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**EDUCATIONAL BACKGROUND**

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1998-2001 **Phd in Computer Science and Signal Processing**, INRIA Rennes, University Rennes I  
1996-1997 MSc. in **Applied Math** (with honours) SUPAERO/Univ. Paul Sabatier  
1994-1997 SUPAERO engineer degree, option Signal and Image Processing

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**RESEARCH ACTIVITIES (publication list in annex)**

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2008- **Telecom Bretagne (Brest) – Signal and Communication Department**  
*Associate Professor*

*Research activities: object recognition, image segmentation, applications to remote sensing in marine environments*

*Coordination activities :*

- **FI2O: competitive grant (CREATE grant from Brittany council) [2005-2008]**  
Multidisciplinary project on **data processing and mining in large satellite-based ocean observation database**. **Principal Investigator** of the project (3 participants, grant: 200kE).  
*Participants: Telecom Bretagne, COSTEL-IRISA, Ifremer*

2002-2007 **Ifremer (Centre de Brest) - Fisheries Science and Technology Department**

*Full-time research position, in charge of signal processing activities*

*Themes: «biological archives» et «sonar remote sensing of marine ecosystems»*

*Main research activities:*

- **Otolith imaging** and computer-assisted **biological archive** calibration
- **Sonar imagery** calibration, denoising and segmentation
- Probabilistic inference for **fisheries acoustics**

*Coordination activities :*

- **OTOCAL : competitive national grant (ANR Jeune Chercheur) [2005-2008]**  
Multidisciplinary project on **fish otolith growth understanding and modelling**. **Principal Investigator** of the project (5 participants, grant: 200kE).  
*Participants: ENIB, LEMAR, IRD, Univ. Paris XI, Univ. Cath. Louvain, Univ. Maine*
- **ITIS : Project « pôle Mer »/FCE [2005-2007]**  
Scientific innovations for fisheries management (sonar remote sensing and fisheries technology). **Coordination of the response to the call** (8 participants, 2 ME). **Coordination of Ifremer team** (1ME).  
*Participants : ENSTB, IRD, IMP, IPSIS, iXtrawl, Le Drezen, Resiconcept*
- **AFISA : STREP project [2006-2007]**  
STREP project dedicated to automated fish age and growth estimation. **Principal Investigator** of the project (8 participants, 1.5 ME).  
*Participants : AZTI (Esp.), CEFAS (RU), DIFRES (Dk), IMR (Norv.), MRI (Isl.), UPC (Esp.)*

*Technological developments and expertise:*

- **Coordination** of the development of Ifremer **software TNPC** (otolith imaging).
- Quality control and quality assurance in fish age determination : Ifremer expert for otolith imaging and computer-related issues, participation to EU concerted action **TACADAR**

- 2001-2002 **Brown University** (RI, USA) – **Postdoc** with Prof. M. Black  
Themes : Analysis of complex dynamic scenes in image sequences. Methods : particle filtering, dynamic system, statistical modelling
- 1998-2001 **IRISA** (INRIA Rennes) – Phd in **VISTA** group (P. Bouthemy)  
Themes : **statistical motion modelling and recognition** ; application to motion-based **video indexing**  
Methods: image sequence analysis, statistical and Bayesian model, pattern recognition and classification, segmentation, content-based indexing.  
Collaborations: project on interactive video browsing with **INRIA Grenoble** and *the Hebr. Univ. of Jerusalem*, project on video structuring with **Univ. Aut. de Barcelone**
- 1997-1998 **French Navale Academy**: Research and Teaching Ass., Signal Processing Group (C. Collet)  
Themes: segmentation and tracking in IR image sequences  
Methods : Markov segmentation, parametric motion models

## TEACHING ACTIVITIES

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- 2008- **MSc courses in applied math., signal processing and communications** (Telecom Bretagne)  
**Supervisor of MSc. students and Phd Students**  
 Organization of **professional training sessions** on advanced signal processing
- 2002-2007 **Co-supervisor of several Phds** (collaborations with ENIB, Telecom Bretagne, IRISA et LEMAR)  
**Supervisor of MSc. students** (Telecom Bretagne, ENS Cachan, SUPAERO,...)  
**Organization and participation to professional training sessions on fish sclerochronology**  
 MSc. course on signal processing and sclerochronology (ENIB, IUEM) (10h/year)
- 1998-2001 **Teaching assistant** in computer vision, C++ programming (MSc. degrees, 50h, INSA, ENSAI, Univ. Rennes I)
- 1997-1998 **Teaching assistant** in image processing and automatics (MSc. degrees, 150h, French Naval Academy)

