Brice Ozenne

Nationality	:	french
Date of birth	:	February 8, 1990
Personal email	:	brice.mh.ozenne@gmail.com
Personal phone number	:	(+45) 52 328 128
Personal address	:	Nordre Teglkaj 18, 5 t.h., 2450 Copenhagen SV, Denmark

CURRENT POSITION

November 2015- Now: **Postdoctoral researcher** (website)

Section of Biostatistics, University of Copenhagen
Øster Farimagsgade 5, 1014 Copenhague, Danemark

Neurobiology Research Unit
Copenhagen University Hospital, Rigshospitalet
Building 6931, Blegdamsvej 9, DK-2100 Copenhagen, Denmark

My research work is organized around three topics:

- the development of **latent variable models** for the analysis of complex data (software `lavaSearch2`). I apply these developments on neuroimaging data and data from psychological tests to investigate the relationship between the brain response and depression.

- the analysis of registry data with **time to events outcomes** and **competing risks** (software `riskRegression`). My developments have, for instance, been applied to compare preventive stroke treatments using the danish registry data.

- the development of **generalized pairwise comparisons** to handle multiple and heterogenous outcomes (software `BuyseTest`). A typical application is the assessment of new chemotherapy where being able to balance the benefit (longer in survival time) and the risk (treatment side effects) in an interpretable way is important.

SKILLS

Language

French (native language), english (fluent), basics in italian and danish.

Software

Good knowledge of **R**, LaTeX and orgmode.

Basic knowledge but common use of C++, lisp (for GNU Emacs) and git/github (via magit).

EDUCATION

2012 - 2015 : Ph.D. in biostatistics, University Lyon 1, Lyon, France.
Thesis Title: Statistical modelling for the prognosis of stroke patients.
Advisor: Pr. Delphine Maucort-Boulch and Pr. Norbert Nighoghossian

2011 - 2012 : Master's degree in biostatistics (M2 B3S), University lyon, Lyon, France.
Carried out in double degree with the École Centrale de Lyon.

2009 - 2012 : Engineering diploma from the École Centrale de Lyon, Lyon, France.
Erasmus at Politecnico di Milano (2nd semester 2011).

GRANTS

2017-2019: MARIE CURIE Individual Fellowships (200 000€)
2017-2020: Lundbeck Fellowships (140 000€)

SCIENTIFIC OUTPUT

Publications (methodological)

Published:

1. **Brice Ozenne**, Thomas Harder Scheike, Laila Stærk, and Thomas Alexander Gerds. On the estimation of average treatment effects with right censored time to event outcome and competing risks. *Biometrical journal*, 2019b. URL `https://arxiv.org/abs/1907.12912`

2. Martin Nørgaard, **Brice Ozenne**, Claus Svarer, Stephen C. Strother, Vibe G. Frokjaer, Gitte M. Knudsen, and Melanie Ganz. Preprocessing, prediction and significance: Framework and application to brain imaging. *Information Processing in Medical Imaging (IPMI) conference 2019*, 2019. URL `https://link.springer.com/chapter/10.1007/978-3-030-32251-9_22`

3. **Brice Ozenne**, Anne Lyngholm Sørensen, Thomas Scheike, Christian Torp-Pedersen, and Thomas Alexander Gerds. riskregression: Predicting the risk of an event using cox regression models. *R Journal*, 9(2):440–460, 2017. URL `https://journal.r-project.org/archive/2017/RJ-2017-062/index.html`

4. Julien Péron, Marc Buyse, **Brice Ozenne**, Laurent Roche, and Pascal Roy. An extension of generalized pairwise comparisons for prioritized outcomes in the presence of censoring.

Statistical methods in medical research, 27(4):1230–1239, 2016a. URL
https://doi.org/10.1177%2F0962280216658320

5. **Brice Ozenne**, Fabien Subtil, and Delphine Maucort-Boulch. The precision–recall curve overcame the optimism of the receiver operating characteristic curve in rare diseases. *Journal of clinical epidemiology*, 68(8):855–859, 2015b. URL
https://doi.org/10.1016%2Fj.jclinepi.2015.02.010

6. **Brice Ozenne**, Fabien Subtil, Leif Østergaard, and Delphine Maucort-Boulch. Spatially regularized mixture model for lesion segmentation with application to stroke patients. *Biostatistics*, 16(3):580–595, 2015c. URL
https://doi.org/10.1093%2Fbiostatistics%2Fkxv004

In revision:

1. Johan Verbeeck, **Brice Ozenne**, and William N. Anderson. Evaluation of inferential methods for the net benefit and win ratio statistics. *Journal of Biopharmaceutical Statistics*

2. **Brice Ozenne**, Patrick Fisher, and Esben Budtz-Jørgensen. Small sample maximum likelihood inference in latent variable models. *JRSS-C*, b

