

# Pierre Bérastégui

Date of birth: 26/04/1990

Nationality: Belgian, French

Gender: Male

## CONTACT

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## WORK EXPERIENCE

**01/01/2020 – CURRENT** – Brussels, Belgium

### Researcher

European Trade Union Institute

Research unit: Health and Safety, Working Conditions.

Main duties:

- Conducting research projects on European work-related issues of strategic importance
- Translating evidence into policy recommendations and best practice guidelines
- Publishing research results in ETUI publications, peer-reviewed journals and other media
- Representing the interests of workers in tri-partite advisory committees

Sample project experience:

- Health and safety of workers involved in the gig economy
- Prevention of work-related musculoskeletal disorders
- Teleworking in the aftermath of the Covid-19 pandemic
- Industry 4.0 and the Human Factor

**01/10/2020 – CURRENT** – Liège, Belgium

### Lecturer

University of Liège

Faculty of Psychology, Speech Therapy, and Education Sciences.

Courses: Cognitive Ergonomics

**01/01/2015 – 31/12/2019** – Liège, Belgium

### Researcher

Université de Liège

Researcher for the Cognitive Ergonomics Laboratory (LECIT). Involved in research projects, teaching activities and workplace interventions.

Main duties:

- Working with stakeholders to identify research goals, methods and variables
- Collecting job-related data using qualitative and quantitative approaches
- Conducting advanced multivariate statistical analyses and predictive models
- Communicating results in peer-reviewed journals and international conferences
- Supervising students by providing guidance and feedback on research projects
- Maintaining up-to-date scientific, legal and technical intelligence

Sample project experience:

- Impact of the EWTD on fatigue, well-being and work performance
- Identification of cross-disciplinary CRM skills among emergency workers
- Impact of drowsiness on driving behaviors and road safety

- Effectiveness of thermal stimulation to reduce passive fatigue during autonomous driving
- Audit of screening and selection processes of the Belgian Personnel Selection Office (Selor)

## PUBLICATIONS

### **Fatigue-related risk management in the emergency department: a focus-group study**

2018 <https://pubmed.ncbi.nlm.nih.gov/29777436/>

Internal and Emergency Medicine, 13(8): 1273-1281

Fatigue has major implications on both patient safety and healthcare practitioner's well-being. Traditionally, two approaches can be used to reduce fatigue-related risk: reducing the likelihood of a fatigued operator working (i.e. fatigue reduction), or reducing the likelihood that a fatigued operator will make an error (i.e. fatigue proofing). Recent progress mainly focussed on fatigue reduction strategies such as reducing work hours. Yet it has to be recognized that such approach has not wholly overcome the experience of fatigue. Our purpose is to investigate individual proofing and reduction strategies used by emergency physicians to manage fatigue-related risk. 25 emergency physicians were recruited for the study. Four focus groups were formed which consisted of an average of six individuals. Qualitative data were collected using a semi-structured discussion guide unfolding in two parts. First, the participants were asked to describe how on-the-job fatigue affected their efficiency at work. A mind map was progressively drawn based upon the participants' perceived effects of fatigue. Second, participants were asked to describe any strategies they personally used to cope with these effects. We used inductive qualitative content analysis to reveal content themes for both fatigue effects and strategies. Emergency physicians reported 28 fatigue effects, 12 reduction strategies and 21 proofing strategies. Content analysis yielded a further classification of proofing strategies into self-regulation, task re-allocation and error monitoring strategies. There is significant potential for the development of more formal processes based on physicians' informal strategies.

### **Fatigue-related risk perception among emergency physicians working extended shifts**

2019 <https://pubmed.ncbi.nlm.nih.gov/31422293/>

Applied Ergonomics, 82: 102914

There is a growing body of studies indicating that extended shift duration has an adverse effect on fatigue, consequently leading to reduced work performance and higher risk of accident. Following modern fatigue risk management systems (FRMS), acceptable performance could be maintained by the mobilization of appropriate mitigation strategies. However, the effective deployment of such strategies assume that workers are able to assess their own level of fatigue-related impairments. In this study, we sought to determine whether emergency physicians' subjective feelings of sleepiness could provide accurate knowledge of actual fatigue-related impairments while working extended shifts. We conducted a prospective observational study with a within-subjects repeated measures component. We collected sleep logs, sleepiness ratings and reaction times on a Psychomotor Vigilance Task (PVT) at different time points during shifts. Our results show that the PVT is sensitive to sleep loss and fatigue, with a 10% increase in mean reaction time across the shift. Subjective sleepiness, however, showed no significant association with time since awakening and was not a significant predictor of PVT performance. Our results are consistent with experimental studies showing that individuals tend to underestimate fatigue-related impairments when sleep deprived or functioning under adverse circadian phase. The discrepancy between subjective sleepiness and actual fatigue-related impairments may give workers the illusion of being in control and hinder the deployment of mitigation strategies. Further research is needed to determine the relative weight of circadian phase shifting and cumulative sleep deprivation in the decline of self-knowledge in extended shifts.

