

University of California, San Diego, USA  
Department of Preventive Medicine  
Center for Wireless & Population Health Systems  
Exercise and Physical Activity Resource Center

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**Key words:** health behavior change; digital health; physical activity promotion; chronic diseases management

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## Current position

Sept 2018 – ongoing. Postdoctoral researcher | University of California, San Diego, US  
Mentor: [Eric Hekler](#) | Design of digital health technologies and interventions

## Past positions

Sept 2017 – Sept 2018. Lecturer (“ATER”) | University of Montpellier, France | Department of Physical Activity  
Sept 2014 – Sept 2017. PhD student | University of Montpellier, France and Group 5 santé  
Mentors: [Julie Boiché](#) | Motivation in health, sport and education contexts. [Nelly Heraud](#) | COPD and rehabilitation

**Thesis objective:** Identify the role of motivational determinants in physical activity among people with chronic diseases during and after rehabilitation. **Funder:** Public/private partnerships. **Collaborators:** Central Queensland University, Australia; University of Lyon, France; University of Alberta, Canada. See my thesis dissertation [here](#).

## Education

2017: *Ph.D.* Human Movement Sciences, University of Montpellier, France  
2014: *M.S.* (research) Human Movement Sciences (rank 1<sup>st</sup>), Montpellier, France  
2013: *M.S.* (professional) Exercise and Rehabilitation (rank 1<sup>st</sup>), Montpellier, France  
2011: *B.S.* Sport Sciences, University of Rennes, Saint-Brieuc, Brittany, France

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## Projects I’m currently working on as a main investigator (early 2020)

**Computational modelling.** Development of a computational model of habituation\* with digital health technologies.  
**Funder:** National Science Foundation (US). **Collaborators:** University of Michigan; Arizona State University; University College London. \*A form of learning in which a response to a stimulus decreases after repeated or prolonged presentations of that stimulus.

**Meta-analyses of digital health technologies.** Examination of the precision of combined ‘Fitbit’ sensors for continuous monitoring of physical activity. **Funder:** National Institute of Health (US). **Collaborators:** Iowa State University; Arizona State University; Northwestern University.

**Individual time series (health outcomes) modelling.** Development a tutorial supporting the design and analysis of *N*-of-1 / single-case studies in health contexts. **Collaborators:** University of Michigan; Arizona State University; University College London.

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## Some of my ongoing collaborations

**Climate change, health behaviors and digital health.** Investigation of the bi-directional associations between climate change and physical activity: a systematic review. **Role:** Study design, data analyses. **Collaborators:** Université du Québec à Montréal.

**Ecological momentary assessment (EMA).** Design of a one-year long EMA study to investigate the dynamics of physical activity adoption and maintenance. **Role:** Study design, measures development. **Collaborators:** University of Michigan; Arizona State University; University of Southern California, Los Angeles.

**Sleep and physical activity.** Investigation of the daily bi-directional associations between sleep and physical activity: a systematic review and meta-analysis of EMA studies. **Role:** Data analyses. **Collaborators:** Univ Québec Montréal.

**Respiratory diseases.** Investigation of the effect of long-term oxygen prescription on mortality in COPD: a systematic-review and meta-analysis. **Role:** Data analyses. **Collaborators:** Group 5 Santé, France.

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## Relevant professional experiences

**Lecturer.** 2014 - 2018. University of Montpellier and Poitiers, France - graduate students.

Topics	Level	Hours
Behavior change theories and techniques	Second year master	4 x 10h
Public health policies	Second year master	4 x 12h
Psychometrics	Second year master	3 x 6h
Research and statistical skills	First year master	26h
Projects management (health promotion)	First year master	26h
Thesis supervision (sport sciences & psychology)	First and second year master	N = 15 students

**Contributor to the competency dictionary of the French professionals in Adapted Physical Activity (i.e., “Enseignants en APA”).** As part of involvement in the French society of the professionals in Adapted Physical Activity (SFP-APA), I contributed to the creation of the competency dictionary for these particular professionals – see the document [here](#).