3. **Brice Ozenne**, Sebastian Elgaard Ebert, and Esben Budtz-Jørgensen. Controlling the familywise error when performing multiple comparisons in a linear latent variable model. *Psychometrika*, a

Submitted:

1. Julien Péron, Maryam Idlhaj, Marc Buyse, Joris Giai, Pascal Roy, Laurence Collette, Delphine Maucort-Boulch, and **Brice Ozenne**. An unbiased estimation of the net survival benefit in the presence of censored observations. *Statistics in Medicine*

2. Eva Cantagallo, Mickaël De Backer, Michal Kicinski, Laurence **Brice Ozenne** Collette, Catherine Legrand, Marc Buyse, and Julien Péron. A new measure of treatment effect in clinical trials involving competing risks based on generalized pairwise comparisons. *Biometrical Journal*

Software development (package for the R software)

- **BuyseTest** (author and maintainer): generalized pairwise comparisons. Implementation of the extension described in [Péron et al., 2016a, Péron et al.]. Available on CRAN and on Github.

- **lavaSearch2** (author and maintainer): Inference and diagnostic tools for latent variable models. Methodology described in [**Brice Ozenne** et al., b] and [**Brice Ozenne** et al., a]. Available on CRAN and on Github. .

- **riskRegression** (contributor): computation of absolute risks and average treatment effects. Methodology described in [**Brice Ozenne** et al., 2017] and [**Brice Ozenne** et al., 2019b]. Available on CRAN and on Github.

Publications (clinical applications)

Published:

1. Vincent Beliveau, **Brice Ozenne**, Stephen Strother, Douglas N Greve, Claus Svarer, Gitte Moos Knudsen, and Melanie Ganz. The structure of the serotonin system: a pet imaging study. *NeuroImage*, 205:116240, 2020. URL https://www.sciencedirect.com/science/article/pii/S1053811919308316

2. **Brice Ozenne**, Tae-Hee Cho, Irene Klærke Mikkelsen, Marc Hermier, Götz Thomalla, Salvador Pedraza, Pascal Roy, Yves Berthezène, Norbert Nighoghossian, Leif Østergaard, et al. Individualized quantification of the benefit from reperfusion therapy using stroke predictive models. *European Journal of Neuroscience*, 2019a. URL https://onlinelibrary.wiley.com/doi/full/10.1111/ejn.14505

3. Sebastian Elgaard Ebert, Per Jensen, **Brice Ozenne**, Sophia Armand, Claus Svarer, Dea Siggaard Stenbaek, Kirsten Moeller, Agnete Dyssegaard, Gerda Thomsen, Jacob Steinmetz, et al. Molecular imaging of neuroinflammation in patients after mild traumatic brain injury: a longitudinal 123i-clinde single photon emission computed tomography study. *European journal of neurology*, 2019. URL https://onlinelibrary.wiley.com/doi/full/10.1111/ene.13971

4. Martin K Madsen, Patrick M Fisher, Daniel Burmester, Agnete Dyssegaard, Dea S Stenbæk, Sara Kristiansen, Sys S Johansen, Sczabolz Lehel, Kristian Linnet, Claus Svarer, **Brice Ozenne**, and Gitte Moos Knudsen. Psychedelic effects of psilocybin correlate with serotonin 2a receptor occupancy and plasma psilocin levels. *Neuropsychopharmacology*, page 1, 2019. URL https://www.nature.com/articles/s41386-019-0324-9

5. Julien Péron, Alexandre Lambert, Stephane Munier, **Brice Ozenne**, Joris Giai, Pascal Roy, Stéphane Dalle, Abigirl Machingura, Delphine Maucort-Boulch, and Marc Buyse. Assessing long-term survival benefits of immune checkpoint inhibitors using the net survival benefit. *JNCI: Journal of the National Cancer Institute*, 2019. URL https://academic.oup.com/jnci/article/111/11/1186/5369916

6. Ceren Tozlu, **Brice Ozenne**, Tae-Hee Cho, Norbert Nighoghossian, Irene Klaerke Mikkelsen, Laurent Derex, Marc Hermier, Salvador Pedraza, Jens Fiehler, Leif Ostergaard, et al. Comparison of classification methods for tissue outcome after ischemic stroke. *Eur J Neurosci.*, 50(10):3590–3598, 2019. URL https://onlinelibrary.wiley.com/doi/full/10.1111/ejn.14507

7. Cheng-Teng Ip, Melanie Ganz, **Brice Ozenne**, Lasse B Sluth, Mikkel Gram, Geoffrey Viardot, Philippe l'Hostis, Philippe Danjou, Gitte M Knudsen, and Søren R Christensen. Pre-intervention test-retest reliability of EEG and ERP over four recording intervals. *International Journal of Psychophysiology*, 134:30–43, 2018. URL https://doi.org/10.1016/j.ijpsycho.2018.09.007

