898–1902, Pacific Grove (CA), USA, 6 - 9 November 2011. IEEE. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [C80] Jie Chen, Cédric Richard, José C. M. Bermudez, and Paul Honeine. **A modified non-negative lms algorithm and its stochastic behavior analysis.** In *Proc. 45th Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, pages 542–546, Pacific Grove (CA), USA, 6 - 9 November 2011. [[doi](#)], [[Paper](#)], [[Link](#)], [[Code](#)].
- [C81] Maya Kallas, Paul Honeine, Clovis Francis, and Hassan Amoud. **A comparative study of pre-image techniques: The kernel autoregressive case.** In *Proc. IEEE workshop on Signal Processing Systems (SiPS)*, pages 379 – 384, Beirut, Lebanon, 4 - 7 October 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C82] Lara Kanaan, Dalia Merheb, Maya Kallas, Clovis Francis, Hassan Amoud, and Paul Honeine. **Pca and kpca of ecg signals with binary svm classification.** In *Proc. IEEE workshop on Signal Processing Systems (SiPS)*, pages 344 – 348, Beirut, Lebanon, 4 - 7 October 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C83] Paul Honeine and Cédric Richard. **Approches géométriques pour l'estimation des fractions d'abondance en traitement de données hyperspectrales.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C84] Zineb Noumir, Paul Honeine, and Cédric Richard. **Classification multi-classes au prix d'un classifieur binaire.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C85] Maya Kallas, Paul Honeine, Cédric Richard, Clovis Francis, and Hassan Amoud. **Modèle autorégressif non-linéaire à noyau. une première approche.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C86] Maya Kallas, Paul Honeine, Hassan Amoud, and Clovis Francis. **Sur le problème de la pré-image en reconnaissance des formes avec contraintes de non-négativité.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C87] Jie Chen, Cédric Richard, and Paul Honeine. **Un nouveau paradigme pour le démixage non-linéaire des images hyperspectrales.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C88] Cédric Richard, Jie Chen, Paul Honeine, and José C. M. Bermudez. **Filtrage adaptatif avec contrainte de non-négativité. principes de l'algorithme nn-lms et modèle de convergence.** In *Actes du 23-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Bordeaux, France, September 2011. [[Paper](#)].
- [C89] Maya Kallas, Paul Honeine, Cédric Richard, Clovis Francis, and Hassan Amoud. **Non-negative pre-image in machine learning for pattern recognition.** In *Proc. 19th European Conference on Signal Processing (EUSIPCO)*, pages 931–935, Barcelona, Spain, 29 Aug. - 2 September 2011. [[Paper](#)], [[Link](#)].
- [C90] Jie Chen, Cédric Richard, Henri Lantéri, Céline Theys, and Paul Honeine. **Online system identification under non-negativity and ℓ_1 -norm constraints algorithm and weight behavior analysis.** In *Proc. 19th European Conference on Signal Processing (EUSIPCO)*, pages 1919–1923, Barcelona, Spain, 29 Aug. - 2 September 2011. [[Paper](#)], [[Link](#)].
- [C91] Maya Kallas, Paul Honeine, Cédric Richard, Clovis Francis, and Hassan Amoud. **Kernel-based autoregressive modeling with a pre-image technique.** In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 281 – 284, Nice, France, 28 - 30 June 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C92] Zineb Noumir, Paul Honeine, and Cédric Richard. **Multi-class least squares classification at binary-classification complexity.** In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 277 – 280, Nice, France, 28 - 30 June 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C93] Jie Chen, Cédric Richard, Henri Lantéri, Céline Theys, and Paul Honeine. **A gradient based method for fully constrained least-squares unmixing of hyperspectral images.** In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 301–304, Nice, France, 28 - 30 June 2011. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C94] Paul Honeine, Farah Mourad-Chehade, Maya Kallas, Hichem Snoussi, Hassan Amoud, and Clovis Francis. **Wireless sensor networks in biomedical: body area networks.** In *Proc. 7th International Workshop on Systems, Signal Processing and their Applications (WOSSPA)*, pages 388–391, Algeria, 09 - 11 May 2011. [[doi](#)], [[Paper](#)], [[Link](#)].

