

Publisher: IISI - International Institute for Socio-Informatics

ISSN 1861-4280

international reports **on** socio-informatics

volume 14 issue 3
2017

Proceedings of the ECSCW 2017 Workshop on “Nomadic Cultures Beyond Work Practices”

Guest Editors:

Aparecido Fabiano Pinatti de Carvalho
Chiara Rossitto
Airi Lampinen
Luigina Cioffi
Breda Gray

Editors:

Volkmar Pipek
Markus Rohde

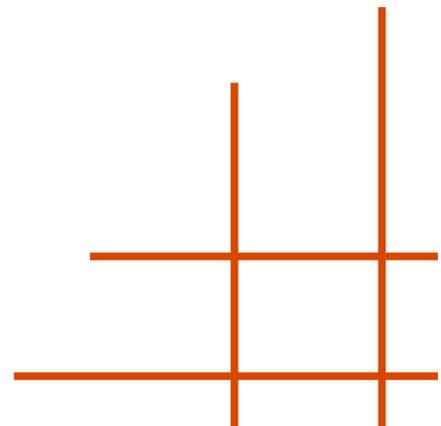


Table of contents

Table of contents	2
Impressum	3
Nomadic Cultures Beyond Work Practices	5
Chiara Rossitto, Aparecido Fabiano Pinatti de Carvalho, Luigina Ciolfi, Airi Lampinen, Breda Gray	
Nomadcity – Bug or Feature?	15
Gabriela Avram	
Nomadic Culture in Academic Settings: Pervasive Commuting and Institutional Support as Defining Elements	21
Matthias Korn, Aparecido Fabiano Pinatti de Carvalho, Amanda Langer, Philippe Zotz, Volker Wulf, Volkmar Pipek	
More than Nomadcity: The paradoxical affordances of liminality	29
Mohammad Hossein Jarrahi, Steve Sawyer	
Work-Life Strategies on the Move: Reconfiguring Boundaries	35
Luigina Ciolfi, Eleanor Lockley	
The Role of Technological Infrastructure in Nomadic Practices of a Social Activist Community	41
Aparecido Fabiano Pinatti de Carvalho, Saqib Saeed, Christian Reuter, Volker Wulf	
Hoffice: Social Innovation through Sustainable Nomadic Communities	49
Chiara Rossitto, Airi Lampinen, Christofer Gradin Franzén	
Guest Editor’s Short Biographies	57

The 'international reports on socio-informatics' are an online report series of the International Institute for Socio-Informatics, Bonn, Germany. They aim to contribute to current research discourses in the fields of 'Human-Computer-Interaction' and 'Computers and Society'. The 'international reports on socio-informatics' appear at least two times per year and are exclusively published on the website of the IISI.

Impressum

IISI - International Institute for Socio-Informatics
Stiftsgasse 25
53111 Bonn
Germany

fon: +49 228 6910-43

mail: iisi@iisi.de

web: <http://www.iisi.de>

Nomadic Cultures Beyond Work Practices

Chiara Rossitto*,
Aparecido Fabiano Pinatti de Carvalho**,
Luigina Ciolfi^,
Airi Lampinen*,
Breda Gray^^

*Stockholm University
Stockholm, Sweden
 {chiara, airi}@dsv.su.se

** University of Siegen
Siegen, Germany
fabiano.pinatti@uni-siegen.de

^ Sheffield Hallam University
Sheffield, United Kingdom
l.ciolfi@shu.ac.uk

^^ University of Limerick
Limerick, Ireland
breda.gray@ul.ie

Abstract. In this issue we explore the conceptual, analytical and design challenges inherent in the notion of “Nomadic Culture”. The papers included highlight how research on mobility has contributed to the CSCW community, while pointing to unsolved problems, future challenges and research agendas. We see this collection of papers as developing a more holistic perspective on nomadic culture, and connecting this scholarship with recent research on sharing and exchange platforms as sites of work. This intervention contributes to an understanding of nomadic culture by providing a more contemporary perspective on the social and cultural aspects of workplace sites and co-working practices.

1 Extending the concept of nomadic practices

Research on nomadic practices has become an established tradition within CSCW since the first studies on the matter. The workshop “Beyond Mobility: Studying Nomadic Work”, organised at ECSCW 2007, was a milestone in this regard. It investigated the rapid emergence of nomadic work practices and, at the time, it argued for an understanding of the “dynamic practical achievement involved in making, making the most of, and working in different places” (Rossitto et al., 2007). Ten years later, at the ECSCW 2017 workshop “Nomadic Cultures Beyond Work Practices”, we revisited the notion of nomadic practices in light of recent research and empirical changes, such as the spread of wireless connectivity and the rise of the so-called ‘gig economy’. In so doing, we explored the notion of *Nomadic Culture* as the entanglement of economic, social, cultural and technological practices that enables and constitutes nomadicity. The pieces composing this special issue are the results of the position papers presented in the ECSCW 2017 workshop, under this perspective.

1.1 Summary of contributions

The issue starts with Avram’s (2017) auto-ethnographic account of her nomadic practices during a sabbatical year. As she reflects upon how she accomplished work seamlessly at different places, and analyses her motivations to engage in work at those locations, she raises questions regarding the affordances and hindrances linked to nomadic practices. After all, are nomadic practices to be seen as a bug, or a feature of contemporary work/life? Avram’s account illustrates the tensions stemming from being part of a nomadic culture that seeks to make the most of work and life. She draws attention to issues of acceptance and to trade-offs, which seems to be predominant in such cultures, although overlooked most of the time, as suggested by de Carvalho (2013).

Korn et al. (2017) illustrate in their paper how organisational support is key for the development and maintenance of nomadic cultures. This issue, although previously raised by Chen and Nath (2005), has not been deeply addressed in the literature. In outlining the nomadic culture existing within a German university, the authors explore issues of pervasive commuting practices, and institutional frames in the accomplishment of collaborative work. The article calls for further research on the matter, which is indeed one of the pressing issues for future CSCW research on nomadic practices.

Jarrahi and Sawyer (2017) go back to problematizing nomadicity, by discussing the paradoxical affordances of liminality as a defining character of the notion. The authors discuss how nomadicity goes beyond spatial movements and spans issues of contextual shifts, temporal incongruities, separation and independence from organizations’ physical and digital boundaries, etc. Their

contribution strengthens the articulation of the notion of nomadicity refined by CSCW researchers over the years (see e.g. Ciolfi and de Carvalho, 2014; Humphry, 2014; Liegl, 2014; Rossitto, 2009).

Ciolfi and Lockley's (2017) contribution moves the focus to how the blurring and/or separation of work and non-work activities in nomadic cultures are managed. While their contribution overlaps slightly with those from Avram and Jarrahi and Sawyer, it brings to the fore a totally different perspective on these issues. It shows, in fact, how strategies applied to dealing with the potential blurring of work and life within nomadic cultures are highly personal and connected to technological infrastructures.

Issues of technological infrastructure are further discussed in the following piece by de Carvalho et al. (2017b), which addresses how *infrastructuring* (Pipek and Wulf, 2009) is an important concept for understanding and fostering nomadic cultures. The authors report on a study carried out on nomadic practices of social activist communities, introducing a theme as yet not fully explored by research on nomadicity. In particular, the focus on the nomadicity of an event and its infrastructure, rather than on the workers, brings a completely new perspective to issues concerning the accomplishment of work in, and across, different locations.

Finally, Rossitto et al. (2017) introduce in their paper another emerging trend concerning research on nomadic cultures. The authors turn their attention to issues of social innovation through sustainable nomadic communities. Specifically, they outline how *sharing* and *caring* are two predominant values underlying the social-cultural practices at the Hoffice. Hoffice – a merger of Home and Office – is a self-organising network that has emerged as a participatory response to the challenges of flexible and nomadic work arrangements.

The remainder of this editorial introduces the outcomes of our ECSCW 2017 workshop while seeking to set up an agenda for future research on nomadicity. We start by elaborating the notion of nomadic culture, we then proceed to discuss issues of nomadic practices in current scenarios, such as the “gig economy”. We conclude by presenting proposed future directions for research on nomadicity beyond entrepreneurship narratives, beyond encounters with the technology, and beyond working at several locations.

2 Elaborating on nomadic culture

The notion of nomadic culture was first introduced by Chen and Nath (2005), who located it in the domain of work where they see such a culture enabling the achievement of competitive benefits through workers' use of ubiquitous computing technologies. Their definition of nomadic culture emphasises those “artifacts, beliefs, and basic assumptions” that underpin organisational culture (2005: 56). In a later article, they suggest that the development of “an effective mobile work environment” is one of today's challenges; they thus emphasize the

need to study those issues that foster successful mobile work from the socio-technical perspective (Chen and Nath, 2008). They emphasise the interdependence of social and technical systems, but only insofar as they “must be jointly optimized in order to determine the best overall solution for the organization” (2008: 41).

By expanding Chen and Nath’s account of nomadic culture, we draw attention to the broader ecology of nomadic practices including, for instance, family-related and various life matters. This provides an opportunity to discuss the various trade-offs between organisations and the workforce, and the reciprocal demands, adjustments and accommodations inherent in nomadic work practices and life styles (see e.g. de Carvalho et al., 2017a). Thus, we argue that the notion of nomadic culture entails both the cultural and technological components that shape everyday practices. For example, as short and long-distance mobility become central features of work and life, these mobilities are no longer lived only as instrumental means of moving from A to B. They also involve the turning of the in-between spaces into “liminoid spaces of transition” – that is, social and cultural contexts in and of themselves (Vannini, 2010).

As a variety of mobile services, apps and devices have become a pervasive presence in everyday life, a range of dedicated, public or semi-public places are being set up to enable work on the move, or at a variety of locations. This includes, for instance, “COffices”, airport lounges and designated areas, as well as emerging trends like the Hoffice community that self-organizes pop-up co-working days. This relates to the set of practices inherent in turning one’s home into a workplace to be shared with other people, including strangers. These trends change the meanings of work (and life) places, times, social ecologies and associated social relations. Yet, as the application of mobile computing moves at a fast pace, and working “anytime, anywhere” (Kleinrock, 1996) becomes the practiced norm rather than merely a vision, scholarship on nomadic practices seems to have lost its momentum. With a few exceptions (Ciolfi and de Carvalho, 2014; de Carvalho et al., 2017a; Rossitto et al., 2014), it seems that HCI and CSCW research are more interested in technological innovations rather than in practice-oriented agenda examining contemporary nomadic lives (see, for instance, Weilenmann and Juhlin, 2011).

Our workshop at ECSCW 2017 revisited research on mobile CSCW by connecting the range of nomadic practices emerging from the use of technology (i.e. place-making, place-managing, planful opportunism, etc.) to the personal, socio-economic and political contexts in which such practices are enacted.

Various studies have illustrated how nomadicity can be regarded as an emergent and dynamic process unfolding as people engage in an ecology of practices for the mobilisation of their workplaces (Brown and O’Hara, 2003; de Carvalho, 2014; Luff and Heath, 1998; Perry et al., 2001; Rossitto et al., 2014; Weilenmann, 2003). These practices are highly technologically-mediated, not

least via the promise of enabling individual empowerment and flexibility (Gray et al., 2017). The effect is a constant reconfiguration and management of work/life boundaries (ibid.), and of motivational factors, ranging from choice to obligation and emerging opportunities (de Carvalho et al., 2017a).

3 Normalising nomadic practices and the “gig economy”

The workshop provided a context in which to connect the notion of nomadic culture to the emerging forms of work enabled by sharing platforms and the so-called “gig economy”. Over the past decade, scholars have turned to study those networked platforms that act as marketplaces for crowd work (Kittur et al., 2013; Martin et al., 2016) peer-to-peer exchange (Bellotti et al., 2014; Lampinen et al., 2015), and on-demand labour (Teodoro et al., 2014; Thebault-Spieker et al., 2015). The gig economy has been flagged as an important indicator of the future of work, despite critiques of how the often-rosy narratives related to working anytime anywhere (Gregg, 2013), and the so-called democratisation of work practices herald a shift in power from labour to capital. Studies on different types of platform labour have made significant contributions by mapping experiences of those who use these systems to access paid work (Glöss et al., 2016; Rosenblat and Stark, 2016) and depicting the networks of collaboration that emerge despite workflows that assume individuals labouring in relative isolation (Gray et al., 2017). We see these new forms of work as embedding and *normalising* nomadic practices. We aim to deepen our understanding of ‘nomadic culture’ by providing contemporary perspectives on the social and cultural aspects of work/life, time/space, and nomadic practices – their associated opportunities and shortcomings.