### **Informal fatigue-related risk management in the emergency department: a trade-off between doing well and feeling well**

2019 <https://www.sciencedirect.com/science/article/abs/pii/S0925753518310804?via%3Dihub>

Safety Science, 122: 104508

Emergency physicians are known to be particularly vulnerable to sleep deprivation due to inconsistent shift rotation, extended duty periods and overnight calls. However, naturalistic studies have actually failed

to systematically demonstrate that sleep deprivation is associated with poorer work performance in emergency physicians. The inconsistency of these results could reside in physicians' ability to compensate for fatigue-related impairments. Our aim is to assess the effectiveness of informal fatigue proofing (FPS) and reduction (FRS) strategies used by emergency physicians. We conducted a prospective longitudinal study with 28 emergency physicians (mean age  $36.89 \pm 10.73$  years, 11 females) for a total of 182 shifts. At enrollment, participants answered the Maslach Burnout Inventory and the Fatigue Management Survey. During shifts, we measured fatigue-related impairments using the Psychomotor Vigilance Task and work performance using an adapted version of the Physician Achievement Review. Of the four work performance dimensions addressed, patient interaction was the only one associated with decreased reaction time ( $F=27.61$ ,  $p<0.001$ ). Our findings revealed a significant interaction between reaction time and FPS frequency of use for the patient interaction ( $F=4.91$ ,  $p=0.03$ ) and self-management subscales ( $F=5.92$ ,  $p=0.02$ ). However, the frequency of use of FPS were found to be positively associated with early symptoms of burnout ( $\beta=0.79$ ,  $p<0.001$ ). Finally, our results show that RRS frequency was associated with decreased reaction time ( $F=8.02$ ,  $p=0.01$ ) with no associated risk of burnout. We propose further considerations for the implementation and follow-up of a fatigue risk management system in the emergency department.

### ● **Exposure to psychosocial risk factors in the gig economy: a systematic review**

2021 <https://www.etui.org/publications/exposure-psychosocial-risk-factors-gig-economy>

ETUI report

The 'gig economy' refers to a market system in which companies or individual requesters hire workers to perform short assignments. These transactions are mediated through online labour platforms, either outsourcing work to a geographically dispersed crowd or allocating work to individuals in a specific area. Over the last decade, the diversity of activities mediated through online labour platforms has increased dramatically. In addition to the specific hazards associated with these different types of activities, there are also psychosocial risks related to the way gig work is organised, designed and managed. The aim of this review is to provide a comprehensive overview of these risks, identifying research gaps and strategies to address them.

### ● **Fatigue Risk Management System as a practical approach to improve resilience in 24/7 operations**

2021 [https://link.springer.com/chapter/10.1007/978-3-030-74689-6\\_3](https://link.springer.com/chapter/10.1007/978-3-030-74689-6_3)

In book: Advancing Resilient Performance

A growing body of literature indicates that schedules involving extended shifts, night work or other forms of atypical working hours substantially increase workers' fatigue, resulting in reduced work performance and higher risk of errors and accidents. Governments around the world have imposed a range of legal hours of work limits in attempt to mitigate fatigue-related risk. However, by controlling the amount of worked hours within a specific period, the system does not manage fatigue as a risk factor. Rather, it regulates one – among many others – parameters conditioning operators' fatigue levels. A single-layer normative approach represent a somewhat monolithic view of safety whereby being inside the limits is safe while being outside is unsafe. It fails to take into account operational differences and the variability of real world situations that are likely to affect safety. Forcing a system to adopt norms and practices that proved to be useful in another setting is not only naïve, but could actually lead to an increased degradation of the system. In this context, fatigue risk management systems (FRMS) emerged as a more comprehensive and pragmatic approach to mitigate the detrimental effect of fatigue on safety. In contrast of traditional prescriptive approaches, FRMS shift the locus of responsibility for safety away from the regulator towards organizations. True to the Safety-II approach, FRMS are not confined to the elimination of hazards and the prevention of malfunctions but also aim to continuously improve an organisation's potentials for resilient performance.