- [C95] Jie Chen, Cédric Richard, Paul Honeine, and José C. M. Bermudez. **Non-negative distributed regression for data inference in wireless sensor networks**. In *Proc. 44th Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, pages 451–455, Pacific Grove (CA), USA, 7 - 10 November 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C96] Maya Kallas, Paul Honeine, Cédric Richard, Hassan Amoud, and Clovis Francis. **Nonlinear feature extraction using kernel principal component analysis with non-negative pre-image**. In *Proc. 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, pages 3642–3645, Buenos Aires, Argentina, 31 Aug. - 4 September 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C97] Jie Chen, Cédric Richard, Paul Honeine, Henri Lantéri, and Céline Theys. **System identification under non-negativity constraints**. In *Proc. 18th European Conference on Signal Processing (EUSIPCO)*, pages 1728 – 1732, Aalborg, Denmark, 23 - 27 August 2010. [[Paper](#)], [[Link](#)].
- [C98] Paul Honeine and Cédric Richard. **A simple scheme for unmixing hyperspectral data based on the geometry of the n-dimensional simplex**. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, pages 2271–2274, Honolulu (Hawaii), USA, 25 - 30 July 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C99] Cédric Richard, Paul Honeine, Hichem Snoussi, André Ferrari, and Céline Theys. **Distributed learning with kernels in wireless sensor networks for physical phenomena modeling and tracking**. In *Proc. IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, Honolulu (Hawaii), USA, 25 - 30 July 2010. [[Paper](#)].
- [C100] Paul Honeine and Cédric Richard. **The angular kernel in machine learning for hyperspectral data classification**. In *Proc. IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS)*, pages 1–4, Reykjavik, Iceland, 14 - 16 June 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C101] Cédric Richard, André Ferrari, Hassan Amoud, Paul Honeine, Patrick Flandrin, and Pierre Borgnat. **Statistical hypothesis testing with time-frequency surrogates to check signal stationarity**. In *Proc. 35th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3666–3669, Dallas, Texas, 14 - 19 March 2010. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C102] Jie Chen, Cédric Richard, Paul Honeine, Hichem Snoussi, Henri Lantéri, and Céline Theys. **Techniques d'apprentissage non-linéaires en ligne avec contraintes de positivité**. In *Actes de la VI-ème Conférence Internationale Francophone d'Automatique (CIFA)*, Nancy, France, 2 - 4 June 2010. [[Paper](#)].

- [C103] Paul Honeine and Cédric Richard. **Solving the pre-image problem in kernel machines: a direct method**. In *Proc. 19th IEEE workshop on Machine Learning for Signal Processing (MLSP)*, pages 1–6, Grenoble, France, September 2009. - best paper award -. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C104] Hassan Amoud, Paul Honeine, Cédric Richard, Pierre Borgnat, and Patrick Flandrin. **Time-frequency learning machines for nonstationarity detection using surrogates**. In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 565–568, Cardiff (Wales), UK, 31 August–3 September 2009. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C105] Paul Honeine, Cédric Richard, José C. M. Bermudez, Hichem Snoussi, Mehdi Essoloh, and François Vincent. **Functional estimation in hilbert space for distributed learning in wireless sensor networks**. In *Proc. 34th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2861–2864, Taipei, Taiwan, April 2009. [[doi](#)], [[Paper](#)], [[Link](#)].
- [C106] Hassan Amoud, Cédric Richard, Paul Honeine, Patrick Flandrin, and Pierre Borgnat. **Sur la caractérisation de non-stationnarités par la méthode des substituts**. In *Actes du 22-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Dijon, France, September 2009. [[Paper](#)].
- [C107] Paul Honeine, Cédric Richard, and Hichem Snoussi. **Auto-localisation dans les réseaux de capteurs sans fil par régression de matrices de gram**. In *Actes du 22-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Dijon, France, September 2009. [[Paper](#)].
- [C108] Mehdi Essoloh, Paul Honeine, Cédric Richard, and Hichem Snoussi. **Apprentissage non-linéaire en ligne dans les réseaux de capteurs sans fil**. In *Actes du 22-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Dijon, France, September 2009. [[Paper](#)].

— 2008 —

- [C109] Paul Honeine, Cédric Richard, José C. M. Bermudez, and Hichem Snoussi. **Distributed prediction of time series data with kernels and adaptive filtering techniques in sensor networks**. In *Proc. 42nd Annual Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, pages 246–250, Pacific Grove, CA, USA, October 2008. invited paper. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).
- [C110] Mehdi Essoloh, Cédric Richard, Hichem Snoussi, and Paul Honeine. **Distributed localization in wireless sensor networks as a pre-image problem in a reproducing kernel hilbert space**. In *Proc. 16th European Conference on Signal Processing (EUSIPCO)*, pages 1–5, Lausanne, Switzerland, August 2008. [\[Paper\]](#), [\[Link\]](#).
- [C111] Paul Honeine, Mehdi Essoloh, Cédric Richard, and Hichem Snoussi. **Distributed regression in sensor networks with a reduced-order kernel model**. In *Proc. 51st IEEE GLOBECOM Global Communications Conference*, pages 1–5, New Orleans, LA, USA, 2008. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).
- [C112] Paul Honeine, Cédric Richard, Mehdi Essoloh, and Hichem Snoussi. **Localization in sensor networks - a matrix regression approach**. In *Proc. 5th IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 284–287, Darmstadt, Germany, July 2008. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).