## LINGUISTIC AND COMPUTER SKILLS

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English	Fluent
German	Notions
Spanish	Notions

Computer skills **Software/languages C/C++, scripts UNIX, Matlab, Maple, Megawave**  
 OS : **Windows, Unix** (solaris), **Linux**  
 Misc. : HTML, LaTeX, Visilog, Suites Office et OpenOffice,...

## MISC.

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**Reviewing activities: Fisheries Research, ICES JMS, CJFAS, IEEE IP, PRL, ICIP conferences,...**  
**Prix « Hervé Troadec, 2004 »** de la meilleure communication en traitement du signal au « Int. Symp. on Otolith Research »  
**Prix AFRIF'02** de la meilleure communication en reconnaissance et interprétation des formes

## REFERENCES

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Patrick Bouthemy, Directeur de Recherche INRIA, [bouthemy@irisa.fr](mailto:bouthemy@irisa.fr)  
 Raymond Laë, Directeur de recherche IRD, [raymond.lae@ird.fr](mailto:raymond.lae@ird.fr)  
 Philippe Gros, Directeur de recherche Ifremer, [philippe.gros@ifremer.fr](mailto:philippe.gros@ifremer.fr)

# Annex : List of Publications

## Phd thesis

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- Modélisation statistique non paramétrique et reconnaissance du mouvement dans des séquences d'images ; application à l'indexation vidéo. R. Fablet. Thèse de l'Université de Rennes 1, mention Traitement du signal et télécommunication, Juillet 2001.

## Book chapter

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- P. Gros, **R. Fablet** and P. Bouthemy - New descriptors for image and video indexing. - *State-of-the-Art in Content-Based Image and Video Retrieval*, H. Burkhardt, H.-P. Kriegel et R. Veltkamp (eds.), Kluwer Academic Publishers, 2001.