Post-Fordist capitalist restructuring is changing definitions of work and ‘the worker’ as well as work and life practices via outsourcing, deregulation and flexible employment relations – as, for example, in the gig economy. More research is required on the dynamics of nomadic culture, how it shapes or constrains action and interacts with wider social structures from the economy to the state. As some forms of work and other life activities become independent of time and space, the modern industrial work/life (space/time) boundaries and norms are unravelled giving rise to “nomadic culture”. We are interested in how the experience, practice and symbolism of daily work and life, as these are technologically-mediated, may be transformative of individuals and their spatial, temporal, cultural, and socio-political contexts. One of the questions addressed during the workshop related, for instance, to emerging repertoires of capacities and affordances: how these are being engaged with, and to what effect? For example, in what ways do contemporary technological discourses and practices

legitimate post-Fordist capitalism by stressing how technology can enable more individual autonomy and life flexibility (Fisher, 2010; Gray et al., 2017)? And, to what extent, and in what ways, does the promise of personal empowerment, authenticity and autonomy shape nomadic workers' lives and embedding nomadic culture?

4 Future directions to research on nomadic cultures

The workshop provided an important interdisciplinary context for discussing CSCW and HCI research on nomadic practices within a time trajectory (spanning from 2007 to the present, and envisioning future developments all the way to 2027). It focused in particular on those issues that still remain unsolved and pointed to relevant questions for future research. Investigating nomadic cultures presupposes the acknowledgment of shifting boundaries with respect to interdisciplinary research concerns, but also with respect to the empirical enactments of how people orchestrate their personal boundaries to manage interpersonal relationships and work/life practices (Avram, 2017; Ciolfi and Lockley, 2017; de Carvalho et al., 2017b). This opens up a range of research opportunities looking beyond situated encounters with the technology to focus, instead, on the broader events and socio-technical issues the technology creates (Jarrahi and Sawyer, 2017; Korn et al., 2017; Rossitto et al., 2017). Below, we highlight three overarching themes that we see as central to further explorations of the notion of Nomadic Culture. The themes are interwoven and encompass a range of socio-cultural analytical issues and design challenges that call for cross-disciplinary research to include, for instance, the ethical, political and economic issues framing the adoption of socio-technical platforms and infrastructures.

4.1 Beyond Entrepreneurship narratives

The first theme emphasizes a concern for more systematic investigations of differing case studies of nomadic cultures. What we see in this regard is a need to move beyond entrepreneurship and knowledge worker narratives to include, for instance, precarious and vulnerable cohorts of people (e.g. migration and refugee flows), blue collar workers and manufacturing settings (e.g. Industry 4.0), artistic settings where mobility is inherent in the experience of the performance (Rossitto et al., 2016), grassroots movements (such as the Hoffice network), and so on. While this list is not meant to be exhaustive, investigations of such settings are relevant as they provide an opportunity to contextualize nomadic practices in broader discourses of change and post-Fordist work organisation. This opens up novel opportunities for cross-disciplinary research and for developing a research

agenda that tackles alternative political, ethical, and economic aspects inherent in studying nomadic practices. For instance, the focus on concepts such as ‘work/life balance’ itself, as a form of organisational branding, can be seen as evidence of another way in which values of ‘life’ outside of work are at least partially subsumed to capitalist values and agendas. What alternative analytical issues could novel narratives of nomadic practices provide?

4.2 Beyond encounters with technology

The second theme brings attention to the role of technology as discourse in shaping socially, culturally and ideologically both nomadic cultures on the whole, and the subjectivity of nomadic lives. It draws attention to the role of constellations of technologies and digital platforms in enabling nomadic cultures, but also in creating a potential range of problems/issues to be dealt with. It addresses the technological, cultural, political and economic rationalities that underpin and legitimise contemporary enactments of nomadic work and the reproduction of nomadic culture.

One interesting possibility for research is the exploration of design-oriented methods (for instance, critical design and design fiction) that address the interplay between technology design and more holistic issues, such as the political, cultural and economic rationalities inherent in designing for nomadic cultures.

One could also consider the implications for methodology in extending research to contexts outside of the market-place, or in focusing on moments in practice that provide insight into the liberating and oppressive features and dynamics of nomadic culture, as for example being able to choose where and when to engage in work vs. having to cope with the expectations to be working anytime anywhere. This agenda might pick up on and develop earlier discussions and debates relating to gender and technology.

4.3 Beyond working at several locations

The last theme draws attention to the range of organisational aspects, motivational factors, personal values and expectations underling the flexibility stemming from this way of working and living. It entails a transition from micro to macro aspects of nomadicity, and from place-making practices to trajectories of nomadic lives (for instance, the study of migration flows; or values that remain outside of capitalist notions of value). Finally, it calls for practice-centred research entailing the work and non-work dimensions of people’s lives, and the negotiation and reconfiguration of work–life boundaries. Important aspects here include the interpersonal efforts to manage and co-ordinate boundaries between different activities and roles, value and values. This is not a simple question of work–life balance. It extends to the investigations of interpersonal relationships and of how colleagues, friends and family members, for instance, might impact each other’s

choices, and the capability to uphold desired boundaries. Other interesting issues here are aspects of self-presentation, reputation, and branding in terms of how they connect to nomadic practices as a choice, as an obligation or even as a personal identity.

5 Acknowledgments

We are thankful to the workshop participants for their valuable contributions.

6 References

- Avram, G. (2017). Nomadicity - Bug or Feature? *International Reports on Socio-Informatics (IRSI)*, 14(3), 15–19.
- Bellotti, V. M. E., Cambridge, S., Hoy, K., Shih, P. C., Handalian, L. R., Han, K., and Carroll, J. M. (2014). Towards community-centered support for peer-to-peer service exchange. In *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems - CHI '14*, 2975–2984. doi:10.1145/2556288.2557061
- Brown, B., and O'Hara, K. (2003). Places as Practical Concern for Mobile Workers. *Environment and Planning*, 35(9), 1565–1578.
- Chen, L., and Nath, R. (2005). Nomadic Culture: Cultural Support for Working Anytime, Anywhere. *Information Systems Management*, 22(4), 56–64. doi:10.1201/1078.10580530/45520.22.4.20050901/90030.6
- Chen, L., and Nath, R. (2008). A socio-technical perspective of mobile work. *Information Knowledge Systems Management*, 7(1/2), 41–60.
- Ciolfi, L., and de Carvalho, A. F. P. (2014). Work Practices, Nomadicity and the Mediatonal Role of Technology. *Journal of Computer Supported Cooperative Work*, 23(2). doi:10.1007/s10606-014-9201-6
- Ciolfi, L., and Lockley, E. (2017). Work-Life Strategies on the Move: Reconfiguring Boundaries. *International Reports on Socio-Informatics (IRSI)*, 14(3), 35–40.
- de Carvalho, A. F. P. (2013). *Technologically-mediated Nomadicity in Academic Settings: Tm-N as a Dynamic and Emergent Process*. Department of Computer Science and Information Systems. University of Limerick, Limerick.
- de Carvalho, A. F. P. (2014). Collaborative Work and Its Relationship to Technologically-Mediated Nomadicity. In *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP '14)*. Nice (France): Springer International Publishing. doi:10.1007/978-3-319-06498-7_13
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017a). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*. New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- de Carvalho, A. F. P., Saeed, S., Reuter, C., and Wulf, V. (2017b). The Role of Technological Infrastructure in Nomadic Practices of a Social Activist Community. *International Reports on Socio-Informatics (IRSI)*, 14(3), 41–47.
- Fisher, E. (2010). Contemporary Technology Discourse and the Legitimation of Capitalism. *European Journal of Social Theory*, 13(2), 229–252. doi:10.1177/1368431010362289
- Glöss, M., McGregor, M., and Brown, B. (2016). Designing for Labour. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems - CHI '16*, 1632–1643. doi:10.1145/2858036.2858476

Nomadic Cultures Beyond Work Practices

- Gray, B., Ciolfi, L., de Carvalho, A. F. P., D'Andrea, A., and Wixted, L. (2017). Post-Fordist reconfigurations of gender, work and life: theory and practice. *The British Journal of Sociology*, 1–23. doi:10.1111/1468-4446.12267
- Gregg, M. (2013). *Work's intimacy*. Joh Wiley and Sons.
- Humphry, J. (2014). Officing: Mediating Time and the Professional Self in the Support of Nomadic Work. *Journal of Computer Supported Cooperative Work*, 23(2), 185–204. doi:10.1007/s10606-013-9197-3
- Jarrahi, M. H., and Sawyer, S. (2017). More than Nomadicity: The Paradoxical Affordances of Liminality. *International Reports on Socio-Informatics (IRSI)*, 14(3), 29–33.
- Kittur, a, Nickerson, J., and Bernstein, M. (2013). The Future of Crowd Work. *Proc. CSCW '13*, 1–17. doi:10.1145/2441776.2441923
- Kleinrock, L. (1996). Nomadicity: Anytime, Anywhere in a Disconnected World. *Mobile Networks and Applications*, 1(4), 351–357.
- Korn, M., de Carvalho, A. F. P., Langer, A., Zotz, P., Wulf, V., and Pipek, V. (2017). Nomadic Culture in Academic Settings: Pervasive Commuting and Institutional Support as Defining Elements. *International Reports on Socio-Informatics (IRSI)*, 14(3), 21–27.
- Lampinen, A., Huotari, K., and Cheshire, C. (2015). Challenges to participation in the sharing economy: The Case of Local Online Peer-to-Peer Exchange in a Single Parents' Network. *Interaction Design and Architecture(s)*, 24(1), 16–32.
- Liegl, M. (2014). Nomadicity and the Care of Place - On the Aesthetic and Affective Organization of Space in Freelance Creative Work. *Journal of Computer Supported Cooperative Work*, 23(2), 163–183. doi:http://dx.doi.org/10.1007/s10606-014-9198-x
- Luff, P., and Heath, C. (1998). Mobility in Collaboration. In *Proceedings of the 1998 ACM Conference on Computer Supported Cooperative Work*. Seattle, Washington, USA: ACM Press. doi:10.1145/289444.289505
- Martin, D., O'Neill, J., Gupta, N., and Hanrahan, B. V. (2016). Turking in a Global Labour Market. *Computer Supported Cooperative Work: CSCW: An International Journal*, 25(1), 39–77. doi:10.1007/s10606-015-9241-6
- Perry, M., O'Hara, K., Sellen, A., Brown, B., and Harper, R. (2001). Dealing with Mobility: Understanding Access Anytime, Anywhere. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 8(4), 323–347. doi:10.1145/504704.504707
- Pipek, V., and Wulf, V. (2009). Infrastructuring: Toward an Integrated Perspective on the Design and Use of Information Technology. *Journal of the Association for Information Systems (JAIS)*, 10(5), 447–473.
- Rosenblat, A., and Stark, L. (2016). Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers. *International Journal of Communication*, 10(2016), 27. doi:10.2139/ssrn.2686227
- Rossitto, C. (2009). *Managing Work at Several Places: Understanding Nomadic Practices in Student Groups*. KTH Computer Science and Communication Department. Stockholm University, Stockholm.
- Rossitto, C., Barkhuus, L., and Engström, A. (2016). Interweaving place and story in a location-based audio drama. *Personal and Ubiquitous Computing*, 20(2), 245–260. doi:10.1007/s00779-016-0908-x
- Rossitto, C., Bogdan, C., and Severinson-Eklundh, K. (2014). Understanding Constellations of Technologies in Use in a Collaborative Nomadic Setting. *Journal of Computer Supported Cooperative Work*, 23(2), 137–161. doi:10.1007/s10606-013-9196-4
- Rossitto, C., Ciolfi, L., Büscher, M., Bogdan, C., and Severinson-Eklundh, K. (2007). Situating Mobility, Understanding Nomadic Work. In *Workshop held at the European Conference on Computer-Supported Cooperative Work*.
- Rossitto, C., Lampinen, A., and Franzén, C. G. (2017). Hoffice: Social Innovation through Sustainable Nomadic Communities. *International Reports on Socio-Informatics (IRSI)*, 14(3), 49–55.
- Teodoro, R., Ozturk, P., Naaman, M., Mason, W., and Lindqvist, J. (2014). The motivations and experiences of the on-demand mobile workforce. In *Proceedings of the 17th ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '14*, 236–247. doi:10.1145/2531602.2531680
- Thebault-Spieker, J., Terveen, L. G., and Hecht, B. (2015). Avoiding the South Side and the Suburbs. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW '15*, 265–275. doi:10.1145/2675133.2675278

Chiara Rossitto et al.

Vannini, P. (2010). Mobile Cultures: From the Sociology of Transportation to the Study of Mobilities. *Sociology Compass*, 4(10), 111–121. doi:10.1111/j.1751-9020.2009.00268.x

Weilenmann, A. (2003). *Doing Mobility*. Göteborg University.