— 2007 —

- [C113] Paul Honeine and Cédric Richard. **Signal-dependent time-frequency representations for classification using a radially gaussian kernel and the alignment criterion**. In *Proc. IEEE workshop on Statistical Signal Processing (SSP)*, pages 735 – 739, Madison, WI, USA, August 2007. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).
- [C114] Paul Honeine, Cédric Richard, and José C. M. Bermudez. **On-line nonlinear sparse approximation of functions**. In *Proc. IEEE International Symposium on Information Theory (ISIT)*, pages 956 – 960, Nice, France, June 2007. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).
- [C115] Paul Honeine, Cédric Richard, and José C. M. Bermudez. **Modélisation parcimonieuse non linéaire en ligne par une méthode à noyau reproduisant et un critère de cohérence**. In *Actes du XXI-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Troyes, France, September 2007. [\[Paper\]](#).
- [C116] Paul Honeine and Cédric Richard. **Distribution temps-fréquence à noyau radialement gaussien : optimisation pour la classification par le critère d'alignement noyau-cible**. In *Actes du XXI-ème Colloque GRETSI sur le Traitement du Signal et des Images*, Troyes, France, September 2007. [\[Paper\]](#).

— 2006 —

- [C117] Paul Honeine, Cédric Richard, Patrick Flandrin, and Jean-Baptiste Pothin. **Optimal selection of time-frequency representations for signal classification: A kernel-target alignment approach**. In *Proc. 31st IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Toulouse, France, May 2006. [\[doi\]](#), [\[Paper\]](#), [\[Link\]](#).

— 2005 —

- [C118] Paul Honeine, Cédric Richard, and Patrick Flandrin. **Reconnaissance des formes par méthodes à noyau dans le domaine temps-fréquence**. In *Actes du XX-ème Colloque GRETSI sur le Traitement du Signal et des Images*, pages 969 – 972, Louvain-la-Neuve, Belgium, 2005. [\[Paper\]](#).

Patent

- [P1] Hichem Snoussi, Cédric Richard, and Paul Honeine. **System and method for locating a target using a transceiver array (fr: Système et procédé de localisation de cible par un réseau d'émetteurs/récepteurs) (de: System und verfahren zur ortung eines ziels anhand einer sende-/empfangsanordnung)**. WO/2010/119230, EP2419754 (Europe 2012), US9285456 (USA granted in 2016), 2010. [\[Link\]](#).

Technical Reports

- [R1] Muhammet Balcilar, Guillaume Renton, Pierre Héroux, Benoît Gaüzère, Sébastien Adam, and Paul Honeine. **Bridging the Gap Between Spectral and Spatial Domains in Graph Neural Networks**. Technical report, HAL Normandie Université, March 2020. [[Paper](#)], [[Link](#)], [[Code](#)].
- [R2] Fei Zhu, Paul Honeine, and Maya Kallas. **Kernel nonnegative matrix factorization without the curse of the pre-image — application to unmixing hyperspectral images**. Technical report, ArXiv, March 2016. [[Paper](#)], [[Code](#)].
- [R3] Paul Honeine. **An eigenanalysis of data centering in machine learning**. Technical report, ArXiv, March 2016. [[Paper](#)], [[Link](#)].
- [R4] Fei Zhu, Paul Honeine, and Maya Kallas. **Kernel nonnegative matrix factorization without the curse of the pre-image**. Technical report, ArXiv, July 2014. [[Paper](#)], [[Code](#)].
- [R5] Paul Honeine. **Entropy of overcomplete kernel dictionaries**. Technical Report arXiv:1411.0161, ArXiv, November 2014. [[Paper](#)].
- [R6] Paul Honeine. *Contributions en traitement du signal par méthodes d'apprentissage à noyaux*. HDR, Habilitation à Diriger des Recherches, de l'Ecole Doctorale de l'Université de Technologie de Compiègne, France, December 2013. 164 pages. [[doi](#)], [[Paper](#)], [[Link](#)].
- [R7] Zineb Noumir, Paul Honeine, and Cédric Richard. **Adaptive least-squares one-class machines**. Technical Report UTT-ICD-2012-3-31, Université de technologie de Troyes, Troyes, France, March 2012. [[Link](#)].
- [R8] Paul Honeine. *Méthodes à noyau pour l'analyse et la décision en environnement non-stationnaire*. PhD thesis, mémoire de thèse de doctorat en Optimisation et Sécurité des Systèmes, Ecole doctoral SSTO - UTT, Troyes, France, December 2007. [[Paper](#)].
- [R9] Paul Honeine. **Théorie de l'information pour l'analyse du typage sonore de véhicules**. Master's thesis, mémoire de DEA, UTT (LM2S) – PSA Peugeot Citroen (centre DRIA/SARA/EMSA/PEFH), Troyes, France, 2003.