## Publications in peer-reviewed journals

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- A1. **R. Fablet**, P. Bouthemy. Non-parametric scene analysis modelling for statistical retrieval with partial query - *Journal of Mathematical Imaging and Vision* - 14(3), 2001.
- A2. **R. Fablet**, P. Bouthemy, P. Perez. Non Parametric Motion Characterization using Temporal Gibbs Models for Content-Based Video Indexing and Retrieval. *IEEE Transactions on Image Processing*, 11(4):393-407, 2002.
- A3. **R. Fablet**, P. Bouthemy. Motion recognition using non parametric image motion models estimated from temporal and multiscale cooccurrence statistics. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 25(12):1619-1624, 2003.
- A4. **R. Fablet**, N. Le Josse. Automated fish age estimation from otolith images using statistical learning. *Fisheries Research*, 72(2-3): 279-290, 2005.
- A5. F. Cao, **R. Fablet**. Automatic morphological detection of otolith nucleus. *Pattern Recognition Letters*, 27(6): 656-666, 2006
- A6. **R. Fablet**. Semi-local extraction of ring structures in images of biological hard tissues: application to the Bayesian interpretation of fish otoliths for age and growth estimation. *Canadian Journal of Fisheries and Aquatic Science*, 63(7): 1414-1428, 2006.
- A7. **R. Fablet**. Statistical learning applied to computer-assisted fish age and growth estimation from otolith images. *Fisheries Research*, 81:219-228, 2006.
- A8. **R. Fablet**, F. Daverat, H. de Pontual. Unsupervised Bayesian reconstruction of individual life histories from otolith signatures: case study of Sr:Ca transects of eel (*Anguilla anguilla*) otoliths. *Canadian Journal of Fisheries and Aquatic Science*. 64:152-165, 2007.
- A9. N. Courbin, **R. Fablet**, C. Mellon, H. de Pontual. Are hake otolith macrostructures randomly deposited? Insights from an unsupervised statistical and quantitative approach applied to Mediterranean hake otoliths. *ICES Journal of Marine Science*. 64(6): 1191-1201, 2007.
- A10. A. Chessel, R. Fablet, F. Cao. Computer vision and otolith : toward a model of the morphogenesis of accretionary processes. *European series in applied and industrial mathematics - ESAIM*, 2008, 22, pp. 150-154.
- A11. I. Karoui, **R. Fablet**, J.M. Boucher, J.M. Augustin. Segmentation d'images sonar texturées par une approche variationnelle basée région. *Traitement du Signal*. 25(1-2), 73-85, 2008.
- A12. I. Karoui, R. Fablet, J.M. Boucher, J.M. Augustin. Similarity measure for the fusion of textural statistics: application to texture recognition and segmentation. *Pattern Analysis and Applications*, 11(3-4):425-434, 2008.
- A13. **R. Fablet**, S. Pujolle, A. Chessel, A. Benzinou, F. Cao. 2D Image-based reconstruction of shape deformation of biological structures using a level-set representation. *Comp. Vision and Image Understanding*, 111(3):295-306, 2008.
- A14. A. Jolivet, J.-F. Bardeau, **R. Fablet**, Y.-M. Paulet, H. de Pontual. Understanding otolith biomineralization process: new insights on microscale spatial distribution of organic and mineral fractions from Raman microspectrometry. *Analytical and Bioanalytical Chemistry*, 392(3), 551-560, 2008.
- A15. I. Karoui, **R. Fablet**, J.M. Boucher, J.M. Augustin. Seabed segmentation using optimized statistics of sonar textures. *IEEE Trans. on Geoscience and Remote Sensing*, 47(6):1621 - 1631, 2009.
- A16. **R. Fablet**, A. Chessel, S. Carbini, A. Benzinou, H. de Pontual. Reconstructing individual shape histories of fish otoliths: a new image-based tool for otolith growth analysis and modeling. *Fisheries Research*, 2009, 96(2-3):148-159.
- A17. S. Bourguignon, L. Berger, C. Scalabrin, **R. Fablet**, V. Mazauric. Methodological developments for improved bottom detection with the ME70 multibeam echosounder. *ICES Journal of Marine Science*. 66(6):1015-1022, 2009.
- A18. **R. Fablet**, R. Lefort, I. Karoui, L. Berger, J. Massé, C. Scalabrin, J.M. Boucher. Classifying fish schools and estimating their species proportions in fishery-acoustic surveys. *ICES Journal of Marine Science*. 66(6):1136-1142, 2009.
- A19. K. Nasreddine, A. benzinou, **R. Fablet**. Shape geodesics for the classification of calcified structures: beyond Fourier shape descriptors. *Fisheries Research*, 98(1-3):8-15, 2009.
- A20. J.-M. Fromentin, B. Ernande, **R. Fablet**, H. de Pontual. Importance and future of individual markers for the ecosystem approach to fisheries. *Aquatic living resources*, 2009.

- A21. V.M. Trenkel, L. Berger, S. Bourguignon, M. Doray, **R. Fablet**, J. Massé, V. Mazauric, C. Poncelet, G. Quemener, C. Scalabrin, H. Villalobos. Overview of recent progress in fisheries acoustics made by Ifremer with examples from the Bay of Biscay. *Aquatic Living Resources*, DOI: 10.1051/alr/2009027.
- A22. K. Nasreddine, A. benzinou, **R. Fablet**. Recalage de signaux et d'images: Application au décryptage d'archives biologiques marines. *Traitement du Signal*, à paraître.

