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Citizenship: French Married Born 17-08-1976

POSITIONS

- Since 2008 **Research Associate, Department of Anthropology, The Pennsylvania State University** (NIH grants # R01 DE016886, R01 DE018500 and CDC 5R01 DD000350)
2007-2008 Postdoctoral Research Fellow, Radiology Department, Medical University Innsbruck, Austria (EU FP6 Marie Curie “*European Virtual Anthropology Network; EVAN*”, grant # MRTN-CT-2005-019564)
2005-2006 Postdoctoral Research Fellow, Department of Anthropology, University of Coimbra, Portugal (Foundation Fyssen Fellowship)

RESEARCH INTERESTS

Hominoid craniofacial and brain development; Evolution and speciation; Genotype-Phenotype; Morphological Integration; Symmetry and Asymmetry; Craniosynostosis; Geometric morphometrics & multivariate shape analysis.

EDUCATION

- 2001-2004 **PhD, Biological Anthropology, University Bordeaux 1, France**
Dissertation: *Chronology and etiology of macrostructural maturation of permanent teeth*
Committee: José Braga, Daniel Bley, Jaroslav Bruzek, Eugénia Cunha, Olivier Dutour, Anne-Marie Tillier
1999-2001 **MA, Biological Anthropology, University Bordeaux 1, France**
Thesis: *Size; measure and perception of a biological trait*
1995-1999 **BA, Biology of Organisms, University Bordeaux 1, France**

COMPLEMENTARY FORMATION

- Intensive Training Course “*Applying EVAN toolkit in virtual anthropology, medicine, industry*”, Hull & York Medical School, University of York, UK (Sep. 21-22 2009)
Intensive Training Course “*Growth, variation, and structure of the craniofacial complex in human evolution*”, Museo Nacional de Ciencias Naturales (CSIC), Madrid, Spain (May 28-30 2008)
Intensive Training Course “*Brain evolution, development and morphometrics*”, Unité de neuro-imagerie anatomo fonctionnelle, Commissariat à l’Energie Atomique, Paris, France (Mar. 15-16 2008)
Intensive Training Course “*R, Edgewarp and Amira®, three software packages to do Geometric Morphometrics*”, Department of Anthropology, University of Vienna, Austria (Nov. 12-14 2007)
Intensive Training Course “*Functional morphology and evolution of mammalian dentition*”, Senckenberg Forschungsinstitut und Naturmuseum, Palaeoanthropologie, Frankfurt am Main, Germany (Nov. 16-21 2007)
Intensive Training Course “*Rapid prototyping technology*”, Zumbobel-werkzeugbau, Dornbirn, Austria (Oct. 24-25 2007)
Intensive Training Course “*Techniques for quantification of growth and evolution of form*”, Université Paul Sabatier Toulouse III, France (Apr. 23-27 2007)
Intensive Training Course “*Medical imaging, processing and analysis; visualization and virtual environments in anthropology*”, Hull & York Medical School, University of York, UK (Jan.10-12 2007)

RESEARCH GRANTS & FELLOWSHIPS

- 2005-2006 Foundation Fyssen Postdoctoral Research Fellowship, Role: PI (€21,700)
2002-2005 Centre National de la Recherche Scientifique (CNRS) PhD Fellowship, Role: PI (€40,500)