Weilenmann, A., and Juhlin, O. (2011). Time to revisit mobility in mobile HCI? In *Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services - MobileHCI '11*, 717. doi:10.1145/2037373.2037495

Nomadcity – Bug or Feature?

Gabriela Avram
University of Limerick
Limerick, Ireland
gabriela.avram@ul.ie

Abstract. This paper takes an auto-ethnographic approach, focusing on my own nomadic work practices as part of a sabbatical year. A diary excerpt is used to illustrate an example of working “anywhere, anytime” motivated partly by deadlines, but also by project interdependencies, as well as by urgency and by the desire to make space for some leisure time. Work happened seamlessly at different places, mobilizing various artefacts and involving various collaborators as a result of coordination efforts ‘over trajectories of time and distributed in space’ (Rossitto and Eklundh, 2007).

1 Introduction

Academics are generally seen to have a ‘good life’: teaching, grading, reading, writing papers and presenting them at conferences. And sometimes, getting sabbaticals. Although some believe that a sabbatical is a one-year holiday, I personally happened to work more hours than usual during this sabbatical year. Of course, the schedule was completely flexible and I could work from anywhere I chose to, but this didn’t make life a lot easier. The privilege of travelling around, meeting people and attending events came with a price. I had to permanently negotiate travel arrangements, a bed to sleep in, the daily meals, the Internet connection, and many other things one tends to take for granted when they are at home. My sabbatical wasn’t the smooth experience Kristina Höök is talking about (Fitzpatrick, 2017) as an ‘*amazing invigorating experience, time for reading, writing, connecting with the passion, sitting under a tree talking philosophy*’. For me, it was just work – satisfying, renewing, interesting work, but away from my nest and my routines.

2 Nomadic practices

With the ubiquity of mobile communication “anytime” has evolved into meaning literally anytime, nights, holidays and weekends included, while the “anywhere” concept is expanding as well. Perry et al. (2001) showed how this “access anytime anywhere” construct can be problematic, as it is playing only on opportunities and not taking into account the difficulties encountered by the nomadic workers.

Nomadic practices require holistic studies. As de Carvalho et al. (2017) put it, “*nomadicity goes beyond spatial movements, work on the move, or access to technological and informational resources anytime/anywhere*”. In the case of academics on sabbatical leave, their mobility is rather a matter of choice and opportunity, than obligation. In this day and age, the majority of practices are technologically mediated and artefacts are mainly digital. Accessing and sharing resources (Rossitto and Eklundh, 2007) can be easily done through online repositories or accessing intranets and libraries at distance.

Perry et al. (2001) speak of ‘planful opportunism’ as one of the key factors associated with mobile and nomadic practices, often connected with a wish to enhance productivity or with the unpredictability of the environment. Academics taking sabbaticals commonly expect more relaxed office hours, choosing the venue they want to work from, and (almost) total freedom on determining what they want to work on. In these situations, enhancing productivity might take other nuances, as in getting inspired by the environment, or responding to mood changes (de Carvalho et al., 2017). Sometimes, urgent tasks coming from ongoing projects and collaborations shape the academic’s workday in unexpected ways.

In the absence of a 9 to 5 rhythm, the blurring of work and non-work is often accentuated by nomadicity, as also observed by de Carvalho (2014).

3 Two days in the life...

During my sabbatical leave, I spent time in three different European universities and travelled to visit about 10 others. Working together with my colleagues there was the exception, and not the rule. I was permanently connected to my home university, to the artefacts I carried on my laptop, to tasks I had on other projects, collaborating with people located in other places around the world. The local context influenced my work, but not in a major way. If the necessary infrastructure was available, it didn’t count if it was morning or night, or if I was waiting for a flight on an airport somewhere or in a proper office.

My plan was to take time off for learning new things and finalizing a number of publications. As coordinator of a networking action that just started, in the last few months I had to deal with more administrative work than usual.

In the three universities I visited, I usually got a desk in someone's office and access to wifi. I enjoyed going to talks and lectures, giving some talks and meeting people.

As this was for me a long-awaited opportunity to introduce some method into my workaholic madness, I chose to document my practices and take time periodically to reflect on them. At the beginning of my sabbatical, I made the decision to keep a diary, where I jotted down notes on both work and life events. The following fragment shows a succession of my work/life events over 48h.

'I woke up at 6am, obsessed by the amount of things I had to finish before leaving. My temporary living place was a tiny student-like room at the back of a conference centre, with a motorway running next to it and a factory with heavy machinery nearby. I started with emails and invitations that had to be sent through a project portal I was afraid I couldn't access on the move – and they were all urgent! At 11am, I packed in a hurry, and went to my office at the university that is hosting me, where I changed hats and worked on the country report that we had to submit on behalf of Ireland for the same project. I was hoping I could have a lunch break, but when I looked at my watch I saw it was time to go and catch my train. I managed to download a few papers on nomadcity just before leaving, so that I could make a start on a draft in case I finished the other things I had to do.

I bought a sandwich on the way to the station. At 2pm I got on the train, ate my sandwich and went back to the final review report for a EU project I had been working on over the weekend. I had promised to pass it on to the other reviewer the next day, as it was due in a week. The two hours flew, and my report was advancing, but very slowly. At 4 pm when my train arrived, I went to the Airbnb apartment I had booked in the closest city to the airport, met with the host, connected to the wifi and went back to work. Around 7pm, I decided to go out for a meal. The plan was to go to the city centre, but I was far behind with work, so I had a salad in the first corner joint I could find. And back to work. Around midnight, I couldn't keep my eyes open. Of course I was far from finishing. I set the alarm for 6:30 am, but woke up at 4 and went back to work. At 7 am, I had a shower and a coffee before going to the bus station. Work on the bus wasn't easy, but I managed most of the way. I slept for the roughest 15 min of the way, when we left the motorway. I have this magic gift that I can fall asleep instantaneously whenever I am in a vehicle on the move. Closer to the airport, I checked my email – it looked like there was a glitch in a system: someone was trying to put in an application due today and was unsuccessful. It dawned on me that this could have been caused by the form I was putting off filling, as it required a bit of thinking. Once in the airport, I grabbed another coffee and sat down to fill out that form. It took me about 30 min, but I managed to do it. The moment I pressed "submit", the airport wifi connection vanished. No cache. Wifi came back, and I started again. I did it in 12 min this second time. I went through the luggage check and immigration. The other passengers were already queuing at the gate in the tiny

airport. In the queue that wasn't yet moving, I opened my laptop and sent an email to the applicant to try again. Oops! Another email landed- "who has access to the generic email of the project?" I thought for a minute, managed to remember the password, and sent it just as the queue started moving. Once out of the airport building, we spent another 10-min queuing on the tarmac. A few more emails answered on my phone – a link to Erasmus Mundi sent to a student who would like to visit us in autumn, additional information to an invited speaker to help her decision to join us for a meeting. Good, no more fires to fight now! Just in time for boarding the airplane. Three more hours to work on my report. Maybe I could finish it tonight! I spent the take-off and landing time, when laptops were not permitted, sketching ideas for the current paper on my notebook. I felt I was very productive.

At the other end, my friend picked me up at the airport. I dropped my luggage and went to a meeting with some project partners that I had scheduled in advance for 4pm. Two hours later, I had dinner with my friend in her kitchen. While speaking about her work, my work, travel, kids, life, I surreptitiously managed to share information on my afternoon meeting on Facebook and Twitter. At 11pm, when she went to bed, I connected to her home wifi to answer a few more emails and finish my report. At 1am, I had to stop- my eyelids were heavy. The 6 am start finally brought me to a complete draft. At 9am, I finally clicked "Send" and started my day off – quality time to be spent with my adult son, who had taken a day off work and got on a plane at 7am to come and meet me. We often find ourselves simultaneously in the same country around Europe for work, but do not manage to meet. This day was different.'

4 Discussion and conclusion

The short episode above is a sort of extreme example of working "anywhere, anytime" motivated partly by deadlines (the review report), but also by urgency (filling out forms, answering emails) and by the desire to make space for some leisure time.

Work happened almost seamlessly at my temporary accommodation, my host university, in the Airbnb apartment, in the airport, at my friend's house. I had everything I needed on my laptop and phone and planned my off-line work by downloading everything I needed. "Bridging places" (Rossitto and Eklundh, 2007) was straightforward, as most of my shared work was stored on Google Drive. As the task of writing the review report took a lot more time than expected, it spilled over what was supposed to be personal and travel time. Interdependencies made it impossible to postpone, as my colleague needed time to write his part and the report had to be submitted. This could be seen as an instantiation of knotworking, defined by Engeström et al. (1999), and cited by

Rossitto and Eklund (2007) as ‘a changing orchestration of people and artefacts over trajectories of time and distributed in space’.

Different types of work tasks got interweaved, from a large report with a strict deadline, to filling out forms that were not-so-urgent but required due to interdependencies and promptly answering easy-to-clear emails. Also, a visit with a personal character offered the opportunity of a short work visit.

Another insight that came out of the reflection exercise showed priority given to sorting out interdependencies, while my personal work gets often shifted to nights and weekends.

This short paper aimed to shed a light on my own nomadic practices and create some space for reflection and possibly for change.

5 References

- de Carvalho, A. F. P. (2014). Collaborative Work and Its Relationship to Technologically-Mediated Nomadicity. In *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP '14)*. Nice (France): Springer International Publishing. doi:10.1007/978-3-319-06498-7_13
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*. New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- Engeström, Y., Engeström, R., and Vähäaho, T. (1999). When the center does not hold: The importance of knotworking. In *Activity theory and social practice: Cultural–historical approaches*. Aarhus.
- Fitzpatrick, G. (2017). Kia Höök on challenges of success and value of slowing down and re-connecting, CAL-15. *Changing Academic Life [podcast]*. Retrieved June 4, 2017, from <http://www.changingacademiclife.com/blog/2017/2/12/kia-hook>
- Perry, M., O’Hara, K., Sellen, A., Brown, B., and Harper, R. (2001). Dealing with Mobility: Understanding Access Anytime, Anywhere. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 8(4), 323–347. doi:10.1145/504704.504707
- Rossitto, C., and Eklundh, K. S. (2007). Managing Work at Several Places: A Case of Project Work in a Nomadic Group of Students. In *Proceedings of the 14th European Conference on Cognitive Ergonomics*. London, UK: ACM. doi:http://doi.acm.org/10.1145/1362550.1362562

Nomadic Culture in Academic Settings: Pervasive Commuting and Institutional Support as Defining Elements

Matthias Korn,
Aparecido Fabiano Pinatti de Carvalho,
Amanda Langer,
Philippe Zotz,
Volker Wulf,
Volkmar Pipek

University of Siegen
Siegen, Germany

[matthias.korn, fabiano.pinatti, amanda.langer, philippe.zotz, volker.wulf, volkmar.pipek}@uni-siegen.de](mailto:{matthias.korn, fabiano.pinatti, amanda.langer, philippe.zotz, volker.wulf, volkmar.pipek}@uni-siegen.de)

Abstract. Organisational support for nomadicity has been considered one of the main artefacts of nomadic cultures. Without such support, the establishment and development of a nomadic culture is hindered, as is the engagement in nomadic practices. In this paper, we discuss how organisational support within a German university has fostered the establishment of an academic nomadic culture. We discuss how pervasive commuting practices, the related institutional frames, and resulting collaborative work practices are integral part of this culture. In so doing, we demonstrate how long-distance commuting is a defining social characteristic of the university culture and we start discussing how a number of infrastructural factors compete against nomadic cultures, demanding coping strategies for their maintenance.

Keywords: Nomadicity, Commuting, Academia, Institutional Frames, Nomadic Culture.

1 Introduction

Nomadcity—i.e., the accomplishment of work in and across manifold locations through the mobilisation of the workplace with the help of information and communication technologies (ICTs) (de Carvalho, 2014; Rossitto, 2009)—has been object of many and various research studies within CSCW for the past few years (Ciolfi and de Carvalho, 2014). Whilst these studies have contributed substantially to advancing the understanding of the notion of nomadcity, little has been said about the popularisation of such practices contributing to the raise of nomadic cultures, which in turn supports them.

This paper describes the organisational support within a provincial German university that led to commuting becoming a characteristic element of the local academic culture. This is based on an understanding that workers may spend a large amount of their work hours away from the university campus, which especially for those living in other cities results in a substantial amount of time spend on commuting to and from campus. We discuss commuting as a defining social characteristic of the university that shapes much of its work culture and elaborate on the difficulties that members of this culture have to overcome in their everyday work and life.

2 Related Work

The notion of nomadic culture is not novel. It dates back to 2005, when Chen and Corritore (2005) coined the term to refer to the role of organisational support in fostering nomadcity. The authors suggest that the move towards a nomadic workforce, organisations must provide the appropriate mechanisms for that.