### Submission to peer-reviewed journals

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- A23. I. Karoui, **R. Fablet**, J.M. Boucher, J.M. Augustin.. Variational region based segmentation using multiple texture statistics. Submitted.
- A24. R. Pyndiah, **R. Fablet**, A. Kabat, K. Amis, F. Guilloud. Wireless network coding using Block Turbo Codes. Submitted.
- A25. A. Jolivet, **R. Fablet**, Y.-M. Paulet, H. de Pontual. Effects of temperature and feeding conditions on growth and survival of European hake. Submitted.
- A26. R. Lefort1, **R. Fablet**, J.-M. Boucher. Weakly supervised learning based on proportion labelling. Application to Fisheries acoustic. Submitted.
- A27. K. Nasreddine, A. Benzinou, R. Fablet. Variational Shape Matching For Shape Classification and Retrieval. Submitted.
- A28. L. Pecquerie, **R. Fablet**, P. Petitgas, H. de Pontual, S. Bonhommeau, S.A.L.M.. Kooijman. Reconstructing individual food and growth histories from biogenic carbonates. Submitted.
- A29. L. Pecquerie, R.M. Nisbet, R. Fablet, A. Lorrain, S.A.L.M Kooijman. Dynamics of stable isotopes in the framework of the Dynamic Energy Budget (DEB) theory. Submitted.
- A30. H. de Pontual, A. Jolivet, M. Bertignac, **R. Fablet**. Diel vertical behaviour and horizontal movements of European hake revealed by archival tagging

### Communications dans actes des conférences internationales avec comité de lecture

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- C1. **R. Fablet** et P. Bouthemy – Motion characterization from temporal cooccurrences of local motion-based measures for video indexing. - *13<sup>th</sup> IAPR Int. Conf. on Pattern Recognition, ICPR'98*, August 1998, Brisbane.
- C2. **R. Fablet**, P. Rostaing et C. Collet - Motion segmentation and cloud tracking on noisy infrared image sequences. - SPIE Conf. on Visual Communications and Image Processing, VCIP'99, January 1999, San Jose.
- C3. **R. Fablet** et P. Bouthemy – Motion-based feature extraction and ascendant hierarchical classification for video indexing and retrieval. -4th Int. Conf. on Visual Information Systems, VISUAL'99, LNCS Vol. 1614, June 1999, Amsterdam.
- C4. **R. Fablet**, P. Bouthemy et M. Gelgon - Moving object detection in color image sequences using region-level graph labeling. - 6th Int. Conf. on Image Processing, ICIP'99, October 1999, Kobe.
- C5. **R. Fablet**, P. Bouthemy et P. Pérez –Statistical motion-based video indexing and retrieval. - 6ème conf. int. Sur la Recherche d'Information Assistée par Ordinateur, RIAO'2000, April 2000, Paris.
- C6. **R. Fablet** et P. Bouthemy – Statistical motion-based object indexing using optic flow fields. - 5th IAPR Int. Conf. on Pattern Recognition, ICPR'2000, September 2000, Barcelona.
- C7. **R. Fablet** et P. Bouthemy – Statistical motion-based retrieval with partial query. -4th Int. Conf. On Visual Information Systems, VISUAL'2000, LNCS Vol. 1929, November 2000, Lyon.
- C8. A. Benzougar, P. Bouthemy et **R. Fablet**. -MRF-based moving object detection from MPEG coded video. - IEEE Int. Conf. on Image Processing, 8th ICIP'2001, October 2001, Thessalonique.
- C9. **R. Fablet** et P. Bouthemy – Motion recognition using spatio-temporal Random Walks in Sequence of 2D Motion-Related Measurements. - 8th IEEE Int. Conf. on Image Processing, ICIP'2001, octobre 2001, Thessalonique.
- C10. **R. Fablet** et P. Bouthemy - Non parametric motion recognition using temporal multiscale Gibbs models - *IEEE Conf. Computer Vision and Pattern Recognition, CVPR'2001*, December 2001, Hawaii.
- C11. **R. Fablet**, M. Black Automatic detection and tracking of human motion with a view-based representation. LNCS 2350, 476-491, Proc. Eur. Conf. on Computer Vision, ECCV'2002, Copenhague, May 2002.
- C12. **R. Fablet**, P. Bouthemy Segmentation of regions of interest in images from non-parametric statistical modelling of motion activity. Proc. of 9th Int. Conf. on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU'2002, Annecy, July 2002.
- C13. **R. Fablet**, A. Benzinou, C. Doncarli. Robust time-frequency model estimation in otolith images for fish age and growth analysis. Proc. of 10th IEEE Int. Conf. on Image Processing, ICIP'2003, vol.3, pp593-596, Barcelona, September 2003.
- C14. F. Rousseau, **R. Fablet**, C. Barillot. Robust Statistical Registration of 3D Ultrasound Images Using Texture Information. Proc. of 10th IEEE Int. Conf. on Image Processing, ICIP'2003, vol.1, pp581-584, Barcelona, September 2003.
- C15. F. Cao, P. Bouthemy, **R. Fablet**. Automatic morphological detection of otolith nucleus. 17th Int. Conf. on Pattern Recognition, ICPR'2004, vol.4, pp606-609, Cambridge, UK, August 2004.
- C16. **R. Fablet**, N. Le Josse, A. Benzinou. Automatic fish ageing from otolith images using statistical learning. Proc. of 17th IAPR Int. Conf. on Pattern Recognition, ICPR'2004, vol.3, pp503-506, Cambridge, UK, August 2004.