**Member of a Scientific Committee.** Group 5 Santé (France) 2014 - 2018. Development of research projects in the field of pulmonary and metabolic rehabilitation. This comity is composed of Academics in kinesiology, neurosciences, medicine, biology, as well as medical doctors and clinicians. I gave more than 30 talks in 4 years for this committee.

### Projects Manager.

2019: Program chair CNP APA (French sport sciences conference; Budget: 50 K €).

2013: Project manager national (France) meeting in Adapted Physical Activity. (Budget: 15 K €).

2012: Organizer and participant to an international solidarity project for the development of sport in Gahanga, Rwanda. (Budget: 20 K €).

**Reviewer.** I review currently around one article per month. Annals of Behavioral Medicine; Health Psychology; Psychology Health & Medicine; Obesity Research and Clinical Practice; Journal of Sport and Exercise Psychology; Psychology of Sport and Exercise; Research Quarterly for Exercise and Sport; PlosOne; German Journal of Sport and Exercise Research; Journal of Health Psychology; European Review of Applied Psychology; International Journal of Behavioral Medicine; Rehabilitation Psychology; Sciences et Motricité

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## Scientific valorization

### Pre-prints or submitted

- Chevance G**, Perski, O, & Hekler, E. Innovative methods for predicting and changing complex health behaviors: Four propositions. *PsyArXiv*. <https://doi.org/10.31234/osf.io/w6h78>
- Chevance G**, Golaszewski N, Baretta D, Hekler EB, Larsen A, Patrick K & Godino J. Modelling multiple health behavior change with network analyses: Results from a one-year trial conducted among overweight and obese adults. *SportRxiv*. <https://doi.org/10.31236/osf.io/7mcdw>
- Chevance G**, Hekler E, Efoui-Hess M, Godino J, Golaszewski N, Gualtieri L, Krause A, Marraud L, Nebeker C, Perski O, Simons D, Taylor J, & Bernard P. Digital health at the age of the Anthropocene. *Submitted*.
- Chevance G**, Golaszewski N, Tipton E, Hekler EB, Buman M, Welk G, Patrick K & Godino J. Accuracy and precision of energy expenditure, heart rate, and steps measured by combined-sensing Fitbits: Protocol for a Systematic Review and Meta-Analysis. *Submitted*.
- Allman-Farinelli M, Chen J, **Chevance G**, Partridge S, Gemming L, Patrick K, Godino J. The efficacy of electronic health interventions targeting improved sleep for achieving prevention of weight gain in adolescents and young to middle-aged adults. A systematic review. *Submitted*.
- Golaszewski N, **Chevance G**, Hekler EB, Bartholomew JB. Assessing the interplay between exercise identity, group exercise identity and physical activity. *Submitted*.