Czarniawska (2014) goes beyond the issues of organisational support, putting forward an argument that nomadcity can be seen as a life-story plot. The author suggests that we are witnessing a shift towards a culture where the notions of nomadcity and nomadism will become more and more intermingled.

In response to Czarniawska, Büscher (2014) draws attention that the life-story plot view can be in fact biased by “key aspects of the socio-economic and political contexts of nomadic work in global neoliberal economies” (p. 223), urging for a more thorough investigation of issues concerning nomadcity, one that takes account of new practices and politics concerning nomadcity, whose focuses lies on sociality and collaboration.

This paper takes Büscher’s arguments into account and sets out to shed light on how organisational support in combination with people’s personal preferences are directly related to the rise of nomadic cultures.

3 Towards a Nomadic Culture

The discussion we put forward in this paper is based on auto-ethnographic accounts of the authors, who work at a German university located in a provincial city of ca. 100.000 inhabitants, and informal exchanges on the subject with their co-workers. The city is an economic, social and educational hub for the region. It is only about 1-2 hours away from several major German cities and has good connections to motorway and railway services. Many of the students and a large number of teachers and researchers commute regularly—not only from the region and these nearby major cities, but from all over Germany. Additionally, the university is spread over several locations in the city, which employees and students frequently have to traverse for lectures, meetings, teaching duties, etc. Commuting and the university's distribution over the city create a number of constraints and challenges and have a visible impact on the local work culture. In particular, changes between personal presence and absence play a major role in everyday working conditions and work practices at the university, as already highlighted in past CSCW research on nomadicity (Bogdan et al., 2006; de Carvalho, 2014; Rossitto and Eklundh, 2007). We suggest a new angle to the state of the art on the subject by discussing how commuting is an integral part of the nomadic culture that emerged in our university over many years and the arrangements around it. Whilst deeper investigations are necessary to better understand the nuances of such phenomena, this paper points out some potential issues to be explored in future research.

3.1 Commuting as a defining social characteristic of academic nomadic culture

From informal exchanges with colleagues and based on our own experiences, we learned that there are numerous reasons for choosing a place to live away from the city of our university. The private environment with family responsibilities can be one of these reasons. Often, the common cross-section of couples or families is not necessarily located there. The partner may have employment in a different city. The children may already be at school or in day-care elsewhere. Moving would mean changes, while parents may rather want to keep the children in a stable environment. The common cross-section may preferably remain in another German city.

Furthermore, the temporary employment character of many of the positions offered in the university can be a source of demotivation to relocate. Another reason that is often mentioned by colleagues who live in bigger cities is that they can have faster access to external events or airports compared to rather long routes they would have to take if living in the university city.

We also got to understand social network effects with regards to relocation: New employees may not move to the university city, but choose to move to the major cities 1-2 hours away because many colleagues already live there. In general, it seems that a high mobility rate among academics makes them not necessarily prone to relocating their homes, but instead to commuting long distances.

Living in different areas leads colleagues to organise themselves in several ways to get to work or to collaborate. An example is to coordinate collective train rides or regular car sharing groups. Both offer possibilities for meetings and discussions with co-workers about work and non-work-related issues and to some extent getting actual work done like reading, writing, and other forms of computer or paper work.

Meeting culture is also very much adapted to commuters. Rather than traveling to the university campus, meetings among colleagues living in the same city or region are often scheduled right there. Meetings, lectures and other events at the university, in turn, are often scheduled later in the morning so as to be more commuter-friendly. Research events such as public talks, colloquia, etc. often extend into the evening for them to be out of the way of teaching and faculty duties but still fit into a single work day, maximising productivity of presence time and avoiding another day of commute. In fact, particularly in commuter-heavy units and arguably at the university at large a notion of “core days” has emerged. While the actual days may shift (examples are Tuesdays to Thursdays or Wednesdays to Fridays every week), these are days where most meetings, events, and in-person collaborative work will be scheduled. The other days remain for remote, techno-mediated meetings, email work, and individual scholarship.

In this way, a sort of commuter-friendly nomadic culture emerges, in which technologically-mediated nomadicity unfolds as work gets accomplished in and across different locations with the help of computer technologies, which are key for the mobilisation of their workplaces (de Carvalho et al., 2017; Su and Mark, 2008).

3.2 Organisational support for emerging nomadic cultures

The practice of non-resident working has been largely established at our university so that the organizational processes are also geared towards it. Most employees use laptops instead of desktop PCs to remain flexible. In order to minimize presence in person, events are preferably placed compactly for a few consecutive days. Mondays and Fridays are usually left free, so to accommodate those who commute. These observations corroborate findings from Lilischkis (2003). However, they go beyond it by demonstrating how this is part of a university culture.

In principle, the productive result of an activity is substantially more important than the place where the activity was performed, which also allows work away

from the office. Student assistants support researchers by digitising books and materials in order to make them more mobile. A VPN client allows access to the university network from external locations, including access to the library and other university services. However, the provided access sometimes can be problematic, which leads people to prepare themselves before leaving and take the materials with them. This corresponds to the *assemblage of actants* discussed in Su and Mark's (2008) nomadicity model, which can be directly connected with the affordances and actual performances of computer technologies in nomadic contexts (Sørensen, 2011).

A particular problem of the university as a whole is limited space with regards to both lecture halls and offices. These space restrictions have led to commuter-friendly solutions. Because the university vastly exceeds the physical capacity of the students it can take, many lectures are now required to be video recorded and made available online so that more students can follow the content than the rooms can accommodate. This organisational support gives people the opportunity to engage in work from different locations and at times that suit them, enabling the *choice* and *opportunity* regions of the nomadicity spectrum discussed by de Carvalho et al. (2017).

3.3 Strategies and cultural understanding in coping with nomadicity

Although commuting and organisational support are important aspects of the nomadic culture herein described, there remain many challenges for people in coping with this situation on an everyday basis. For one, the internet connection on the road is not always good, let alone consistently available, which has a considerable influence on the workflow, especially when one is dependent on data from online resources. Changing trains or switching to other means of transport interrupts commuters in their work. Furthermore, public transport is often crowded and noisy and hence presents challenges in concentrating, reading, writing, or even talking to colleagues.

The arrangement of office hours has in part resorted to online tools. For instance, many lecturers offer the possibility of Skype meetings with students, meaning that neither they nor the students would have to travel for a 15-minute conversation. The communication between employees also focuses on their changing presence and absence. For example, tools such as Telegram are used to communicate internally.

The biggest challenges are the changing presence and absence of colleagues, the availability of resources at any time and any location as well as the necessary planning of meetings with colleagues. Contrasting with arguments from de Carvalho (2014) that suggest that distance is not an issue for people who engage

in nomadicity, our observations show that people in this particular nomadic culture see the lack of personal contact as a deficiency.

In order to optimise face-to-face interactions, there is a cultural understanding that meetings should be arranged on the mid-week days. We further observed that there is a division into "writing days vs. meeting days", which allows colleagues to understand the times when other colleagues would be available and when they would concentrate on individual work. In home office, colleagues remain nevertheless available via e-mail, chat, and phone, so that time-critical arrangements can still be made, which raises questions about work-life balance, as also observed by Gray et al. (2017) and de Carvalho (2013).

4 Conclusion

In this paper, we provided a glimpse of the pervasive commuting practices at our university. These practices have led to dynamics, which have long been engrained, e.g., in the scheduling of events, in the ways student assistants are involved in accomplishing flexible work, and in the ways in which technology is increasingly used to mediate as well as coordinate collaborative presence and absence work. We have shown that some institutional arrangements are in place, that others informally have become routine along the way, but that employees and students still have to cope with and organise around some of these arrangements as well.

Many of our observations resonate with findings from the literature, especially with observations done by Lilischicks (2003) and de Carvalho (2014). However, we advance these findings by demonstrating how commuting is articulated and engrained as a defining element of our local academic culture.

In conclusion, we argue that pervasive commuting and its institutional support from the university have been essential in fostering the described culture. As Chen and Nath (2005) point out, when no institutional support is in place, nomadicity is handicapped. Furthermore, our observations suggest that in such a culture clear agreements on how to deal with absence and changes in plans are of particular relevance. Commuters often experience delayed trains or other delays that can affect office planning. Informing colleagues about such conditions is indispensable for successful cooperation. Such issues must be further explored in future work, so to provide a nuanced account of the role that commuting practices and institutional support plays in nomadicity and emergent nomadic cultures.

5 Acknowledgements

We would like to thank our many colleagues in various research units at the University of Siegen, who gave us valuable insights on the nomadic culture of our university.

6 References

- Bogdan, C., Rossitto, C., Normark, M., Adler, P. J., and Eklundh, K. S. (2006). On a Mission without a Home Base: Conceptualizing Nomadicity in Student Group Work. In P. Hassanaly, T. Herrmann, G. Kunau, and M. Zacklad (Eds.), *Cooperative Systems Design: Seamless Integration of Artifacts and Conversations*. IOS Press, 23–38.
- Büscher, M. (2014). Nomadic Work: Romance and Reality. A Response to Barbara Czarniawska’s “Nomadic Work as Life-Story Plot.” *Journal of Computer Supported Cooperative Work*, 23(2), 223–238.
- Chen, L., and Corritore, C. (2005). Nomadic Culture and Its Impact on Organizational Support for Nomadic Behaviors and Employee Job Satisfaction. In *Proceedings of the Fourth International Conference on Mobile Business*. Sydney, Australia: IEEE Computer Society. doi:<http://dx.doi.org/10.1109/ICMB.2005.73>
- Chen, L., and Nath, R. (2005). Nomadic Culture: Cultural Support for Working Anytime, Anywhere. *Information Systems Management*, 22(4), 56–64.
- Ciolfi, L., and de Carvalho, A. F. P. (2014). Work Practices, Nomadicity and the Mediational Role of Technology. *Journal of Computer Supported Cooperative Work*, 23(2). doi:10.1007/s10606-014-9201-6
- Czarniawska, B. (2014). Nomadic work as life-story plot. *Journal of Computer Supported Cooperative Work*, 23(2), 205–221. doi:10.1007/s10606-013-9189-3
- de Carvalho, A. F. P. (2013). *Technologically-mediated Nomadicity in Academic Settings: Tm-N as a Dynamic and Emergent Process*. Department of Computer Science and Information Systems. University of Limerick, Limerick.
- de Carvalho, A. F. P. (2014). Collaborative Work and Its Relationship to Technologically-Mediated Nomadicity. In *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP '14)*. Nice (France): Springer International Publishing. doi:10.1007/978-3-319-06498-7_13
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*, New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- Gray, B., Ciolfi, L., de Carvalho, A. F. P., D’Andrea, A., and Wixted, L. (2017). Post-Fordist reconfigurations of gender, work and life: theory and practice. *The British Journal of Sociology*, 1–23. doi:10.1111/1468-4446.12267
- Lilischkis, S. (2003). *More Yo-yos, Pendulums and Nomads: Trends of Mobile and Multi-location Work in the Information Society*. STAR. Milano: Databank.
- Rossitto, C. (2009). *Managing Work at Several Places: Understanding Nomadic Practices in Student Groups*. KTH Computer Science and Communication Department. Stockholm University, Stockholm.
- Rossitto, C., and Eklundh, K. S. (2007). Managing Work at Several Places: A Case of Project Work in a Nomadic Group of Students. In *Proceedings of the 14th European Conference on Cognitive Ergonomics*. London, UK: ACM. doi:<http://doi.acm.org/10.1145/1362550.1362562>
- Sørensen, C. (2011). *Enterprise Mobility: Tine Technology with Global Impact on Work*. New York, USA: Palgrave Macmillian.
- Su, N. M., and Mark, G. (2008). Designing for Nomadic Work. In *Proceedings of the 7th ACM Conference on Designing Interactive Systems*. Cape Town, South Africa: ACM Press, 305–314. doi:<http://doi.acm.org/10.1145/1394445.1394478>

More than Nomadicity: The paradoxical affordances of liminality

Mohammad Hossein Jarrahi *,
Steve Sawyer **

* University of North Carolina,
Chapel Hill NC, the United States
jarrahi@unc.edu

** Syracuse University,
Syracuse NY, the United States
ssawyer@syr.edu

Abstract. Building on the concept of liminality as articulated in organization studies, we theorize many mobile knowledge workers may find themselves in liminal spaces – working across multiple organizations and projects. To be productive in these liminal spaces, mobile knowledge workers must constantly contend with organizational, contextual, and social boundaries, gaps in technological resources, and emerging interaction norms.