8. Camilla Borgsted, **Brice Ozenne**, Brenda Mc Mahon, Martin K Madsen, Liv V Hjordt, Ida Hageman, William FC Baaré, Gitte M Knudsen, and Patrick M Fisher. Amygdala response to emotional faces in seasonal affective disorder. *Journal of affective disorders*, 229:288–295, 2018. URL https://doi.org/10.1016%2Fj.jad.2017.12.097

9. Julien Péron and **Brice Ozenne**. Analyser et communiquer les critères de survie dans les essais randomisés. *Innovations & Thérapeutiques en Oncologie*, 4(4):175–184, 2018

10. Liv Vadskjær Hjordt, Vibeke H Dam, **Brice Ozenne**, Ida Hageman, Brenda Mc Mahon, Erik Lykke Mortensen, Gitte M Knudsen, and Dea Siggaard Stenbæk. Self-perceived personality characteristics in seasonal affective disorder and their implications for severity of depression. *Psychiatry research*, 262:108–114, 2018. URL https://doi.org/10.1016%2Fj.psychres.2018.02.015

11. Mette Thrane Foged, Kirsten Vinter, Louise Stauning, Troels W Kjær, **Brice Ozenne**, Sándor Beniczky, Olaf B Paulson, Lars H Pinborg, et al. Verbal learning and memory outcome in selective amygdalohippocampectomy versus temporal lobe resection in patients with hippocampal sclerosis. *Epilepsy & Behavior*, 79:180–187, 2018. URL https://doi.org/10.1016%2Fj.yebeh.2017.12.007

12. L. Staerk, T. A. Gerds, G. Y. H. Lip, **Brice Ozenne**, A. N. Bonde, M. Lamberts, E. L. Fosbøl, C. Torp-Pedersen, G. H. Gislason, and J. B. Olesen. Standard and reduced doses of dabigatran, rivaroxaban and apixaban for stroke prevention in atrial fibrillation: a nationwide cohort study. *Journal of Internal Medicine*, 283(1):45–55, 2018. URL https://doi.org/10.1111%2Fjoim.12683

13. Liv Vadskjær Hjordt, Dea Siggaard Stenbæk, **Brice Ozenne**, Brenda Mc Mahon, Ida Hageman, Steen Gregers Hasselbalch, and Gitte Moos Knudsen. Season-independent cognitive deficits in seasonal affective disorder and their relation to depressive symptoms. *Psychiatry research*, 257:219–226, 2017. URL https://doi.org/10.1016%2Fj.psychres.2017.07.056

14. Vincent Beliveau, Melanie Ganz, Ling Feng, **Brice Ozenne**, Liselotte Højgaard, Patrick M Fisher, Claus Svarer, Douglas N Greve, and Gitte M Knudsen. A high-resolution in vivo atlas of the human brain's serotonin system. *Journal of Neuroscience*, 37(1):120–128, 2017. ISSN 0270-6474. URL http://www.jneurosci.org/content/37/1/120

15. Dea S Stenbæk, Patrick M Fisher, **Brice Ozenne**, Emil Andersen, Liv V Hjordt, Brenda McMahon, Steen G Hasselbalch, Vibe G Frokjaer, and Gitte M Knudsen. Brain serotonin 4 receptor binding is inversely associated with verbal memory recall. *Brain and behavior*, 7(4):e00674, 2017. URL https://doi.org/10.1002%2Fbrb3.674

16. Laila Staerk, Emil Loldrup Fosbøl, Morten Lamberts, Anders Nissen Bonde, Kasper Gadsbøll, Caroline Sindet-Pedersen, Ellen A Holm, Thomas Alexander Gerds, **Brice Ozenne**, Gregory YH Lip, et al. Resumption of oral anticoagulation following traumatic injury and risk of stroke and bleeding in patients with atrial fibrillation: a nationwide

cohort study. *European heart journal*, 39(19):1698–1705a, 2017. URL
https://doi.org/10.1093%2Feurheartj%2Fehx598

17. PM Fisher, **Brice Ozenne**, C Svarer, D Adamsen, S Lehel, WFC Baaré, PS Jensen, and
GM Knudsen. Bdnf val66met association with serotonin transporter binding in healthy
humans. *Translational psychiatry*, 7(2):e1029–e1029, 2017. URL
https://doi.org/10.1038%2Ftp.2016.295