PUBLICATIONS

- Heuzé Y**, Martínez-Abadías N, Stella JM, Arnaud E, Collet C, García Fructuoso G, Alamar M, Lo LJ, Boyadjiev SA, Di Rocco F, Richtsmeier JT. Quantification of craniofacial phenotypic variation in FGFR-related craniosynostosis syndromes. **Birth Defects Research Part A**. (*Accepted*)
- Heuzé Y**, Balzeau A. Asymmetry of the mid-facial skeleton of eastern lowland gorillas (*Gorilla beringei graueri*) and potential association with brain anatomical asymmetries. **J Hum Evol**. (*Accepted*)
- Di Rocco F, Biosse Duplan M, **Heuzé Y**, Kaci N, Komla-Ebri D, Munnich A, Mugniery E, Benoist-Lasselin C, Legeai-Mallet L. FGFR3 mutation causes abnormal membranous ossification in achondroplasia. **Hum Mol Genet**. (*Accepted*)
- Justice CM, Yagnik G, Kim Y, Peter I, Wang Jabs E, Erazo M, Ye X, Ainehsazan E, Shi L, Cunningham ML, Kimonis V, Roscioli T, Wall SA, Wilkie AOM, Stoler J, Richtsmeier JT, **Heuzé Y**, Sanchez-Lara PA, Buckley MF, Druschel CM, Mills JL, Caggana M, Romitti PA, Kay DM, Senders C, Taub PJ, Klein OD, Boggan J, Zwienerberg-Lee M, Naydenov C, Kim J, Wilson AF, Boyadjiev SA. A genome-wide association study identifies susceptibility loci for non-syndromic sagittal craniosynostosis near BMP2 and within BBS9. **Nat Genet** 44:1360-1364.
- Heuzé Y**, Martínez-Abadías N, Stella JM, Senders CW, Boyadjiev SA, Lo LJ, Richtsmeier JT. 2012. Unilateral and bilateral expression of a quantitative trait: asymmetry and symmetry in coronal craniosynostosis. **J Exp Zool B Mol Dev Evol** 318(2):109-122.
- Martínez-Abadías N, **Heuzé Y**, Wang Y, Wang Jabs E, Aldridge K, Richtsmeier JT. 2011. FGF/FGFR Signaling Coordinates Skull Development by Modulating Magnitude of Morphological Integration: Evidence from Apert Syndrome Mouse Models. **PLoS ONE** 6(10): e26425.
- Heuzé Y**, Boyadjiev SA, Marsh JL, Kane AA, Cherkez E, Boggan JE, Richtsmeier JT. 2010. New insights into the relationship between suture closure and craniofacial dysmorphology in sagittal nonsyndromic craniosynostosis. **J Anat** 217:85-96.
- Cardoso HFV, **Heuzé Y**, Júlio P. 2010. Secular change in the timing of dental root maturation in Portuguese boys and girls. **Am J Hum Biol** 22:791-800.
- Heuzé Y**, Cardoso HFV. 2008. Testing the quality of non-adult Bayesian dental age assessment methods to juvenile skeletal remains: the Lisbon collection children. **Am J Phys Anthropol** 135(3):275-283.
- Heuzé Y**, Braga J. 2008. Application of non-adult Bayesian dental age assessment methods to skeletal remains: the Spitalfields collection. **J Archaeol Sci** 35:368-375.
- Braga J, **Heuzé Y**. 2007. Quantifying Variation in Human Dental Developmental Sequences. An Evo-Devo Perspective. In Bailey S, Hublin JJ, editors. *Dental Perspectives on Human Evolution: State of the art Research in Dental Anthropology. Vertebrate Paleobiology and Paleoanthropology Series*. pp 247-262. Berlin: Springer.
- Braga J, **Heuzé Y**, Chabadel O, Sonan K, Gueramy A. 2005. Non-adult dental age assessment: Correspondence analysis and linear regression versus Bayesian prediction. **Int J Leg Med** 119:260-274.
- Heuzé Y**, Chabadel O, Braga J, Bley D. 2005. Socioeconomic effect on non-adult dental age assessment. **L'Orthodontie Française** 76(3):309-316.
- Heuzé Y**, Bley D, Bonnet D. 2003. La stature : mesure et perception d'un caractère biologique. **Anthropo**, 5, 1-8. (www.didac.ehu.es/anthropo)

Manuscripts in review

- Heuzé Y**, Singh N, Basilico B, Wang Jabs E, Holmes G, Richtsmeier JT. Morphological comparison of the craniofacial phenotypes of mouse models expressing the Apert FGFR2 S252W mutation either in neural crest- or mesoderm-derived tissues. **Bone**.