1 Introduction

The concept of nomadicity has been used in CSCW research to highlight how workers accomplish their work while moving among different physical spaces and information infrastructures (de Carvalho et al., 2017). This work makes clear that nomadicity is more than merely spatial movement; other factors such as contextual shifts—in personal arrangements, organizational connections, and social engagement—as well as temporal incongruities can also be prominently on display (Cousins and Robey, 2005; Erickson et al., 2014; Kakihara and Sørensen,

2001). Seen this way, the concept of nomadicity emphasize workers' separation and independence from any one organization's physical and digital boundaries (even as it implies their reliance – or at least engagement – with several), their need to mobilize technological resources to maintain productivity (Nelson et al., 2017; Su and Mark, 2008), the blurring of the professional and personal aspects of their lives (Grönvall et al., 2016; Jarrahi and Thomson, 2017), and the production of new forms of social interaction to account for their mobile lives (Brown and O'Hara, 2003).

1.1 Liminality

While the conceptualization of nomadicity is rich and useful, it may overlook an important aspect related to mobile knowledge workers' experiences—namely, that they may occupy positions that can be considered *liminal*. Organizational scientists describe liminality as the state of being “betwixt and between different organizational settings and projects.” Being so situated, mobile knowledge workers need to adjust continuously to maintain momentum relative to multiple projects, assignments, and organizations (e.g., Borg and Söderlund, 2013; Nissim and De Vries, 2014). They also need to proactively manage a set of weak organizational ties rather than relying on the resources of being an organizational insider (Borg and Söderlund, 2013). Nomadicity, then, while not the same as liminality, can often be compounded by it, and this amplifies the need for a worker to contend agilely with organizational, contextual, and social boundaries, gaps in technological resources, and new interaction norms.

2 Empirical evidence

The empirical basis for our theorizing builds from the 37 interviews with mobile knowledge workers (mostly from the North Carolina Research Triangle) that we have completed. Research Triangle Park is a leading area for high-tech research and development. And, increasingly, these industrial sectors (and geographic locales) are supporting mobile work.

Interview subjects were identified via snowball sampling from known members of our respective communities as well as via cold-calling workers who publically identified themselves as “nomads” in their online LinkedIn profiles. Interviews focused on establishing (1) interviewees' professional background, working situation, work tasks, and work arrangements; (2) their experiences of mobility and nomadicity, and (3) the ways that different technologies and infrastructures play a role in their work. All interviews were tape recorded and transcribed to support interpretive analysis by members of the research team.

Interviews followed a structured protocol that allowed for probes and follow-up questions. The interview protocol evolved across the 37 interviews, and the

open-ended nature of the questions allowed the research team to adapt the interview as needed. Interviews were taped, with permission, and then transcribed for analysis.

3 Findings

Analysis of these data helps us to see that liminality has affordances as well as challenges. In this section we specifically focus on two aspects of liminality – the freedom of mobile knowledge workers to assemble their arrangements and the freedom to articulate or adapt to the situations that arise.

3.1 Free to Assemble

Because of either weak ties to an organization, or ties to multiple different organizations, mobile knowledge workers often have a great deal of freedom to craft the means by which they conduct their work. As others have shown, knowledge work relies heavily on digital tools and resources, or when taken as a whole, something we call a ‘digital assemblage’ (Sawyer et al., 2014). Liminal nomadicity, in other words, can allow for a high degree of worker customization when it comes to coupling work practices and digital assemblages.

Sometimes these digital assemblages mirror worker interest or preference. For example, Participant 3 in our sample notes: “*I work from my tablet, I work from my laptop, I work from my phone, and it’s whatever’s convenient at the time.*” Participant 6 utilizes Google Drive rather than the internal system in operation at [his] employer, and participant 4 uses his personal laptop to install and run various software (e.g., Photoshop) to facilitate his work. More often, however, workers create digital assemblages to address gaps or otherwise maintain their professional momentum when it is somehow being thwarted. The same participant 4 who uses his personal laptop also explained to us that he emails files from one laptop to the other because the use of flash drives or cloud services is restricted by one of his employers. Participants 11 and 12, similarly, mindfully take advantage of being in, or move to, locations with pre-specified IP addresses so that they can log onto needed corporate resources.

Being liminal as a worker often means being left to one’s own devices—in this case, literally. Yet, this freedom to assemble not only necessitates that workers source their own alternative tools and engage in sometimes convoluted workaround practices, but that they also maintain an up-to-date knowledge base regarding which combinations of tools and practices work best for certain intended ends. Moreover, each of these digital assemblages needs to be different for each organization or project that a liminal worker is engaged in. This leads us to our second paradoxical finding: the paradox of articulation.

3.2 Free to Articulate

If liminal workers are afforded the freedom to create their own work practices and personal infrastructures to manage their work, the ways in which they collaborate across multiple organizational and contextual boundaries compels them to engage in extra articulation work to be successful. Over two decades ago, Schmidt and Bannon (1992: 51) suggested that “*cooperating workers have to articulate (divide, allocate, coordinate, schedule, mesh, interrelate, etc.) their distributed individual activities.*” This is ever truer with the liminal worker, not merely because of their nomadic status, but more directly because they are juggling among various forms of collaboration with each project or organization they are affiliated with.

Among our interviewees, Participant 19 describes the need for articulation succinctly: “*If you have three clients that have different requirements you’re obviously stuck with three different ways of doing things.*” A liminal worker, in this sense, has all the freedom to engage in multiple projects, but the concomitant cost of that flexibility can be a rather exhausting array of articulation work. Should one fail to engage in this extra collaborative step, the liminal worker risks being seen as unadaptable, at best, or unemployable, at worst. Participant 30 highlights the need for adaptability when articulation work is bound-up with normative tool-uses: “*I use my planner if it’s something that I need to share with a client or someone working for me. I’ll use a project management system and my system of choice is Asana, but I’ll use Base Camp if the client prefers it; I like Asana a lot more.*”

Being nomadic, necessitates adaptability and agility in the face of various sociotechnical seams (Erickson and Jarrahi, 2016). We observe that a key part of nomadicity is the liminal state of work, which highlights how much workers must engage in activities such as assembling their digital arrangements and constantly pursuing articulation work to make their specific sets of expertise accessible and cogent within and across the various professional environments in which they are readily traversing. Liminality, seen this way, is what mobility demands.

4 Discussion and conclusion

Mobile knowledge workers are nomadic, working across different locations and contexts, and this requires them to regularly mobilize resources and work around constraints. Increasingly these workers also find themselves within liminal spaces due to their weak organizational ties and project-based affiliations. We suggest that nomadicity within liminal spaces highlights several paradoxes incumbent with this style of working. Whereas workers are able to choose and put into practice preferred personal tools and technologies, they are also required to adapt these freedoms—sometimes exponentially—to accommodate organizational

constraints. In other words, when nomads find themselves in liminal organizational spaces, the seams they encounter and their ability to manage them extend well beyond what we many have become accustomed to focusing on in CSCW studies of nomadicity. We suggest that our field take up the challenge of expanding our understanding of these complicated modern forms of work to better account for how liminality and nomadicity engage one another.

5 References

- Borg, E., and Söderlund, J. (2013). Moving in, moving on: liminality practices in project-based work. *Employee Relations*, 36(2), 182–197. doi:10.1108/ER-11-2012-0081
- Brown, B., and O’Hara, K. (2003). Places as Practical Concern for Mobile Workers. *Environment and Planning*, 35(9), 1565–1578.
- Cousins, K. C., and Robey, D. (2005). Human Agency in a Wireless World: Patterns of Technology Use in Nomadic Computing Environments. *Information and Organization*, 15(2), 151–180. doi:http://dx.doi.org/10.1016/j.infoandorg.2005.02.008
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*, New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- Erickson, I., and Jarrahi, M. H. (2016). Infrastructuring and the Challenge of Dynamic Seams in Mobile Knowledge Work. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work and Social Computing*. San Francisco, California, USA: ACM. doi:http://dx.doi.org/10.1145/2818048.2820015
- Erickson, I., Jarrahi, M. H., Thomson, L., and Sawyer, S. (2014). More than nomads: Mobility, knowledge work, and infrastrucur. In *The European Group for Organizational Studies Colloquium*. Rotterdam, The Netherlands.
- Grönvall, E., Ciolfi, L., Avram, G., Rossitto, C., and Barkhuus, L. (2016). HCI at the boundary of work and life. *Personal and Ubiquitous Computing*, 20(4), 481–485. doi:10.1007/s00779-016-0937-5
- Jarrahi, M. H., and Thomson, L. (2017). The Interplay Between Information Practices and Information Context: The Case of Mobile Knowledge Workers. *Journal of the Association for Information Science and Technology*, 68(5), 90–103. doi:10.1002/asi
- Kakihara, M., and Sørensen, C. (2001). Expanding the “Mobility” Concept. *ACM SIGGROUP Bulletin*, 22(3), 33–37. doi:http://doi.acm.org/10.1145/567352.567358
- Nelson, S. B., Jarrahi, M. H., and Thomson, L. (2017). Mobility of knowledge work and affordances of digital technologies. *International Journal of Information Management*, 37(2), 54–62. doi:10.1016/j.ijinfomgt.2016.11.008
- Nissim, G., and De Vries, D. (2014). Permanent liminality: The impact of non-standard forms of employment on workers’ committees in Israel. *International Labour Review*, 153(3), 435–454. doi:10.1111/j.1564-913X.2014.00010.x
- Sawyer, S., Crowston, K., and Wigand, R. T. (2014). Digital assemblages : evidence and theorising from the computerisation of the US residential real estate industry, 40–56.
- Schmidt, K., and Bannon, L. (1992). Taking CSCW seriously. *Computer Supported Cooperative Work (CSCW)*, 1(1), 7–40. doi:http://dx.doi.org/10.1007/BF00752449
- Su, N. M., and Mark, G. (2008). Designing for Nomadic Work. In *Proceedings of the 7th ACM Conference on Designing Interactive Systems*. Cape Town, South Africa: ACM Press, 305–314. doi:http://doi.acm.org/10.1145/1394445.1394478

Work-Life Strategies on the Move: Reconfiguring Boundaries

Luigina Ciolfi,
Eleanor Lockley

Sheffield Hallam University
Sheffield, United Kingdom
[l.ciolfi](mailto:l.ciolfi@shu.ac.uk); [e.lockley](mailto:e.lockley@shu.ac.uk)@shu.ac.uk

Abstract. This short paper proposes some reflections emerging from an interview study examining the challenges of how highly mobile people (in terms of both spatial mobility and of practices) manage the blurring and/or separation of work and life activities. The goal was to document and reflect upon how strategies for managing work/life demands are varied, and how people appropriate technologies in highly personal and nuanced ways to support these personal strategies. Initial findings indicate that, while different people put in place often diametrically opposite strategies to handle work and life demands, all participants invested a substantial amount of time in devising a strategy and in fitting a technological infrastructure to it, and that revisions to these strategies are seldom put in place and often coincide with major events in one's life.

1 Introduction

“(…) As digital technologies and the challenges of their adoption, usage and appropriation pervade our lives, they become a constant and fluid presence in people's everyday practices, rather than tools used merely in specific work versus non-work situations” (Grönvall et al., 2016). In a recent special issue (Grönvall et al., 2016), several authors contributed studies of how digital technologies are employed and appropriated fluidly and seamlessly for work and non-work, in parallel to an increasingly complex set of personal strategies for managing different spheres of life. Here we talk about “nomadic practices” referring to the fluidity and constant reconfiguration of time, space and tasks. The fluid

reconfiguration of work and life boundaries is also essential part of this: in an increasingly mobilised culture of work, the rhetoric of work-life balance is often contrasted in reality by constantly shifting boundaries between work and personal lives.

While several studies highlighted how strategies for managing work/life demands are varied, and how people appropriate technologies in highly personal and nuanced ways to support them, technology design is still too often relying on either the limited “always-on” paradigm, or on the assumption that a separation of work and life is always the ideal management strategy. Also the technological perspective often ignores the complex nature of “work” and “life”, whereby “work” is not limited to the office/workplace (e.g. work done in people’s homes), and being in the workplace does not eliminate the need to attend to personal demands (e.g. managing personal issues during work hours); similarly “life” demands are not just about family, social or leisure activities (e.g. taxes; healthcare), as well as private time being pervaded with work tasks as expectations change in terms of availability (Grönvall et al., 2016)..

In studying the “mobilization” of practices as well as of infrastructures, however, we need to understand how such mobilisation of work life strategies and boundaries is accomplished, rather than focus on the “interruption” or “distraction” that life demands put on work (Grönvall et al., 2016). Furthermore, we move a critique to the rhetoric that people seek to balance their work and their personal lives, seeing it as both desirable and effective. Bødker argues that constantly reconstituting boundaries is essential to human activities, and that technology design should recognise this rather than capitalise on presumed boundaries that do not remain fixed or do not persist in practice (Bødker, 2016).

Furthermore, boundary drawing is reconstituted by redefining work and non-work, whereby models of labour and forms of unpaid activity also evolve and shift (Gray et al., 2017).