- C17. I. Keraoui, J.-M. Boucher, **R. Fablet**, J.-M. Augustin. Multiscale segmentation of textured sonar images using cooccurrence statistics. Proc. of 11th IEEE Int. Conf. on Image Processing, ICIP'2004, vol.3, pp1691-1694, Singapore, October 2004.
- C18. I. Karoui, J.-M. Boucher, **R. Fablet**, J.-M. Augustin. Segmentation multi-échelle d'images sonar. 2nd Int. Symp. on Image and Video Communications over fixed and mobile networks, ISIVC'2004, July, Brest, France, 2006.
- C19. **R. Fablet**, J.-M. Augustin, A. Isar. Speckle denoising using a variational multi-wavelet approach. IEEE Conf. Oceans 2005, vol.1, pp539-544, Brest, June 2005.
- C20. I. Keraoui, J.M. Boucher, **R. Fablet**, J.-M. Augustin. Statistical discrimination of seabed textures in sonar images using cooccurrence statistics. IEEE Conf. Oceans 2005, vol.1, pp605-610, Brest, June 2005.
- C21. **R. Fablet**. Extraction and interpretation of ring structures in images of biological hard tissues: application to fish age and growth estimation. Proc. of 12th IEEE Int. Conf. on Image Processing, ICIP'2005, vol.3, pp830-833, Genoa, September 2005.
- C22. **R. Fablet**, J.-M. Augustin and A. Isar. Multi-wavelet variational image denoising. Proc. of 12th IEEE Int. Conf. on Image Processing, ICIP'2005, vol.3, pp305-308, Genoa, September 2005.
- C23. **R. Fablet**, J.-M. Augustin. Unsupervised calibrated sonar imaging for seabed observation using hidden Markov Random fields. Proc. of IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP'2006, vol.2, pp817-820, Toulouse, May 2006.
- C24. I. Karoui, **R. Fablet**, J.-M. Boucher, J.-M. Augustin. Region-based image segmentation using texture statistics and level-set methods. Proc. of IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP'2006, vol.1, pp693-696, Toulouse, May 2006.
- C25. I. Karoui, **R. Fablet**, J.-M. Boucher, J.-M. Augustin. Region-based and incidence angle dependent segmentation of seabed sonar images using a level-set approach combined to local texture statistics. IEEE Ocean Conf., OCEAN'06, Singapore, May 2006. [*2<sup>ème</sup> prix du meilleur papier d'étudiant de la conférence OCEAN'06*]
- C26. I. Karoui, **R. Fablet**, J.-M. Boucher, J.-M. Augustin. Separability-Based Kullback Divergence Weighting and Filter Selection for Texture Classification and Segmentation. 18th IAPR Int. Conf. on Pattern Recognition, ICPR'2006, Hong-Kong, August 2006.
- C27. A. Chessel, **R. Fablet**, F. Cao and C. Kervrann. Orientation Interpolation and Applications. Proc of 13th IEEE Int. Conf. on Image Processing, ICIP'2006, Atlanta, October 2006.
- C28. **R. Fablet**, S. Pujolle, A. Chessel, A. Benzinou, F. Cao. Variational level-set reconstruction of accretionary morphogenesis from images. Proc. of 13th IEEE Int. Conf. on Image Processing, ICIP'2006, Atlanta, October 2006.