18. Mette Thrane Foged, Ulrich Lindberg, Kishore Vakamudi, Henrik BW Larsson, Lars H
Pinborg, Troels W Kjær, Martin Fabricius, Claus Svarer, **Brice Ozenne**, Carsten
Thomsen, et al. Safety and eeg data quality of concurrent high-density eeg and high-speed
fmri at 3 tesla. *PloS one*, 12(5):e0178409, 2017. URL
https://doi.org/10.1371%2Fjournal.pone.0178409

19. Julien Péron, Pascal Roy, **Brice Ozenne**, Laurent Roche, and Marc Buyse. The net
chance of a longer survival as a patient-oriented measure of treatment benefit in
randomized clinical trials. *JAMA oncology*, 2(7):901, 2016b. URL
https://doi.org/10.1001%2Fjamaoncol.2015.6359

20. Laila Staerk, Emil Loldrup Fosbøl, Gregory YH Lip, Morten Lamberts, Anders Nissen
Bonde, Christian Torp-Pedersen, **Brice Ozenne**, Thomas Alexander Gerds,
Gunnar Hilmar Gislason, and Jonas Bjerring Olesen. Ischaemic and haemorrhagic stroke
associated with non-vitamin k antagonist oral anticoagulants and warfarin use in patients
with atrial fibrillation: a nationwide cohort study. *European heart journal*, pages 907–915,
2016. URL https://doi.org/10.1093%2Feurheartj%2Fehw496

21. Julien Péron, Pascal Roy, Thierry Conroy, Françoise Desseigne, Marc Ychou, Sophie
Gourgou-Bourgade, Trevor Stanbury, Laurent Roche, **Brice Ozenne**, and Marc Buyse. An
assessment of the benefit-risk balance of folfirinox in metastatic pancreatic adenocarcinoma.
Oncotarget, 7(50), 2016c. URL https://doi.org/10.18632%2Foncotarget.12761

22. **Brice Ozenne**, Tae-Hee Cho, Irene Klærke Mikkelsen, Marc Hermier, Lars Ribe, Götz
Thomalla, Salvador Pedraza, Jean-Claude Baron, Pascal Roy, Yves Berthezène, et al.
Evaluation of early reperfusion criteria in acute ischemic stroke. *Journal of Neuroimaging*,
25(6):952–958, 2015a. URL https://doi.org/10.1111%2Fjon.12255

23. Laure Hermitte, Tae-Hee Cho, **Brice Ozenne**, Norbert Nighoghossian, Irene Klærke
Mikkelsen, Lars Ribe, Jean-Claude Baron, Leif Østergaard, Laurent Derex, Niels Hjort,
et al. Very low cerebral blood volume predicts parenchymal hematoma in acute ischemic
stroke. *Stroke*, 44(8):2318–2320, 2013. URL
https://doi.org/10.1161%2Fstrokeaha.113.001751

PEER REVIEW

I have reviewed papers for Biometrics, Statistics in Medicine, the International Journal of Biostatistics, and BMC medical reasearch methodology. See my publons profile for more details.

TEACHING   L : lecture, PC : practical classes

2016 - 2017 : Statistical analysis of repeated measurements for Phd students in medical sciences (18h, PC).
Structural Equation Models for Master students in statistics (2h, L).
2015 - 2016 : Statistical analysis of repeated measurements for Phd students in medical sciences (18h, PC).
2014 - 2015 : Bayesian statistics for Master students in public health (6h, PC).
Survival Analysis for Master students in public health (18h, PC).
2013 - 2014 : Bayesian statistics for Master students in public health (6h, PC).

SUPERVISION

2015 - Now : **statistical consultant** at NRU (Neurobiology Research Unit).
Advise neuroscientists and psychologists.

Co-superviser of **master 2** students:

2014 : Ceren Tozlu
Comparison of classification methods for tissue outcome after ischemic stroke.

2019 : Alice Brouquet-Laglaire
Comparison of inference methods for generalized pairwise comparisons.

Contribution to the supervision of **Phd** students:

2015-2018 : Vincent Beliveau
Functional and Molecular Imaging of the Serotonin System in the Human Brain

2016-2019 : Martin Nørgaard
Optimizing preprocessing pipelines in PET/MRI neuroimaging

ORAL COMMUNICATIONS

Oral presentation at international conferences:

2014 : Image segmentation using a spatially regularized mixture model
    IBC, Florence, Italia
2015 : MRIaggr : un package pour la gestion et le traitement de données multivariées d'imagerie
    Rencontres R, Grenoble, France
2016 : Penalized latent variable models
    Computational statistics, Oviedo, Spain
2017 : Assessing treatment effects on registry data in presence of competing risks
    ISCB, Vigo, Spain
2019 : Generalized pairwise comparisons for right-censored time to event outcomes
    Survival analysis for junior researcher, Copenhagen, Denmark

Chairman at international conferences:
2019 : Mathematical Statistics
    Survival analysis for junior researcher, Copenhagen, Denmark