With the goal of shedding light on how such balancing/blurring strategies are indeed developed and accomplished, we conducted an interview study aimed at documenting and reflecting upon how strategies for managing work/life demands are varied in the context of highly mobile lives, and how people appropriate technologies in highly personal and nuanced ways to support these personal strategies and lifestyles.

2 The Interview Study

We recruited interview participants through networking forums, mailing lists and social media in the Sheffield area. We gathered a sample of 26 people of working age (over 18) in knowledge-intensive roles in high employment sectors in Sheffield (education, IT, creative industries, design and engineering). 12 participants were women and 14 were men. At least 8 participants were in the 33-

40 age category. The youngest participant was 24 and the oldest 62. Occupations included: Education/training consultant, Business Development Manager, Senior Producer, CEO, Information Officer, Strategic Development Manager, Knowledge Transfer Researcher, Designer, Librarian, and Lecturer.

The interviews were semi-structured. Participants were asked questions about themselves (educational background, professional role, etc.), the work that they do and how they accomplish it, some aspects of their private life and about how they deal with the challenges and demands of work and life. They were also asked about their use of digital technology for managing their time and multiple demands. The interviews were audio-recorded and lasted between 40 and 90 minutes. The study captured a set of lived practices around work, life and the role of technology and the interviews provided detailed insights of the participants' perceptions, decisions and strategies. All of the interview audio recordings were revisited by the researchers and annotated with reflections and comments. While the thematic analysis of the data is still ongoing, we have identified an initial set of main themes, as well as a number of examples of different and variously fluid work-life practices.

2.1 Individual Strategies

Example 1 - Distinct separation

Sally, 33-40, Married with no children; Information Officer.

Sally purposively devised a clear plan to separate her work and home life - and she does this because she believes that it makes her more productive at work because she's not distracted, and that at home she can truly switch off.

I'm the kinda person who thinks all of the time, and if I see work stuff coming in at home I'm gonna get stressed by that. I need a switch off period. To support that so I don't go completely nuts I enforce that rule...It's a habit I've developed over the years and I suspect if I encroached upon it I've never be able to get it back again (Sally).

Example 2 - Blurring all the way

Nathan, 33-40, Married with two young children; Industrial Designer.

Nathan keeps "standard" office hours (9am to 5pm), but finds himself working on evenings and weekends in order to deliver projects. His wife has similar work demands, and they take turns to look after the children when one of them has a project to deliver.

If both parents work from Monday to Friday, the weekends are really squeezed for all the stuff you should do during the week. Sometimes the children get sort of pushed to one side so that we can get on with jobs, and sometimes they get the monopoly of the weekend (...) At the moment it can't always be joyous weekend, it's a balance of getting the practicalities done as the same time as looking after them (Nathan).

Luigina Ciolfi and Eleanor Lockley

Nathan embraces the blurring as both a way to use idle time at home (for example in the evenings when his kids are asleep) and to maintain his design reputation, which is an important concern for him.

Example 3 - Three Roles

Greta, 26-32, Married, one child; Education consultant / Lecturer / PhD Candidate.

Greta has six email accounts linked to her private life and to the different aspects of her three roles:

I've got to admit I prefer emails to calls even though they take longer because you've got a record of what's been discussed...I find that I deal with so many different people with different hats on I can't remember what I've said always - without that record...But also you can control the variables a bit in email and you can control when you reply and reply when it suits you, and before you answer it you can scroll back and find out what you want to ask and I like the control it gives me (Greta).

Example 4 - Working during idle time

Brian, 26-32, Single, no children; Researcher and PhD Candidate.

Brian says he doesn't necessarily class what other people would class as work. Work emails aren't really classed as work to him - they are just responded to in what he terms “*idle*” time.

For Brian “dead” moments - when commuting for instance - are times when he accesses online content and responds to some emails...

“Dead time - empty time - something where you can't necessarily get away from doing - there's no social or work value to be there.....whilst you are waiting for your lentils to cook...” (Brian).

Example 5- Career and Family

Andrew, 33-40, Married with one 2-year-old child and another on the way at the time of the interview; Sales Director.

Andrew works very hard, however he still makes sure to dedicate time to his young family in the evenings when he gets home after office hours. He has made his career a priority at this time, so he has no hobbies to speak of.

I have a young family so inevitably as soon as I get home I can't do any work at all because of my young family. When he's gone to bed, maybe I can look at things a bit more. I almost always start working before I leave home. So I do some things first thing when I wake up, I catch up on things, take stock of whatever's happened so that when I arrive in the office I am more prepared for it (Andrew).

Andrew feels that in the future he might use the flexibility that his work affords him, not in order to work less but in order to work differently:

The thing that makes me consider differently is the pressure that there is on me at work, and a continual inability to get everything done that needs to be done and in order to reduce stress levels it could be useful to be able to get things done outside of the office, particularly with another baby on the way and how that impacts on my time...I might want to be in the office

less but get more work done. It's definitely something that I continually look at. It isn't necessarily perfect at the moment (Andrew).

These examples show how varied and complex individual approaches to handling work and life can be. In our ongoing analysis of the data, we see multifaceted, and often diametrically opposite strategies of complete blurring vs. complete separation, and also cases where the boundaries are not so neatly defined, and almost always intentionally so. Interestingly, these individual strategies also relate to different styles of work, which are shaped by both individual preference and by organisational and sector opportunities/constraints and expectations.

2.2 Nomadic Cultures in Organisations

To echo the theme of the workshop, the interviews provide interesting insights on how different organisations and individuals seem to develop a "nomadic culture" as well as a "culture of fluidity", and how particularly expectations and demands by an organisation interplay with personal choices and preferences.

For example, one participant working in the creative sector acknowledged that there is an expectation both for high mobility of time and of resources and high blurring between work and life. Participants in academia see high flexibility as both an opportunity and a constraint, allowing them to shape their own way of working but also making it difficult to establish boundaries and their exact nature. One participant working in the high-tech industry reported that in his company highly mobile work is expected, including long distance mobility, however if a partner is involved (for example attending the same conference) the perception of the employee doing work remotely changes completely and is questioned.

The personal motivation to work is also a factor. Passion for work is mentioned by many as the reason for adopting a blurring strategy. Some people who admit to loving their jobs don't really see doing work at home as a problem or a chore. However there are two examples of participants who love their job but still don't want to do it at home. Passion is definitely a factor but might not work the same way for everybody.

Our data indicates that a nomadic culture of flexibility also characterises non-work activities: time and resources dedicated to hobbies and other non-work activities are also mobilised, and so are the strategies for handling these activities in place. This is often necessary as some of the participants engage in non-work activities that require advanced skills, organisational know-how and extensive coordination. They tend to do these activities flexibly, and often allow them to infiltrate work time. For some of the participants, work has certain boundaries, but these passions have not, and technology enables them to keep up with their passions.

While our analysis of the data is still ongoing, we begin seeing interesting articulation of constraints, opportunities and expectations.

Certainly, many of the participants “work” to devise a strategy and a set of tools that suit them. Sometimes it has taken them many years to develop a system that works for them. Most participants don’t want to change these strategies without considerable reason to do so, no matter how “balanced” or “blurred” they are.

3 Acknowledgements

We thank all the volunteers taking part in the interview study. This work was supported by the EPSRC Balance Network activity grant “Managing Technology at the Boundary of Work and Life”.

4 References

- Bødker, S. (2016). Rethinking technology on the boundaries of life and work. *Personal and Ubiquitous Computing*, 20(4), 533–544. doi:10.1007/s00779-016-0933-9
- Gray, B., Ciolfi, L., de Carvalho, A. F. P., D’Andrea, A., and Wixted, L. (2017). Post-Fordist reconfigurations of gender, work and life: theory and practice. *The British Journal of Sociology*, 1–23. doi:10.1111/1468-4446.12267
- Grönvall, E., Ciolfi, L., Avram, G., Rossitto, C., and Barkhuus, L. (2016). HCI at the boundary of work and life. *Personal and Ubiquitous Computing*, 20(4), 481–485. doi:10.1007/s00779-016-0937-5

The Role of Technological Infrastructure in Nomadic Practices of a Social Activist Community

Aparecido Fabiano Pinatti de Carvalho *,
Saqib Saeed **,
Christian Reuter ^,
Volker Wulf *

* University of Siegen
Siegen, Germany
 {fabiano.pinatti, volker.wulf}@uni-siegen.de

** Imam Abdulrahman Bin Faisal University
Dammam, Saudi Arabia
sbsaed@iauuod.edu.sa

^ Technische Universität Darmstadt
Darmstadt, Germany
christian.reuter@cs.tu-darmstadt.de

Abstract. Infrastructure is undoubtedly a key resource for people engaged in technologically-mediated nomadism. Tech-Nomads rely on technological infrastructure components, such as Wi-Fi availability, to mobilise their workplaces and effectively accomplish their productive activities. In this paper, we introduce findings from an investigation focusing on how technological infrastructures are re-instantiated according to emerging demands. We focus particularly on the European Social Forum (ESF) (an activists' platform) and the problems faced by the members of this network in mobilising its infrastructure, stressing findings from the literature about the importance of making infrastructure visible for nomadic practices, which have not yet been sufficiently explored. We suggest that infrastructure (re-) design methods would be a relevant resource for Tech-Nomads engaged in activities such as the ones from ESF.

1 Introduction

Discussions on the relevance of infrastructure for people engaged in technologically-mediated nomadic practices, also known as Tech-Nomads (de Carvalho, 2014), have already been introduced in the literature. For instance, studies such as the ones by Humphry (2014), Liegl (2014), Rossitto et al. (2014) and de Carvalho et al. (2017) touch on important issues regarding infrastructure, as briefly discussed ahead in the related work. A deeper account of these issues is provided by Mark and Su (2010), who draw on Star and Ruhleder's (1996) notion of infrastructure to discuss how important is to make infrastructure visible for nomadic workers, contrasting with Weiser's views on the relevance of invisible infrastructure for effective ubiquitous computing (Weiser, 1991).

This paper elaborates on findings concerning the role of technological infrastructure for members of communities of social activists. We focus on European Social Forum (ESF) (an activists' platform), the characteristics of its human and technological infrastructures, and the challenges to maintain and instantiate such infrastructure as the community goes on to engage nomadic practices. In particular, we discuss the infrastructural challenges to make an ESF conference happen.

We highlight how infrastructure development is a key notion for nomadic cultures. In particular, we draw attention to the fact that infra-structure (re-) design methods can be a relevant resource for Tech-Nomads engaging in activities such as those reported in this paper.

2 Related Work

The making of nomadicity is directly related to the notion of place making, which is in turn intrinsically connected to issues of infrastructure (de Carvalho et al., 2011; Rossitto, 2009). Indeed, information technologies, artefacts and tools have become an important repertoire of modern 'work infrastructures', which comprise the full range of "devices, tools, technologies, standards, conventions, and protocols on which the individual worker or the collective rely to carry out the tasks and achieve the goals assigned" (Pipek and Wulf, 2009). These infrastructures are present globally and yet localised according to the needs of the work environments and work practices.

The relevance of infrastructure to nomadicity has been widely acknowledged in the literature. Humphry (2014), for instance, discusses the notion of officing and its articulation with the concepts of connecting, configuring and synchronizing as a set of infrastructure demands which can contribute significantly to further understand contemporary nomadic practices and the rise of new cultures of nomadicity. Liegl (2014) draws attention to the relevance of transportation

The Role of Technological Infrastructure in Nomadic Practices of a Social Activist Community

infrastructure for nomadic practices, going beyond the widely explored issue of the role of technological infrastructure in such practices. Rossitto et al. (2014) elaborate on the notion of constellation of technology, discussing how different technological infrastructures can impact upon collaboration among Tech-Nomads working from different locations. De Carvalho et al. (2017) discuss how technological infrastructure can influence people's motivations to engage in work in and across several locations. All these studies raise questions of infrastructure demands and do contribute to understand how it plays a role in nomadic practices, however, none of them goes deeper in discussing such impacts or what answers such demands would require. A notable exception is the work by Mark and Su (2010).

Mark and Su (2010) draw attention to the fact that Tech-Nomads are constantly in unknown environments, meaning that they do not actually know what such environments have to offer them in terms of infrastructure. The authors discuss how important is to make infrastructure visible to nomadic workers, so that they can actually find the relevant resources to accomplish their productive activities. The authors suggest developing local knowledge and sharing it within communities of practices for nomadic workers as a way to respond to infrastructure demands emerging from the engagement with nomadicity. However, the authors do not detail the characteristics of such infrastructures. We introduce these characteristics in this paper, based on findings from a study on nomadic practices in a community of social activists.