- C29. A. Chessel, F. Cao, **R. Fablet**. Interpolation of orientation: an axiomatic approach. LNCS 3954, 241-254, Proc. European Conference on Computer Vision, ECCV'06, Graz, May 2006.
- C30. I. Karoui, **R. Fablet**, J.-M. Boucher, J.-M. Augustin. Segmentation de textures par une approche combinée contours actifs basés région et distributions de co-occurrence. 3rd Int. Symp. on Image and Video Communications over fixed and mobile networks, ISIVC'2006, September, Hammamet, Tunisia, 2006
- C31. I. Karoui, **R. Fablet**, J.-M. Boucher, J.-M. Augustin. Unsupervised region-based image segmentation using texture statistics and level-set methods. IEEE Int. Symp. on Intelligent Signal Processing, WISP'2007, Madrid, October 2007.
- C32. A. Chessel, **R. Fablet**, C. Kervrann, F. Cao. Otolith image by computer vision: extraction growth rings and recovering shape evolution of accretionary structures. Int. Conf. on Bio-Inspired Signal Processing Systems, Biosignal 2008, January 2008.
- C33. K. Nasrredine, A. Benzinou, **R. Fablet**. Non-rigid registration of fish otolith images. 8th IASTED Int. Conf. on Visualization, Imaging and Image Processing, VIIP'2008, Mallorca, September 2008.
- C34. K. Nasrredine, A. Benzinou, **R. Fablet**. Non-Rigid Registration Of Shape Sequence Images: Applications To Biological And Medical Images. 9th Int. Conf. on Signal Processing, ICSP'08, Beijing, October 2008.
- C35. I. Karoui, **R. Fablet**, J.-M. Boucher. Fast marching and acoustic descriptors based method for fish proportion interpolation. IEEE Conf. OCEANS'2008, Quebec, September 2008.
- C36. R. Lefort, **R. Fablet**, J.-M. Boucher, L. Berger, S. Bourguignon. Automatic fish school classification for acoustic sensing of marine ecosystem. IEEE Conf. OCEANS'2008, Quebec, September 2008.
- C37. **R. Fablet**, R. Lefort, C. Scalabrin, J. Massé, J.-M. Boucher. Weakly Supervised Learning Using Proportion-Based Information: An Application to Fisheries Acoustics. Int. Conf. on Pattern Recognition, ICPR'2008, Tampa, FL, December 2008.
- C38. R. Lefort, **R. Fablet**, J.-M. Boucher. Combining image-level and object-level inference for weakly supervised object recognition. Application to fisheries acoustics. Proc. 16th Int. Conf. on Image Processing, ICIP'2009, Cairo, Egypt, November 2009.
- C39. K. Nasrredine, A. Benzinou, **R. Fablet**. Shape Geodesics For Boundary-Based Object Recognition and Retrieval. Proc. 16th Int. Conf. on Image Processing, ICIP'2009, Cairo, Egypt, November 2009.
- C40. Z. Bouhroum, T. Chonavel, **R. Fablet**. Target tracking in the time-frequency domain for a driving aid application. 9th Int. Conf. on Intelligent Transport Systems Telecommunication, ITST'2009, Lille, France, October 2009.
- C41. H.-G. Nguyen, R. Fablet, J.-M. Boucher. Invariant descriptors of sonar textures from spatial statistics of local features. Proc. 35th Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP'2010, Dallas, March 2010.