ABSTRACTS, PODIUM PRESENTATIONS & POSTERS

- Singh N, **Heuzé Y**, Flaherty K, Basilico C, Holmes G, Richtsmeier JT. 2014. The role of FGF/FGFR signaling in cranial integration: implications for primate evolution. *Am J Phys Anthropol* 153(S58).
- Heuzé Y**, Balzeau A. 2013. Pattern of facial and brain anatomical asymmetries in adult eastern lowland gorillas (*Gorilla beringei graueri*). *Am J Phys Anthropol* 150(S56):148.
- Heuzé Y**, Balzeau A. 2013. Asymmetry of the middle and lower facial skeleton of eastern lowland gorillas (*Gorilla beringei graueri*) and potential correlation with brain anatomical asymmetries. 1838th Annual Meeting Days of the Anthropological Society of Paris, Paris, France.
- Richtsmeier JT, Aldridge K, Motch SM, Martínez-Abadías N, Neuberger T, Ryan T, **Heuzé Y**, Wang Jabs E. 2013. Craniofacial phenotypes in the FGFR-related craniosynostosis syndromes. 12th International Congress on Cleft Lip/Palate and Related Craniofacial Anomalies, Lake Buena Vista, Florida
- Heuzé Y**, Singh N, Basilico C, Wang Jabs E, Richtsmeier JT, Holmes G. 2012. Phenotypic variation of the cranium of an Apert mouse model expressing the Fgfr2S252W mutation exclusively in neural crest. Annual meetings of the society of craniofacial genetics and developmental biology, San Francisco, CA.
- Heuzé Y**, Martínez-Abadías N, Stella JM, Di Rocco F, Collet C, García Fructuoso G, Alamar M, Lo LJ, Boyadjiev SA, Richtsmeier JT. 2012. Craniofacial phenotypic variation in craniosynostosis syndromes: the face makes the difference. *Am J Phys Anthropol* 147(S54).
- Richtsmeier JT, Martínez-Abadías N, **Heuzé Y**, Percival CJ, Motch SM, Wang Y, Jabs EW, Aldridge K, Ryan TM. 2012. Why the long face? Disease phenotypes as a window on evolutionary change. *Am J Phys Anthropol* 147(S54).
- Heuzé Y**, Martínez-Abadías N, Stella JM, Di Rocco F, Collet C, García Fructuoso G, Alamar M, Lo LJ, Boyadjiev SA, Richtsmeier JT. 2012. Is the craniofacial phenotype sufficient to characterize FGFR-related craniosynostosis syndromes? The society of craniofacial genetics and developmental biology. Abstracts of the 2011 annual meeting. *Am J Med Genet Part A* 158.
- Martínez-Abadías N, **Heuzé Y**, Wang Y, Motch S, Pankratz T, Stella JM, García Fructuoso G, Alamar M, Di Rocco F, Collet C, Lo LJ, Boyadjiev SA, Wang Jabs E, Richtsmeier JT. 2012. Phenotypic continuum in FGFR syndromic craniosynostosis? Evidence from human patients and mouse models. . The society of craniofacial genetics and developmental biology. Abstracts of the 2011 annual meeting. *Am J Med Genet Part A* 158.
- Ye X, Guilmatre A, Wang Jabs E, **Heuzé Y**, Richtsmeier JT, Fox DJ, Druschel CM, Goedken RJ, Romitti PA. 2012. Candidate gene analysis of nonsyndromic sagittal craniosynostosis. The society of craniofacial genetics and developmental biology. Abstracts of the 2011 annual meeting. *Am J Med Genet Part A* 158.
- Heuzé Y**, Martínez-Abadías N, Stella JM, Boyadjiev SA, Richtsmeier JT. 2011. Do left and right unilateral coronal craniosynostoses result from the same biological processes? In: Sperber GH, editor. The society of craniofacial genetics. Abstracts of the 2010 annual meeting. *Am J Med Genet Part A* 155:282.
- Heuzé Y**, Martínez-Abadías N, Stella JM, Boyadjiev SA, Richtsmeier JT. 2011. Suture closure pattern and skull shape in coronal nonsyndromic craniosynostosis. 68th Annual Meeting of the American Cleft Palate-Craniofacial Association, San Juan, Puerto Rico.
- Heuzé Y**, Martínez-Abadías N, Richtsmeier JT. 2011. Morphological integration and modularity of the skull: lessons from craniosynostosis. 1836th Annual Meeting Days of the Anthropological Society of Paris, Paris, France.
- Sol K, GioanE, Subsoll G, **Heuzé Y**, Richtsmeier JT, Braga J, Thackeray F. 2011. A new 3D morphometric method based on a combinatorial encoding of 3D point configurations: application to skull anatomy for clinical research and physical anthropology. *Am J Phys Anthropol* 144(S52):280.
- Heuzé Y**, Boyadjiev SA, Richtsmeier JT. 2010. The premature closure of the sagittal suture and its consequences on the human skull shape: new findings and hypothesis. *Am J Phys Anthropol* 141(S50):127.
- Aldridge K, **Heuzé Y**, Percival C, Stella J, Howell LG, George I, Marsh J, Kane A, Ryan TM, Richtsmeier JT. 2010. The relationship between hard and soft tissue: lessons for reconstructing virtual endocasts. *Am J Phys Anthropol* 141(S50):53.
- Heuzé Y**. 2009. Sex and size effect on human neurocranium shape. *Am J Phys Anthropol* 138(S48):149.