### Peer-reviewed publications (quartiles are indicated based on the Journal Citation Reports, when available)

- Chevance G**, Roux M, Calvat A, Oliver N, Alexandre F, Héraud N & Boiché J. 2019. (French) Quels sont les profils motivationnels envers l'activité physique et la sédentarité de patients admis en réhabilitation respiratoire? *Movement & Sport Sciences - Science & Motricité*. <https://doi.org/10.1051/sm/2019021>
- Chevance G**, Bernard P, Chamberland PE & Rebar A. 2019. The association between implicit attitudes toward physical activity and physical activity behavior: A systematic review and correlational meta-analysis. *Health Psychology Review*, <https://doi.org/10.1080/17437199.2019.1618726> | (1<sup>st</sup> quartile 'Psychology, clinical')
- Hekler EB, Klasnja P, **Chevance G**, Golaszewski N, Lewis D, Sim I. 2019. Why we need a small data paradigm. *BMC Medicine*, <https://doi.org/10.1186/s12916-019-1366-x> | (1<sup>st</sup> quartile 'Medicine, general & internal')
- Chevance G**, Berry T, Boiché J & Héraud N. (2019). Changing implicit attitudes for physical activity with associative learning. Null findings from an experimental study conducted in pulmonary rehabilitation. *German Journal of Exercise and Sport Research*, <https://doi.org/10.1007/s12662-018-0559-3>
- Chevance G**, Stephan Y, Héraud N, Boiché J. Interaction between self-regulation, intentions and implicit attitudes in the prediction of physical activity among persons with obesity. *Health Psychology*, <http://dx.doi.org/10.1037/hea0000572> | (1<sup>st</sup> quartile 'Psychology, scie')
- Bernard P, Romain AJ, Caudroit J, **Chevance G**, Carayol M, Gurlan M, Moullec G. Cognitive Behavioral Therapy combined with exercise to decrease depression, anxiety and fatigue in adults with chronic diseases: a systematic review and meta-analysis. *Health Psychology*, doi: 10.1037/hea0000578. | (1<sup>st</sup> quartile 'Psychology, scie')
- Chevance G**, Héraud N, Varray A, Boiché J. Implicit attitudes and the improvement of exercise capacity during pulmonary rehabilitation. *Psychology Health & Medicine*, <https://doi.org/10.1080/13548506.2018.1447137> | (3<sup>rd</sup> quartile 'Public, environmental and occupational health')
- Chevance G**, Caudroit J, Henry P, Guerin P, Boiché J, Héraud N. (2017). Do implicit attitudes toward physical activity and sedentary behavior prospectively predict objective physical activity among persons with obesity? *Journal of Behavioral Medicine*, doi: DOI 10.1007/s10865-017-9881-8 | (1<sup>st</sup> quartile 'Psychology, clinical')
- Chevance G**, Héraud N, Guerrieri A, Rebar A, Boiché J. (2017). Measuring implicit attitudes toward physical activity and sedentary behavior: Test-retest reliability of three scoring algorithms of the Implicit Association Test and Single Category-Implicit Association Test. *Psychology of Sport and Exercise*, doi: <http://dx.doi.org/10.1016/j.psychsport.2017.04.007> | (1<sup>st</sup> quartile 'Sport sciences')

- Chevance G, Heraud N, Varray A, Boiché J. (2017).** Change in explicit and implicit motivation toward physical activity and sedentary behavior during pulmonary rehabilitation and associations with post rehabilitation behaviors. *Rehabilitation Psychology*, doi: <http://dx.doi.org/10.1037/rep0000137> | (2<sup>nd</sup> quartile 'Rehabilitation')
- Chevance G, Caudroit J, Romain AJ, Boiché J. (2017).** The adoption of physical activity and eating behaviors among persons with obesity and in the general population: the role of implicit attitudes within the Theory of Planned Behavior. *Psychology, Health & Medicine*, doi: 10.1080/13548506.2016.1159705 | (3<sup>rd</sup> quartile 'Public, environmental and occupational health')
- Marchant G+, **Chevance G+**, Boiché J. (2016). Intention and automaticity towards physical and sedentary screen-based leisure activities in adolescents: A profile perspective. *Journal of Sport and Health Science*, doi: 10.1016/j.jshs.2016.08.006 | + equal contribution | (1<sup>st</sup> quartile 'Sport sciences')
- Chevance G, Foucaut A, Bernard P. (2016).** (French) Etat des connaissances sur les comportements sédentaires, *La Presse Médicale*, doi: 10.1016/j.lpm.2016.01.004

#### Commentaries (peer reviewed)

- Chevance G. (2017).** Time to consider modifiable (motivational?) determinants of physical activity in respiratory medicine. *Thorax*, <https://thorax.bmj.com/content/72/9/796.responses>
- Chevance G, Romain AJ, Bernard P. (2017).** La promotion de l'activité physique passe nécessairement par une prise en compte de la motivation. *Psycho-oncologie*, doi: <http://link.springer.com/article/10.1007/s11839-017-0615-5>
- Bernard P, Romain AJ, **Chevance G.** Pour des interventions de changement de comportement factuelles. *Santé Publique*, doi: 10.3917/spub.175.0607