## **The platform economy at the forefront of a changing world of work: Implications for occupational health and safety**

**2021** <https://www.elgaronline.com/view/edcoll/9781788975094/9781788975094.00015.xml>

In book: A Modern Guide To Labour and the Platform Economy  
At first glance, working conditions in the platform economy may be regarded as 'atypical' due to the innovative technology involved. When subjected to closer scrutiny, however, it appears that the structural characteristics of platform-mediated work are not entirely new but rather constitute radical extensions of pre-existing trends: greater control and surveillance; greater job uncertainty and volatility; and greater worker isolation and workplace fragmentation. It has long been acknowledged that these trends have the potential to give rise to multiple risk factors, ultimately affecting occupational health and safety. Nevertheless, the extent to which platforms have built their entire business model around these dimensions, and with the aid of technologies which compound the resulting precarity, has lifted the overall set of problems to a higher level. In this chapter, we analyse how these three trends translate to the platform economy and the risks they entail for platform workers' health and safety.

## **La gestion du risque associé à la fatigue en médecine d'urgence: Identification et évaluation de pratiques informelle**

**2019** <http://dx.doi.org/10.13140/RG.2.2.21087.20646>

Doctoral thesis

Ce n'est pas une coïncidence si l'accident nucléaire de Three Mile Island, la marée noire de l'Exxon Valdez, l'accident chimique de Bhopal ou la catastrophe de Tchernobyl se sont tous déroulés en pleine nuit. Chacune de ces catastrophes est le symptôme d'une société qui s'est affranchie des contraintes circadiennes. L'activité humaine n'est plus rythmée par l'immuable circonvolution de la Terre autour du Soleil, mais obéit aux impératifs logistiques essentiellement dictés par la doctrine économique. La diversité des rythmes de travail entre alors en contradiction avec la constance du rythme interne généré par l'horloge biologique. Ce décalage se manifeste par des difficultés d'endormissement, un sommeil moins réparateur ainsi qu'une sensation de somnolence qui persiste pendant la journée. De ce point de vue, certaines professions sont plus à risque que d'autres. Il s'agit non seulement des secteurs où les horaires sont prestés de nuit, mais également des métiers où le temps de travail peut être excessif. C'est notamment le cas du secteur médical et plus particulièrement des services d'urgence dont l'engorgement n'a cessé de croître ces vingt dernières années. En Europe, les médecins urgentistes sont amenés à travailler jusqu'à 72 heures par semaine et 24 heures par jour pour assurer la continuité des soins. Des patients stressés, choqués, une grande variété de pathologies et une forte pression temporelle en font un environnement à très haut risque, presque chaotique, avec de nombreuses sources de fatigue cognitive et psychologique. La littérature expérimentale s'accorde à reconnaître que la fatigue entraîne une détérioration des performances physiques et cognitives. En revanche, les résultats sont plus équivoques en ce qui concerne son impact sur la qualité des soins en médecine d'urgence. Certains auteurs suggèrent que l'absence de relation claire et systématique entre fatigue et performance médicale trouverait son origine dans l'existence de mécanismes de résilience visant à réduire ou à mitiger le risque associé à la fatigue. Ces mécanismes se développeraient notamment sous la forme de stratégies informelles et se transmettraient ensuite à travers des pratiques de mentorat non documentées. A ce jour, très peu d'attention a été accordée à l'étude de ces stratégies et il n'existe pas d'éléments empiriques permettant de juger de leur efficacité. Ainsi, l'hypothèse selon laquelle l'absence de relation systématique entre fatigue et performance serait liée à l'existence de mécanismes individuels de résilience reste à démontrer. Dans ce contexte, notre travail vise à développer une méthodologie permettant l'identification et l'évaluation des stratégies informelles de gestion du risque associé à la fatigue déployées au niveau local et, plus largement, à proposer un modèle explicatif plus satisfaisant des liens entre fatigue et performance dans la gestion de situations d'urgence médicale.