3 Infrastructure and Nomadic Practices of Social Activist Communities

Drawing on the findings from a *thematic analysis* (Braun and Clarke, 2012) carried out on ethnographic data and referring back to Star and Bowker's (2002) views on infrastructure, we describe the human and technological infrastructures concerning the activities of an activist network using a set of eight technological *and social* characteristics. These characteristics define a relation between technologies and their users/usages, which results ultimately in an 'infrastructure'. Our findings come mostly from the interviews and observations carried out during the organization of two ESF events dated from 2008 and 2010 – see Saeed et al. (2010) for details on the study.

The nomadic practices of the studied community are translated in the organization of their main event in different countries. ESF is a central event for European activists and organizations participating in anti-globalization social movements, held in different locations. This means that every time an event happens, the community must mobilise the event infrastructure to a new location (Saeed et al., 2011). Our findings suggest that this mobilisation is, in a way,

similar to the mobilisation of the workplace discussed by de Carvalho (2014), which is a defining criterion of technologically-mediated nomadism.

3.1 Nomadic cultures and the seven characteristics of infrastructure

In summary, our findings suggest that technological infrastructure in communities of social activist can be described by the seven characteristics of infrastructure (Star and Ruhleder, 1996): *embeddedness*, *transparency*, *reach or scope*, *learned as part of membership*, *linked with conventions of practice*, *embodiment of standards/plugged in other infrastructures*, *building on installed base* and *visible on breakdown*. Most of these characteristics are discussed by Mark and Su (2010), although not in the same terms and definitely not in the necessary depth.

In terms of *embeddedness*, our findings suggest information exchange on collaborative websites, a component of the technological infrastructure, may lead to cooperative outcomes like planning for a joint activity, political campaigning etc. Regarding *transparency*, the findings suggest that infrastructure invisibly supports tasks without the need to be assembled or reinvented for each task. As for *reach or scope*, our findings support the idea that infrastructures have a spatial and/or temporal reach. Since the general tasks concerned with organizing ESF events remained the same, sometimes the same websites were reused, extended or re-developed with almost the same set of functionality. In terms of *learned as part of membership/taken-for-grantedness*, it became evident that activists working on the ESF would expect things like a website for each event where they could propose activities and find information about the event and would take for granted the work to bring this website alive. Concerning *linked with conventions of practice*, we have seen that infrastructures shape and are shaped by conventions of practice. In regard to *embodiment of standards/plugged in other infrastructures*, the findings show that several components of the ESF technological infrastructure includes other infrastructures, e.g. content management systems, databases, etc. In terms of *building on installed base*, we have seen how things like the Internet and the World Wide Web serve as construction sites for the technological infrastructure used by the participants. Finally, *visible on breakdown* refers to the fact that the infrastructure usually becomes visible when it is not found or does not work.

By using such understanding as an analytical focus, it becomes easier to look at even very heterogeneous ecosystems of people, technologies and usages, and it also becomes easier to acknowledge activities that do not create usages directly but help to make usages possible.

3.2 Fostering social activist communities nomadic culture

The results of our analysis show that the work in activist networks is quite peculiar. Sometimes there is neither a continuous work practice nor are there resources that would support updating and managing the necessary technological infrastructures. Furthermore, due to the discrete nature of work practices, activist networks have high and low points of participation and only in times of high participation is the need for technological infrastructure primary. Maybe it is not needed further until the next high point of interest. The maintenance during these low points of interest is quite complex as not many people are taking care of this infrastructure. It may disappear and at the next point of high demand localization may require development of information infrastructure from scratch. Mark and Su (Mark and Su, 2010) argues that this non-routine element is characteristic of nomadism.

As a result, such networks end up having to find out the available 'global' infrastructure of online tools and by negotiating their usages against the backdrop of an international setting. This infrastructure localisation process may be influenced by choices and preferences of developing volunteers instead of solely facilitating organizational needs. Similarly, repeated localisation efforts hamper the maturity of IT artefacts, because new (unstable) artefacts emerge frequently.

The maintenance of the human infrastructure, which is responsible to maintain the technological infrastructure is also quite challenging within such communities. The volunteers are backbone of social activist organisations and, as such, the human infrastructure is subject to constant changes. This requires a further layer of work to keep track of who is doing what for the community, as volunteers might be unable to engage in some of the community activities due to other commitments (Saeed et al., 2010). Again, this refers back to what Mark and Su (2010) calls the interplay of technical, physical and human infrastructure, in allusion to the embeddedness of the technical infrastructure within other social arrangements, which can affect nomadic practices. Supporting an effective interplay between these infrastructures would be key for fostering the development of stronger and, to some extent, more stable nomadic cultures.

4 Conclusion

In this paper, we tried to highlight the challenges in maintaining sustainable human and technological infrastructures for nomadic practices of social activist communities. We focused especially on problems faced in finding the relevant components of human and technological infrastructures of the community at the time of need. For that we introduced findings from a long-term study of the localisation of infrastructure in the European Social Forum (ESF) and articulate their connections with Susan Leigh Star's considerations of 'infrastructure' (Star

and Bowker, 2002; Star and Ruhleder, 1996) and Mark and Su's (2010) findings on the relevance of making infrastructure visible for people engaged in nomadic practices. We argue that, in order to foster and sustain nomadic cultures it is extremely relevant to pay attention to the issues of infrastructure. Furthermore, we argue that elaborating design methods to support the re-instantiation of such community infrastructures is a potential support for such nomadic culture. This is a potential new direction for research on technologically-mediated nomadicity and the nomadic cultures emerging from the popularisation of such practices, which we want to pursue.

5 Acknowledgements

We would like to thank all ESF informants who participated in our study, providing us with insightful information throughout our research.

6 References

- Braun, V., and Clarke, V. (2012). Thematic Analysis. In D. Rindskopf and K. J. Sher (Eds.), *APA Handbook of Research Methods in Psychology*, vol. 2. Washington, DC, US: American Psychological Association, 57–71.
- de Carvalho, A. F. P. (2014). Collaborative Work and Its Relationship to Technologically-Mediated Nomadicity. In *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP '14)*. Nice (France): Springer International Publishing. doi:10.1007/978-3-319-06498-7_13
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2011). The Making of Nomadic Work: Understanding the Mediational Role of ICTs. In M. M. Cruz-Cunha and F. Moreira (Eds.), *Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts*. Hershey, PA, USA: IGI Global, 381–396.
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*. New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- Humphry, J. (2014). Officing: Mediating Time and the Professional Self in the Support of Nomadic Work. *Journal of Computer Supported Cooperative Work*, 23(2), 185–204. doi:10.1007/s10606-013-9197-3
- Liegl, M. (2014). Nomadicity and the Care of Place - On the Aesthetic and Affective Organization of Space in Freelance Creative Work. *Journal of Computer Supported Cooperative Work*, 23(2), 163–183. doi:http://dx.doi.org/10.1007/s10606-014-9198-x
- Mark, G., and Su, N. M. (2010). Making Infrastructure Visible for Nomadic Work. *Pervasive and Mobile Computing*. doi:http://dx.doi.org/10.1016/j.pmcj.2009.12.004
- Pipek, V., and Wulf, V. (2009). Infrastructuring: Toward an Integrated Perspective on the Design and Use of Information Technology. *Journal of the Association for Information Systems (JAIS)*, 10(5), 447–473.
- Rositto, C. (2009). *Managing Work at Several Places: Understanding Nomadic Practices in Student Groups*. KTH Computer Science and Communication Department. Stockholm University, Stockholm.
- Rositto, C., Bogdan, C., and Severinson-Eklundh, K. (2014). Understanding Constellations of Technologies in Use in a Collaborative Nomadic Setting. *Journal of Computer Supported Cooperative Work*, 23(2), 137–161. doi:10.1007/s10606-013-9196-4
- Saeed, S., Pipek, V., Rohde, M., and Wulf, V. (2010). Managing nomadic knowledge: a case study of the European social forum. In *Proceedings of the 28th International Conference on Human Factors in Computing Systems (CHI '10)*, 537–546. doi:10.1145/1753326.1753406

The Role of Technological Infrastructure in Nomadic Practices of a Social Activist Community

- Saeed, S., Rohde, M., and Wulf, V. (2011). Analyzing Political Activists' Organization Practices: Findings from a Long Term Case Study of the European Social Forum. *Computer Supported Cooperative Work: The Journal of Collaborative Computing (JCSCW)*, 20, 265–304. doi:10.1007/s10606-011-9144-0
- Star, S. L., and Bowker, G. C. (2002). How to Infrastructure. In La Lievrouw and S. Livingstone (Eds.), *Handbook of new media*. London, Great Britain, 151–162.
- Star, S. L., and Ruhleder, K. (1996). Steps toward an Ecology of Infrastructure : Design and Access for Large. *Information Systems Research*, 7(1), 111–134.
- Weiser, M. (1991). The computer for the 21st century. *Scientific American* 265, 3(1991), 94–104.

Hoffice: Social Innovation through Sustainable Nomadic Communities

Chiara Rossitto*,
Airi Lampinen*,
Christofer Gradin Franzén **

* Stockholm University
Stockholm, Sweden
 [{chiara, airi}@dsv.su.se](mailto:{chiara,airi}@dsv.su.se)

** Hoffice, Stockholm, Sweden
christofer@cohero.se

Abstract. This paper presents an ongoing ethnographic study of the Hoffice Network in Stockholm, Sweden. The concept Hoffice (Home + Office) relates to the emerging phenomenon of people opening up their homes as shared workplaces, and to the related organizational framework enabling the creation of co-working spaces. We focus on *sharing* and *caring* as two overarching values emerging from our preliminary data analysis. In doing so, we discuss three main themes characterizing the socio-cultural practices around the Hoffice, namely: a concern for other people, a concern for implicit norms and cultural aspects inherent in the Hoffice structure, and the role of the facilitators and organizers in making Hoffice a sustainable, self-organizing practice. These themes allow us to develop an initial understanding of the notion of nomadic culture and to connect it to a view of the collaborative economy that values sense of community, mutual trust, support and continuity over time.

1 Introduction

Research on nomadism and mobile CSCW has focused on the variety of technology-mediated practices people (mostly workers) enact in order to mobilise

work. This body of work has drawn attention to how mobility is achieved practically (Luff and Heath, 1998; Perry et al., 2001; Su and Mark, 2008; Weilenmann, 2003), to the mutual interactions between place and work and how they shape each other (Brown and O'Hara, 2003; de Carvalho, 2014; Rossitto and Eklundh, 2007), to the use of constellations of technologies to manage and distribute work to several locations (Rossitto et al., 2014) and, more recently, to the range of motivational factors underlying mobile work practices (de Carvalho et al., 2017).

In this paper, we revisit the notion of nomadic work and connect it to the broader notion of nomadic culture. *Nomadic culture* entails a variety of economic, social, cultural and technological practices enabling and constituting nomadic practices. As such, we argue that it provides a more contemporary understanding of nomadicity grounded in recent empirical changes, such as the spread of wireless connectivity and the rise of the so-called collaborative economy.

As the application area of mobile computing moves at a fast pace, working “anytime, anywhere” (Kleinrock, 1996) has become an everyday practice rather than merely a vision. The broad variety of mobile services, apps, and devices available has contributed to the emergence of dedicated, public or semi-public places enabling work on the move, or at a variety of locations. This includes, for instance, “COffices”, airport lounges and dedicated co-working spaces. Work activities in such places are highly technologically-mediated, and often associated to the promise of individual empowerment and flexibility (Gray et al., 2017). However, there are now critiques questioning the purported freedom that these arrangements, detached from traditional workplaces, entail (Gregg, 2013). Flexibility is desirable for some, and an unwanted burden for others. Recent research illustrates how reasons for engaging in nomadic work can range from choice to opportunity and obligation (de Carvalho et al., 2017). Moreover, even individuals who willingly embrace flexible work sometimes long for a work community, or miss the comforts of a structured place and time for work.

In this paper, we present the case of the Hoffice network, a self-organized community with the main goal of providing a shared social context and a sense of belonging, as well as enhanced productivity away from “traditional” workplaces and office arrangements. In its current state, the main technology adopted by the Hoffice in Stockholm is a Facebook group, mostly used to advertise and organize Hoffice events.

2 Case study

The Hoffice network was founded in Stockholm in the beginning of 2014, with the main goals to: i) enable its members to access and collectively use physical resources which are otherwise typically used only individually, and ii) provide an organizational framework enabling the creation of facilitated co-working spaces.

The H in Hoffice stands for “Home”, a physical resource that in modern, urban societies is often underutilized (at least in Western countries). As *sharing* is one of the core values, the Hoffice Network is often associated with the ongoing discourse within the sharing economy addressing the access to goods and services as a way to enable a more sustainable utilisation of resources and, thus, an alternative social model. At the moment of writing this paper, a total of 1950 people are members of the Hoffice Facebook group in Stockholm; their professional backgrounds vary, including entrepreneurs, freelancers, students, retired people, job-seekers, and employees of companies or universities who have the possibility to work away from their “regular” offices.