#### Non-peer reviewed articles

- Chevance et al. (2019).** Traduction de la taxonomie (v1) des techniques de changement de comportement. <https://guillaumechevance.com/2019/06/07/traduction-francaise-de-la-taxonomie-v1-des-techniques-de-changement-de-comportement/>
- Romain AJ, **Chevance G, Caudroit J, Bernard P. (2016).** (Article in french) Intervention motivationnelle sur la base du modèle trans-théorique pour favoriser la pratique d'une activité physique chez des personnes obèses. *Obésité*, doi: 10.1007/s11690-015-0504

#### Oral communications

- Siffre\* T, Boiché J, Héraud N, Chevance G. (2019).** Effect of imagery sessions during pulmonary rehabilitation on implicit attitudes toward physical activity and physical activity behavior. Meeting of the Association of the Researchers in Physical Activity and Sport (ACAPS), Paris, France. \* *Master student under my supervision*
- Chevance G. (2018).** A meta-analysis of the associations between implicit processes and physical activity: preliminary results. French Society of Sport Psychology, Lausanne, Switzerland.
- Roux M, **Chevance G, Calvat M, Boiché J, Héraud N. (2018).** Caractérisation de la motivation à la pratique d'activité physique et à la diminution de la sédentarité chez des patients admis pour un séjour de réhabilitation. 18h international congress of the French-language Association in Adapted Physical Activity (AFAPA), Toulon, France.
- Chevance G, Stephan Y, Heraud N, Boiché J. (2017).** Interaction between self-regulation, intentions and implicit attitudes in the prediction of physical activity among persons with obesity. Meeting of the Association of the Researchers in Physical Activity and Sport (ACAPS), Dijon, France.
- Chevance G, Heraud N, Boiché J. (2017).** Utilization of the Implicit Association Test in sport and health psychology. French Society of Sport Psychology, Montpellier, France.
- Chevance G, Heraud N, Guerrin P, Boiché J. (2017).** Motivational predictors of self-reported and objective physical activity and sedentary behaviors: A 6-month prospective study after rehabilitation. Society of Behavioral Medicine, 38th Annual Meeting and Scientific Sessions, San Diego, U.S.
- Chevance G, Heraud N, Varray A, Boiché J. (2016).** Change in Controlled and Automatic Motivation toward Physical Activity and Sedentary Behaviors during Pulmonary Rehabilitation: Applied perspectives in Adapted Physical Activity. 17th international congress of the French-language Association in Adapted Physical Activity (AFAPA), Amiens, France.

**Chevance G, Heraud N, Varray A, Ramdani S, Boiché J. (2015).** Study of implicit attitudes in the field of physical activity: Psychometric properties of the Implicit Association Test and Single Category Implicit Association Test. 16th international meeting of the Association of the Researchers in Physical Activity and Sport (ACAPS), Nantes, France.

### Posters

**Chevance G, Bernard P, Chamberland PE & Rebar A. (2019).** The association between implicit attitudes toward physical activity and physical activity behavior: A systematic review and correlational meta-analysis. Society of Behavioral Medicine, 40th Annual Meeting and Scientific Sessions, Washington DC, USA. <https://osf.io/3pt5w/>

**Chevance G, Stephan Y, Heraud N, Boiché J. (2018).** Interaction between self-regulation, intentions and implicit attitudes in the prediction of physical activity among persons with obesity. French Society of Pneumology, Nantes, France.

**Chevance G, Berry T, Boiché J & Heraud N. (2017).** Changing implicit attitudes toward physical activity with environmental cues: an experimental study conducted in pulmonary rehabilitation. Society of Behavioral Medicine, 39th Annual Meeting and Scientific Sessions, New Orleans, USA.

**Chevance G, Berry T, Boiché J & Heraud N. (2017).** Changing implicit attitudes toward physical activity versus sedentary behavior with environmental cues: an experimental study conducted in pulmonary rehabilitation. Multidisciplinary congress in movement sciences, Montpellier, France.