- Heuzé Y**, Marreiros F, Verius M, Eder R, Huttary R, Recheis W. 2008. The use of Procrustes average shape in the design of custom implant surface for large skull defects. *Int J CARS* 3(Suppl 1):S283-S284.
- Heuzé Y**, Marreiros F, Verius M, Eder R, Recheis W. 2008. Design of custom implants for large skull defects by means of geometric morphometrics. European Congress of Radiology, Vienna, Austria.
- Coquerelle M, Bayle P, **Heuzé Y**, Mazurier A, Braga J. 2008. Évaluation du degré de développement dentaire d'un individu. Adaptabilité de systèmes de codage radiographique des stades de minéralisation à la (micro)tomographie ? 1833^e journées scientifiques de la Société d'Anthropologie de Paris, Marseille, France.
- Heuzé Y**. 2007. Quantification of skeletal growth. The specific demands of forensic practise; the example of dental age. EVAN Workshop: Techniques for quantification of growth and evolution of form. Université Paul Sabatier Toulouse III, France.
- Heuzé Y**. 2006. Are population-specific standards needed to improve quality in dental age estimation of subadults? 2006 Canadian Association for Physical Anthropology Congress, Peterborough, Ontario, Canada.
- Heuzé Y**, Roux H, Braga J. 2006. Diagnosis help: presentation of two tools from Anthropobiology. 7th Meeting of the SFODF, Bruxelles, Belgium.
- Braga J, Treil J, **Heuzé Y**. 2006. Le point de vue de l'anthropologue concernant les variabilités intra- et inter-individuelles. *J Radiol* 87 :1391-1392.
- Heuzé Y**, Braga J, Houët F. 2005. Modularité des séquences de minéralisation dentaire : une nouvelle approche ontogénique et phylogénique. XXVII^e colloque du Groupement des Anthropologues de Langue Française, Toulouse, France.
- Heuzé Y**, Braga J, Chabadel O. 2005. L'utilisation de référentiels géographiquement spécifiques augmente-t-elle systématiquement la qualité d'une estimation d'âge dentaire ? XXVII^e colloque du Groupement des Anthropologues de Langue Française, Toulouse, France.
- Heuzé Y**, Braga J, Chabadel O. 2005. Estimation de l'âge dentaire : interrogations d'ordre méthodologiques. XXVII^e colloque du Groupement des Anthropologues de Langue Française, Toulouse, France.
- Treil J, Braga J, **Heuzé Y**. 2005. Imagerie nouvelle des hommes du passé. *J Radiol* 86:1453.
- Treil J, Braga J, **Heuzé Y**. 2005. Autopsie virtuelle: mythe et réalité. Imagerie nouvelle des hommes du passé. Journées Françaises de Radiologie (Société Française de Radiologie et Société Française de Médecine Légale et de Criminologie), Paris, France.
- Heuzé Y**, Chabadel O, Braga J, Bley D. 2004. Impact of biological and socioeconomic factors on dental age assesment in non-adults. X International Congress of Auxology, Firenze, Italy.
- Heuzé Y**, Chabadel O, Braga J, Bley D. 2004. Impact du niveau socioéconomique sur l'estimation de l'âge dentaire des non-adultes. 1829^e réunion de la Société d'Anthropologie de Paris, Paris, France.
- Braga J, **Heuzé Y**, Chabadel O, Houët F. 2004. Les séquences de minéralisation dentaire en anthropobiologie et en médecine. Réunion UFR Biologie, Université Bordeaux 1, Arcachon, France.
- Heuzé Y**, Braga J. 2003. Apports d'un questionnaire à l'étude du développement dentaire d'enfants vivant en France. 7^e journées de l'Orthodontie, Paris, France.
- Heuzé Y**, Bley D, Bonnet D. 2001. La stature : mesure et perception d'un caractère biologique. XXV^e colloque du Groupement des Anthropologues de Langue Française, Marseille, France.

TEACHING

- 2009 *Systematics and Evolution of Fishes: Ichthyology*, Penn State University, School of Forest Resources, Guest Lecturer
- 2006 *Biological Anthropology: Career development*, University of Coimbra, Portugal, Dpt. of Anthropology, Guest Lecturer
- 2006 *Non-adult dental age estimation methods*, Medical University of Lisbon, College of Dentistry, Portugal, Guest Lecturer
- 2006 *Dental macrostructural maturation*, Professional organization of the Orthodontists of Toulouse, France, Guest Lecturer
- 2004, 2005 *Human development: Biological Anthropology*, University Bordeaux 1, France, Guest Lecturer
- 2002 *Biology and Organic Chemistry: Biology of Organisms*, University Bordeaux 1, France, Teaching Assistant

PROFESSIONAL SERVICE

Peer Review: American Journal of Physical Anthropology, Journal of Anatomy
Third EVAN Fellows Workshop, Medical University Innsbruck (2008), Organizer

PROFESSIONAL AFFILIATIONS

2010-present Society of Craniofacial Genetics and Developmental Biology
2010-present Société d'Anthropologie de Paris

FIELDWORK EXPERIENCE

2004, 2005 Les Pradelles, France – Middle Paleolithic site, Neandertalian occupation. Dr. B.
Maureille, PACEA UMR 5199 CNRS, University Bordeaux 1