## Is system resilience maintained at the expense of individual resilience?

2017 <https://www.taylorfrancis.com/chapters/edit/10.1201/9781315366838-13/system-resilience-maintained-expense-individual-resilience-anne-sophie-nyssen-pierre-bérastégui>

In book: Resilient Health Care

The theme of this book (work-as-imagined and work-as-done) seems very close to the distinction provided by Leplat between task (work as prescribed) and activity (work as done) at the French Language Ergonomics Society (Société d'ergonomie de langue française, SELF) in the 1970s (Leplat, 1975, 1990). It may be interesting to trace briefly the reasons French ergonomists had for distinguishing task and activity at this time, and compare them to the recent resilient health care (RHC) trends. The cultural diffusion of a given idea does not occur at random in a society: rather, along the lines proposed by Thomas Kuhn (1962) when describing the evolution of scientific ideas, part of the world must be 'philosophically' ready to receive the new paradigm. The origins of the Francophone ergonomics movement lie in the social issues and labour conflicts associated with it. It was an attempt to develop a scientific analysis of how the work environment and its constraints influence individuals' behaviour and health. Their social context was the unprecedented growth of mining and industry, and the devastating collateral effect on workers' conditions and health of the then-dominant Taylorist model of 'scientific work organisation'.

## « Emergency Services » : Analyse de l'activité et extraction de compétences transversales

2014 <https://matheo.uliege.be/handle/2268.2/650>

Master thesis

Le terme « emergency services » renvoie à l'ensemble des organisations assurant la sécurité et la santé publique en réponse à des situations urgentes. Les trois principaux acteurs sont le service des urgences médicales, le corps des sapeurs-pompiers et le service « interventions » de la police locale. Ces intervenants de premières lignes sont régulièrement confrontés à des situations « critiques », à savoir des situations d'exception aux lourdes répercussions humaines. La singularité caractérisant ces interventions requiert une réponse spécifique et adaptée de la part des services d'urgence. L'application de procédures protocolaires n'est plus suffisante et doit être complétée de stratégies flexibles de gestion de l'imprévu. De même, l'exposition répétée à de telles situations amène l'opérateur à développer une série de stratégies de régulation émotionnelle, et ce, afin de se protéger de leurs effets délétères sur le bien-être. L'hypothèse que nous défendons est celle d'une certaine transversalité au niveau des stratégies de gestion de crise, à la fois opératoires et émotionnelles, mobilisées par les trois services d'urgence. Plus particulièrement, les situations critiques rencontrées par ces opérateurs seraient composées d'un ensemble fini de dimensions, caractérisant ainsi la crise dans le domaine des urgences. Cette même similarité entraînerait à son tour la mobilisation d'un socle de réponses comportementales, cognitives et affectives transversal aux trois services étudiés. Au départ du relaté de situations d'exception, nous désirons donc identifier un ensemble de facteurs critiques et de stratégies de gestion de crise. Sur base d'une analyse comparative, nous souhaitons mettre en évidence le recouvrement relatif de ces concepts entre les trois services d'urgence étudiés. Enfin, ces résultats seront discutés à la lumière de la littérature scientifique traitant du management de crise, particulièrement en vogue depuis ces vingt dernières années.

## Teleworking in the aftermath of the Covid-19 pandemic: Enabling conditions for a successful transition

2021 <https://www.etui.org/publications/teleworking-aftermath-covid-19-pandemic>

ETUI policy brief

There is a growing consensus that telework is unlikely to return to pre-pandemic levels after the pandemic is behind us, but is expected rather to become established. If telework is here to stay, it is essential that companies and policymakers understand the challenges associated with this modern way of organising work. This analysis aims to shed light on some of the key challenges that teleworking policies need to address in the aftermath of the Covid-19 pandemic. We briefly review the four categories of factors affecting remote work effectiveness and teleworkers' well-being, with an emphasis on what

lessons can be learned from the world's largest work-from-home experiment.

## Working from home: can the benefits outweigh the risks?

2021 <https://www.greeneuropeanjournal.eu/working-from-home-can-the-benefits-outweigh-the-risks>

Green European Journal

When the Covid-19 pandemic began, many employers were forced to put in place remote working arrangements overnight, without any previous experience. Of those working from home across Europe today, nearly half suddenly found themselves doing so for the first time. The transition was far from smooth; inadequate equipment, unrealistic expectations, and a lack of support from management were common concerns for remote workers during the pandemic. In the meantime, working from home has become increasingly attractive for European employers, with 80 per cent saying they plan to continue the practice after Covid-19 restrictions are lifted, both as a means of cutting costs as well as combating absenteeism. The European Commission shares this ambition, announcing in May 2021 a reduction in its office space by 25 to 30 per cent over the coming years. We are clearly at a turning point. The question now is how we can learn from the dysfunctional rollout of remote working, and rethink it, not as a temporary solution, but as a permanent evolution of the way we work.