- C42. R. Lefort, R. Fablet, J.-M. Boucher. Weakly supervised learning with decision trees applied to fisheries acoustics. Proc. 35th Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP'2010, Dallas, March 2010.

### **Communications in International Conferences**

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- C43. **R. Fablet**. Combining the extraction of partial 2D rings within otolith images and statistical growth modeling for the Bayesian estimation of fish age and growth. 3rd international symposium on fish otolith research and application, Townsville, Australia, July 2004.
- C44. **R. Fablet**, G. Foucault, F. Germain, H. Troadec. Automatic multiple acquisition of otolith images for routine aging 3rd international symposium on fish otolith research and application, Townsville, Australia, July 2004.
- C45. **R. Fablet**, N. Le Josse. Statistical learning applied to fish age and growth analysis. 3rd international symposium on fish otolith research and application, Townsville, Australia, July 2004. [*prix de la meilleure communication du symposium en traitement d'image*]
- C46. **R. Fablet**, F. Daverat, H. de Pontual. How to Decode Individual Fish Movements Archived by Fish Otoliths? A Bayesian Perspective. 1st Int. Sclerochronology Conf., San-Petersburg, FL, July 2007.
- C47. A. Jolivet, J.-F. Bardeau, H. de Pontual, **R. Fablet**. Characterization and Quantification of Organic and Mineral Contents of Fish Otoliths using Micro-Raman Spectrometry: Application to European Hake. 1st Int. Sclerochronology Conf., San-Petersburg, FL, July 2007.
- C48. H. de Pontual, A. Jolivet, **R. Fablet**, M. Bertignac, Diel rhythm in diving behaviour of European hake and associated thermal changes revealed by archival tagging. 2nd Int. Symp. on tagging and tracking marine fish with electronic devices, San Sebastian, Spain, October 2007.
- C49. **R. Fablet**, R. Lefort, P. Cauchy, C. Scalabrin, J. Massé, J.-M. Boucher. Probabilistic models for inferring species mixture from acoustic data in multi-specific environment. ICES Symp. on Ecosystem Approach with Fisheries Acoustics and Complementary technologies, SEAFACETS, June 2008.
- C50. L. Pecquerie, **R. Fablet**, A. Lorrain, E. Dufour, R. Nisbet, S.A.L.M. Kooijman. Modeling  $\delta^{13}C$  dynamics in soft tissues and calcified structures of aquatic organisms in the context of the Dynamic Energy Budget (DEB) theory. 6th Int. Conf. On Applications of Stable Isotope Techniques to Ecological Studies, IcoEcol VI, Honolulu, Hawaii, USA, August 2008..
- C51. **R. Fablet**, L. Pecquerie, H. Hoie, A. Jolivet, R. Millner, H. Mosegaard, S.A.L.M. Kooijman, H. de Pontual. A DEB-based framework for analyzing individual life traits recorded by fish otoliths. DEB. International Symposium, Brest, April 2009.
- C52. A. Jolivet, J.F. Bardeau, **R. Fablet**, H. de Pontual,. Understanding otolith biomineralization process: new insights on spatial distribution of organic and mineral fractions from Raman micro-spectrometry. International Otolith Symposium, Monterrey, Aug. 2009.
- C53. **R. Fablet**, L. Pecquerie, H. Hoie, A. Jolivet, R. Millner, H. Mosegaard, S.A.L.M. Kooijman, H. de Pontual. Can we model otolith growth and opacity patterns as a response to environmental factors and fish metabolism? A DEB-based framework. International Otolith Symposium, Monterrey, Aug. 2009.
- C54. L. Pecquerie, **R. Fablet**, A. Lorrain, E. Dufour, S.A.L.M. Kooijman. Dynamics of  $d^{13}C$  isotope ratio in fish otoliths and bivalve shells in the context of the Dynamic Energy Budget (DEB) Theory..International Otolith Symposium, Monterrey, Aug. 2009.
- C55. A. Lorrain, C. Poulain, L. Pecquerie, **R. Fablet**, Y.-M. Paulet, L. Chauvaud, D. Gillikin. Deepening our understanding of the  $\delta^{13}C$  black box in biogenic carbonates through a comparative analysis of bivalve shells and otoliths. 2009 Portland GSA Annual Meeting Portland, Oregon, October 2009.

### **Other communications**

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- C56. **R. Fablet**, P. Bouthemy et M. Gelgon - Étiquetage statistique d'un graphe de régions pour la détection d'objets mobiles dans des séquences d'images couleur. - Actes du 17ème colloque GretsI sur le Traitement du Signal et des Images, GRETSI'99, septembre 1999, Vannes
- C57. **R. Fablet** et P. Bouthemy -Extraction d'attributs de mouvement et classification hiérarchique pour l'indexation vidéo par le contenu. -*Actes des journées francophones des jeunes chercheurs en analyse d'images et perception visuelle, ORASIS'99*, Aussois, avril 1999.
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