2.1 Data collection

During the first phase of our project (July 2016–April 2017), we have carried out an ethnographic investigation of the Hoffice Network. A number of qualitative methods have been used, particularly *participant observations*, *interviews*, and a *focus group* with regular Hoffice participants. Furthermore, we have conducted *digital ethnography* in order to understand emerging activities and personal interactions in the context of the Hoffice Facebook group, and artefact analysis of the Hoffice website.

While the first and the second author of this paper have been involved in the data collection, the third author, who is the founder of the Hoffice Network, has facilitated our introduction to the setting and has also been an informant in the early stage of the study. For the second phase of the project, we are organizing two design workshops aimed at tailoring an existing social platform for the Hoffice Network. This will move our project more towards a research strategy that could be characterised as Action Research.

3 Preliminary results

Hoffice events are usually advertised on the local Facebook group of the network. Once an event is created by a member who is willing to share his/her home as a workplace, any member can show interest and sign up for it. The *organizer* of the event usually sets the number of people who can attend, which is, in most cases, determined by the size of the apartment and the number of work stations available there. When an event takes place, guests are free to work on anything they want, and activities are not restricted to what is strictly defined as work. The host is usually responsible for introducing and keeping the *structure* (this is a core concept to the community) of the work day. This is referred to as *facilitating* the event, including timing the alternation of 45-minute long work sessions and short breaks, usually taken together with the intent to socialise with each other and to meet new people. As a common practice, in the beginning and in the end of each

working session, each participant states his/her goals for the upcoming session, and then tells everyone what has actually been accomplished. The motivation for this practice is to help participants to formulate a clear and explicit goal that is actually feasible within the timeframe provided. A regular day spans from 9.30 to 16.30 but this time is not fixed, and people are allowed to come and go as it best suits them.

The *structure* has the instrumental and practical goal to organize the working day. However, the synchronized alternation of working sessions and breaks is also meant to contribute to a sense of mutuality and trust among the participants and the opportunity for building a positive and supportive group. It is this sense of support, rather than the cooperation on the same tasks or activities, that characterizes Hoffice as a shared and collaborative working environment.

The organization of the participatory, shared, activities inherent in the Hoffice network can be regarded as an example of social innovation. Together with the design of current and future enabling technologies, it provides a research opportunity to rethink the role of online platforms as means: i) to establish and maintain supportive relationships between people, and ii) to enable them to come together in order to share goods, skills and various resources.

3.1 Sharing as caring

Social support, collective intelligence, continuity and flexibility in how activities take place, trust between individuals, sense of community, and openness are some of the key values that characterize not only the concept of Hoffice, but also the experience of several informants in our study. While these values are not clear-cut, and some of them are at times in tension with each other (i.e. sense of community and openness), they all connect to the idea that sharing resources (the home) and engaging in self-organising events have the potential to reposition people as central members of their local communities. For instance, a shared workspace like the one created by Hoffice is empowering for people who do not have stable offices (i.e. freelancers), as it provides a social dimension for work otherwise carried out alone. Moreover, it makes people less dependent on formal organizations, for example as they do not need to rent a co-working space from a private company.

As the exchanges with other people emerge at the level of mutual trust and reciprocal support, *sharing intertwines with caring for other people*. This point is central to our understanding of nomadic culture. While a number of studies on mobile CSCW have illustrated the challenges to manage work at a variety of places (Brown and O'Hara, 2003; Perry et al., 2001; Rossitto et al., 2014; Rossitto and Eklundh, 2007), the main characteristic of Hoffice as a changing workplace, is a concern for other people, and for managing the tension between social continuity (co-working with friends or acquaintances who are familiar with the structure) and yet being open for new members to join. This is what we refer to as

planned togetherness. We do not argue that the actual physical place is not relevant to the Hoffice. Going to a stranger's home might, in fact, be a barrier to participation for some members, and there are a number of Hoffices organised at the level of local neighbourhoods to facilitate participation. Rather, we argue for the relevance of the co-working structure and its underlying values in bringing people together. For instance, we are further investigating cases in which the structure itself has been mobilized to different contexts, such as coffee shops, virtual meetings on Skype (Voffice), and public libraries (Boffice¹).

3.2 In-between facilitating and organizing

As mentioned above, facilitating and organizing are the two main activities of managing Hoffice events. However, as the network has grown rapidly over a short period of time, a number of challenges have emerged regarding such activities and the respective roles. Firstly, there has been a practical problem of scalability and unbalance between the number of possible participants (*guests*) and the number of people who volunteer to be organizers (*hosts*). A second issue relates to the responsibilities inherent in facilitating an event, particularly keeping the structure without imposing it on the participants. This is experienced as a challenge, especially when several newcomers are present and the role of the facilitator (unwillingly) requires reminding other people of what the rules are, rather than just keeping sessions on time. Finally, some people would be willing host Hoffice events at their home but are still reluctant or nervous to take on the responsibility to facilitate the event.

The possibility to enable flexibility between organizing and facilitating is currently being explored in terms of technology design, particularly in terms of how tailoring existing platforms could enable a redistribution of these two roles. Other possible, partial solutions to the challenge involve organizing Hoffices in the context of public spaces, such as libraries, as well as separating out responsibilities related to running a Hoffice so that the person hosting need not be the facilitator etc., thus allowing more people to be actively involved in co-creating the event and lessening the burden placed on any one, central community member.

4 Towards a nomadic culture

While the lack of a stable workplace makes Hoffice participants an instance of nomadic workers, the physical dimension of the place and the technology available are not such a big concern in this context. People move around with their laptops and they know what type of technology will be available at

¹ The Swedish word for library is "bibliotek" which explains the "B" in Boffice.

someone's home, as this is often advertised in the event description. What is interesting, instead, is how principles taken from the collaborative economy (sharing domestic spaces) become instrumental to recreating the social dimension of the workplace in a way that privileges reciprocal support and trust among the participants. Here, we see an example of how the notion of “*Nomadic Culture*” can be a suitable notion to talk about the Hoffice, as it entails the variety of economic, social, cultural and technological practices underlying mobility. Besides, it helps making sense as a way to establish self-organizing, local communities where members not only share physical spaces but also come together to care for each other – this is a main difference from previous studies on place-making in temporary work places such as coffee shops.

This move from nomadic practices to nomadic culture poses a number of questions that we would like to discuss during the workshop:

- Should we regard Hoffice participants simply as (nomadic) “*workers*”? There is an inherent nomadic aspect in Hoffice practices, but are participants just workers? Can participation in the Hoffice be regarded as a sign or a statement about something more? Are participants co-creators of social innovation?
- If we regard Hoffice as an example of “normalised” nomadic practices, what are the conceptual implications in terms of rethinking the workplace and co-working? How does this reflect on the design of platforms that bring together workplace practices and principles of the collaborative economy?

5 References

- Brown, B., and O'Hara, K. (2003). Places as Practical Concern for Mobile Workers. *Environment and Planning*, 35(9), 1565–1578.
- de Carvalho, A. F. P. (2014). Collaborative Work and Its Relationship to Technologically-Mediated Nomadicity. In *Proceedings of the 11th International Conference on the Design of Cooperative Systems (COOP '14)*. Nice (France): Springer International Publishing. doi:10.1007/978-3-319-06498-7_13
- de Carvalho, A. F. P., Ciolfi, L., and Gray, B. (2017). Detailing a Spectrum of Motivational Forces Shaping Nomadic Practices. In *Proceedings of the 2017 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*. New York, NY, USA: ACM, 962–977. doi:10.1145/2998181.2998313
- Gray, B., Ciolfi, L., de Carvalho, A. F. P., D'Andrea, A., and Wixted, L. (2017). Post-Fordist reconfigurations of gender, work and life: theory and practice. *The British Journal of Sociology*, 1–23. doi:10.1111/1468-4446.12267
- Gregg, M. (2013). *Work's intimacy*. Joh Wiley and Sons.
- Kleinrock, L. (1996). Nomadicity: Anytime, Anywhere in a Disconnected World. *Mobile Networks and Applications*, 1(4), 351–357.
- Luff, P., and Heath, C. (1998). Mobility in Collaboration. In *Proceedings of the 1998 ACM Conference on Computer Supported Cooperative Work*. Seattle, Washington, USA: ACM Press. doi:10.1145/289444.289505

- Perry, M., O'Hara, K., Sellen, A., Brown, B., and Harper, R. (2001). Dealing with Mobility: Understanding Access Anytime, Anywhere. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 8(4), 323–347. doi:10.1145/504704.504707
- Rossitto, C., Bogdan, C., and Severinson-Eklundh, K. (2014). Understanding Constellations of Technologies in Use in a Collaborative Nomadic Setting. *Journal of Computer Supported Cooperative Work*, 23(2), 137–161. doi:10.1007/s10606-013-9196-4
- Rossitto, C., and Eklundh, K. S. (2007). Managing Work at Several Places: A Case of Project Work in a Nomadic Group of Students. In *Proceedings of the 14th European Conference on Cognitive Ergonomics*. London, UK: ACM. doi:http://doi.acm.org/10.1145/1362550.1362562
- Su, N. M., and Mark, G. (2008). Designing for Nomadic Work. In *Proceedings of the 7th ACM Conference on Designing Interactive Systems*. Cape Town, South Africa: ACM Press, 305–314. doi:http://doi.acm.org/10.1145/1394445.1394478
- Weilenmann, A. (2003). *Doing Mobility*. Göteborg University.

Guest Editor's Short Biographies

Luigina Ciolfi is Professor of Human Centred Computing in the Communication and Computing Research Centre, C3RI, Sheffield Hallam University (UK). She holds a Laurea (Univ. of Siena, Italy) and a PhD (Univ. of Limerick, Ireland) in Human-Computer Interaction. Her main research interests are on people's experience of technology in the physical world, nomadic work and life practices, cultural heritage technologies and collaboration and participation in design. She has worked on several research projects exploring interaction with technology in public spaces, heritage settings, and practices of work and life on the move. She is interested in further exploring place-making and mechanisms of mobilisation of work and non-work activities. She has organised numerous international workshops and has published on these topics in refereed conferences and journals.

Breda Gray is Senior Lecturer in the Department of Sociology at the University of Limerick. She holds a B. Soc. Sc. (University College Dublin, Ireland); BSW (University of British Columbia, Canada), MA Management Learning and PhD Sociology, Lancaster University UK. She is Co-Convenor of Gender ARC research consortium between the University of Limerick and National University of Ireland Galway. Her central research interests are in gender, migration, mobilities, changing work patterns and governance. She has published widely on these themes as well as leading and advising on related international and national research projects.

Airi Lampinen is an Associate Senior Lecturer in Human-Computer Interaction at Stockholm University, Sweden, and a Docent in Social Psychology at the University of Helsinki, Finland. Over the past decade, her research has focused on social and economic activities in networked settings, ranging from network hospitality and peer-to-peer exchange in local communities to on-demand service platforms and social media. Lampinen holds a PhD in social psychology from University of Helsinki and a BSc (Eng.) from Aalto University's interdisciplinary Information Networks degree programme. Previously, she has been a researcher at Helsinki Institute for Information Technology HIIT, a visiting scholar at UC Berkeley's School of Information and a research intern at Microsoft Research New England.

Fabiano Pinatti is an Associate Researcher at the Institute of Information Systems and New Media of the University of Siegen. He holds a B.Sc. and a M.Sc. in Computer Science from the Federal University of São Carlos, São Paulo, Brazil, and a Multidisciplinary PhD developed within a joint project between the Interaction Design Centre of the Department of Computer Science and Information Systems, University of Limerick, Ireland, and the Department of Sociology at the same university. His interests span Human-Computer Interaction, Interaction Design, Computer Supported Cooperative Work, Ubiquitous and

Mobile Computing, Mobile and Nomadic Work and Informatics in Education and the focus of his research is on technologically-mediated human practices. He has published several articles on topics related to these fields of research in prestigious international conferences. During his doctoral research he has investigated issues of nomadic work/life practices in the knowledge economy, providing a more nuanced account of nomadicity and associated issues.

Chiara Rossitto is a lecturer in Human-Computer Interaction at Stockholm University. She holds a PhD in Human-Computer Interaction from the Royal Institute of Technology (Sweden), and a Masters Degree in Communication Science from the University of Siena (Italy). Her research is characterized by a combination of social theory and empirical investigations of technologies use. Her previous work has focused in the methodological and analytical challenges inherent in studying nomadicity in collaborative work. She has also investigated place-making practices and how they can emerge from the interactions between people, their activities, and their efforts to manage and use constellations of technologies. She is interested in outlining a research agenda exploring an ecological understanding of contemporary nomadic practices.