**Chevance G, Heraud N, Varray A, Boiché J. (2016).** Change in Controlled and Automatic Motivation toward Physical Activity and Sedentary Behaviors during Pulmonary Rehabilitation. Congress of the European Respiratory Society, London, UK.

**Chevance G, Heraud N, Boiché J. (2016).** Motivational and objective predictors of self-reported physical activity and sedentary behaviors: A 6-month prospective study after pulmonary rehabilitation program. Multidisciplinary congress in movement sciences, Marseille, France.

**Chevance G, Heraud N, Varray A, Boiché J. (2016).** Automatic motivation for exercise/sedentary behaviors differ between responders and non-responders to pulmonary rehabilitation. 11th congress of the French Society of Pneumology, Lyon, France.

**Chevance G, Caudroit J, Boiché J. (2014).** Implicit attitudes toward physical activity and eating behaviors. 5th international congress of the French Society of Sport Psychology, Nice, France.

### Wider audience presentations (clinicians, professionals, stakeholders)

**Chevance G. (2019).** How to use behavior change techniques and theories to create its own intervention? French national congress of the professionals in adapted physical activity, Paris, France.

**Chevance G. (2017).** How to motivate people to move? French national congress of the professionals in adapted physical activity, Paris, France.

**Chevance G. (2016).** History of Adapted Physical Activity. Adapted Physical Activity Day, Toulouse, France.

**Chevance G. (2015).** Which differences between physical inactivity and sedentary behaviors? French national congress of the professionals in adapted physical activity, Paris, France.

### Podcasts

**Chevance G. (2018).** (3h - French) Comment motiver les gens à être plus actifs physiquement ? SFP-APA.

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## Funding (personally received)

2017 + 2018: Conference travel, University of Montpellier (France <-> USA) 2000 (x2) €  
2016: Funding of a prospective study, French respiratory medicine foundation 23 000 €  
2015: Purchase of accelerometers, regional grant (Montpellier, France) 5 000 €  
2014: Ph.D. Funding - French National Agency for Research and Technology - 52 000 €  
2014: Ph.D. Funding (Declined) - University of Montpellier - 3 years full-time salary

## Awards

2018: Best poster presentation - French Society of Pneumology, Nantes, France  
2017: Best oral communication - French Society of Sport Psychology, Montpellier, France  
2016: Best poster presentation - Meeting of the doctoral school in human movement sciences, Marseille, France  
2016: Best poster presentation - French Society of Pneumology, Lyon, France  
2015: Best oral communication - ACAPS (sport sciences), Nantes, France  
2014: Best poster presentation - French Society of Sport Psychology, Nice, France

## Relevant affiliations

From 2019: Member of The Society for Transparency, Openness, and Replication in Kinesiology, STORK  
2014-2018: Board member of the French Society of Adapted Physical Activity, SFP-APA.  
From 2017: Member of the Society of Behavioral Medicine, SBM  
2017-2018: Member of the European Health Psychology Society, EHPS  
2014-2016: Board member of the French Association of Sports' Students, ANESTAPS.

## Specific statistical skills

I have experiences with diverse packages on the statistical software R. I already run various type of analyses, such as: linear and non-linear multi-level analyses; accelerometers data processing; different kind of meta-analyses; bayesian statistics and null hypotheses testing; network analyses; latent profil analyses; cluster analyses; reliability analyses...

## Interests

Campervan traveling, baking my own bread, watching my wife growing tomatoes. Sports: surfing & boxing. (old)Federal rugby trainer.

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## Referees (i.e., people who know me and are able to say nice things about my case)

<b>Dr. Eric Hekler</b> (Postdoc advisor)	University of California, San Diego, USA Assistant professor Contact: ehekler@eng.ucsd.edu
<b>Dr. Julie Boiché</b> (PhD supervisor)	University of Montpellier, Montpellier, France Assistant professor Contact: julie.boiche@umontpellier.fr
<b>Dr. Paquito Bernard</b> (Past and future collaborator)	Université du Québec à Montréal, Montréal, Canada Assistant professor Contact: bernard.paquito@uqam.ca