## Quelles sont les conditions gagnantes du télétravail ?

2021 <https://www.lecho.be/entreprises/general/quelles-sont-les-conditions-gagnantes-du-teletravail/10318482.html>

L'echo

Alors que la vie reprend tout doucement son cours, nombreux sont les experts à annoncer un véritable tournant dans notre façon de travailler. Il est donc urgent de renforcer le cadre juridique du télétravail car, comme l'a souligné la pandémie, cette révolution n'est pas sans risques pour la santé du salarié.

## Gig workers: guinea pigs of the new world of work

2021 <https://socialeurope.eu/gig-workers-guinea-pigs-of-the-new-world-of-work>

Social Europe

The 'gig' economy has grown to become an intrinsic part of our society and yet the benefits and risks of this new way of working are still much debated. Understandably, the employment status of gig workers captures most public attention. Most European Union member states lack clear regulations on this, so a platform's terms and conditions determine the status of its 'users', based on the existing regulatory framework. Although there are instances of platforms offering employment contracts, most consider gig workers as self-employed. This is often referred to as 'bogus' self-employment: workers are treated as such for tax, commercial and company-law purposes, yet remain subject to subordination by and dependence on the contractor and/or platform. As new forms of work outpace regulation, the key legal challenge is to ensure no workers are left outside of the regulatory framework. That should, however, not hide the fact that gig workers deal with unique challenges when it comes to working conditions. In addition to the specific hazards entailed by the different types of activities mediated through online labour platforms, there are also risks related to the way gig work is organised, designed and managed.

## OSH and the 'gig economy'

2020 <https://www.etui.org/publications/benchmarking-working-europe-2021>

In book: Benchmarking Working Europe 2020

As Europe was being hit by the first wave of Covid-19 social distancing and lockdown measures, with millions of workers retreating from their habitual workplaces and into their homes, many may have expected digitally mediated work to emerge as the panacea that would provide the solution to all of the continent's labour market plights. In reality, the pandemic only revealed the many limitations of platform work, in terms of both its interdependence with the physical world of work and the weaknesses of the regulatory framework shaping it.

## Structural inequalities and gender roles in telework

2021 <https://www.etui.org/publications/benchmarking-working-europe-2021>

In book: Benchmarking Working Europe 2021

Structural inequalities are widening because of the disproportionate impact of the pandemic on vulnerable groups of workers. These occupational cleavages are reflected in increased financial insecurity for young, lowskilled workers with poor employment conditions, and persistent conflicts between work and family demands for women, especially those with young children. The pandemic has negatively impacted the mental health of vulnerable workers through these societal and economic consequences, with greater emotional distress, feelings of isolation and abandonment. National initiatives deployed to address these issues have been inconsistent, adding yet another layer of inequality to be faced by European workers. The Covid-19 pandemic presents a chance to reflect on these issues and to 'build back better' through ambitious actions at the EU level, improving both access to telework and the working conditions of remote workers.

## DIGITAL SKILLS

Occupational Ergonomics / Occupational Safety and Health / Organizational Psychology / Data Analysis & Statistics / Cognitive Psychology

## EDUCATION AND TRAINING

01/01/2015 – 31/03/2019 – Belgium

### Doctoral Degree in Cognitive Ergonomics and Human Factors

University of Liège

[www.uliege.be](http://www.uliege.be)

01/09/2012 – 31/08/2014 – Belgium

### Master Degree in Industrial and Organizational Psychology

University of Liège

[www.uliege.be](http://www.uliege.be)

01/09/2008 – 31/08/2011 – Belgium

### Bachelor Degree in Psychology

University of Liège

[www.uliege.be](http://www.uliege.be)

## LANGUAGE SKILLS

**MOTHER TONGUE(S):** French

**OTHER LANGUAGE(S):**

English

**Listening**  
C1

**Reading**  
C2

**Spoken  
production**  
B2

**Spoken  
interaction**  
B2

**Writing**  
C1

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