RSA RESEARCH NETWORK ON INFRASTRUCTURAL REGIONALISM (NOIR)

WORKSHOPS ON

WATER INFRASTRUCTURE & REGIONAL GOVERNANCE

29 September – 2 October 2020

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About NOIR

The Regional Studies Association Research Network on Infrastructural Regionalism (NOIR) is a network of scholars engaging in research at the intersection of infrastructure and regional studies. Infrastructural regionalism focuses on those infrastructures that have relevance beyond the local. Analyzing regions through infrastructure provides a novel perspective on the regional question as investment and disinvestment in infrastructure reveals vital discursive and material elements that produce, structure, and modify metropolitan regions worldwide. The development of infrastructural assets – ranging from transport and telecommunications to energy and sanitation – as part of regional policies raises fundamental questions about how the funding, governance, and spatiality of such infrastructure can promote urban, economic, and ecological sustainability at the regional scale.

By placing the region at the center of the ‘infrastructural turn’, NOIR brings infrastructure to the forefront of innovative, interdisciplinary, and multi-scalar research on metropolitan regions to determine how regions are constructed, territorialized, governed, and experienced. The Research Network offers multiple forums to debate the terrains of regional infrastructure, develop collaborative research projects, and facilitate meaningful dialogue between academics and practitioners. Network activities are generously supported by the Regional Studies Association (RSA) Research Networks funding scheme.

Research Themes

Given the emerging interdisciplinary interests in infrastructure and the need for versatile comparative theoretical scholarship, NOIR focuses on four key themes:

**Interdisciplinary Perspectives on Regional Infrastructure**: How do we study, and thus produce knowledge of, infrastructure? NOIR draws together established and emerging regional scholars from a variety of disciplines to define the conceptual and empirical parameters of infrastructural regionalisms.

**Infrastructure and Regional Governance**: Regional affairs are negotiated and organized through diverse formal and informal mechanisms. NOIR critically assesses how infrastructure helps to produce regional governance structures by engaging scholars whose work addresses questions who is represented in infrastructure decision-making, how competing interests are mediated, and what complexities can undermine/empower regional partnerships.

**Seeing Like a Region**: Finding coherence within the ‘fuzziness’ of regional space requires alternative techniques of spatialization and political modalities. NOIR asks who can ‘see regionally’, what it means to ‘see like a region’, and how engaging with infrastructural issues shapes regional imaginaries.

**Infrastructure and Regional Lives**: The ability to produce and claim ‘the region’ is the product of a contested spatial politics; regional spaces are highly uneven, with infrastructures representing the filaments that link parts of the region together in often tenuous ways. NOIR explores regional infrastructure by assessing how they mediate global flows and everyday experiences.
This document reports on a series of virtual workshop sessions on Water Governance and Regional Infrastructure held from September 29 – October 2, 2020. The international, interdisciplinary workshop was hosted by the University of Pittsburgh’s Urban Studies Program, in collaboration with the University’s Graduate School of Public and International Affairs’ (GSPIA) Center for Metropolitan Studies, the Congress of Neighboring Communities (CONNECT), the Pittsburgh Water Collaboratory for Water Research, Education, and Outreach, and with generous funding support from the Regional Studies Association (RSA).

**Workshop Scope and Goals**

The RSA NOIR workshop on Water Infrastructure and Regional Governance was designed to foster a global interdisciplinary conversation examining: (1) how water infrastructure shapes formal and informal regional spaces, communities, and governance dynamics; and (2) how these regional formations shape how water infrastructure is developed across a variety of scales and geographic contexts. Water infrastructure performs a vital role in making and remaking regions. Watersheds and reservoirs, pipelines and ports, and storm water management and climate change mitigation represent complex political, economic, and environmental challenges. They are essential, if often black-boxed infrastructures that define how regional space is constructed, territorialized, and experienced. As critical urban infrastructures and contested political objects, water systems are fundamental to conversations about sustainability and economic development trajectories for communities across the global South and global North.

While large capital-intensive projects (such as new sewerage or fracking facilities) hold the public imagination, the day-to-day operation and maintenance of regional infrastructures present vital, if often overlooked, questions that the workshop engaged in rigorous and systematic fashion. Academic interest in the conceptual and methodological challenges of city-regional infrastructure is matched by the practical concerns of practitioners and stakeholder communities ranging from government agencies to community groups. The NOIR Water Infrastructure workshop therefore paid concerted attention to bridging divides between scholarly and applied knowledge by leveraging the opportunities presented by holding the workshop virtually to create engaging and open forums that facilitated meaningful discussions between academics and practitioners.

The NOIR Water Infrastructure and Regional Governance workshop had three key goals:

1. To **promote new scholarship on water infrastructure** that helps to explain how regional spaces are being shaped, experienced, and changed through infrastructure systems.
2. To provide a venue for **learning between water infrastructure researchers and practitioners** (particularly those located in Western Pennsylvania).
3. To **develop a special issue for Territory, Politics, Governance** that questions what water infrastructure reveals about the politics, governance, and territoriality of regions.
Workshop Structure

Prioritizing work on regional water infrastructure that highlights global concerns about resource management and local stakeholder engagement, The NOIR Water Infrastructure workshop was organized into four sessions. First, a keynotes session held on September 29 grounded the conversation in the context of Pittsburgh and established the key questions that shaped the conversation over the following days. The Keynote session was attended by a diverse and global audience of 133 academics based at universities in the United States, Canada, United Kingdom, the Netherlands, Germany, Poland, Italy, Portugal, Australia, India, Brazil, China, and Japan, and practitioners working at organizations including the City of Pittsburgh, Alleghany County, Watersheds of South Pittsburgh, the Quaker Valley Council of Governments, the Pennsylvania Economy League, Grounded Strategies, National Economic and Development Authority, and Institute for Sustainable Infrastructure.

The main body of the workshop consisted of three two-hour research panels, which were held from September 30 – October 2. Sessions featured a diverse set of graduate students, early career researchers, and established scholar from, and working on, a wide variety of national and regional contexts.

Each research session was organized into an open panel lasting one hour, followed by a private workshop session. The open portion of the research panels were structured around a series of prompts that the event organizers devised to provoke thought and discussion on the overarching session theme. For each prompt, panelists were given 5-7 minutes to comment, based on their own research and the specific papers prepared for the workshop. The final 20 minutes of the open panel were devoted to a moderated Q&A discussion. Attendees in the public section were able to pose questions to individual researchers and the panel as a whole, while using Zoom’s chat function to engage in a robust dialogue among the broader audience. For each of the research sessions, one of the workshop organizers served as a rapporteur, capturing the key observations raised in the discussion. The public panels were recorded with the permission of the panels and made available on the RSA and NOIR website in order to ensure broad dissemination to a wide audience of researchers and practitioners.

Following the public panel, contributors from across all the workshop sessions were invited to participated in a private session, where authors had the opportunity to substantively workshop their papers. The less formal nature of these sessions fostered an open and rigorous debate on the methodological, disciplinary, and thematic approaches adopting in research the intersection of water infrastructure and the region, and provided a foundation for contributors to talk to each other’s work when preparing their contributions for the proposed Territory, Politics, Governance special issue.
Welcome to the RSA Research Network on Infrastructural Regionalism (NOIR) Workshops on Water Infrastructure & Regional Governance
Pittsburgh provided an ideal and provocative setting for the NOIR Water Infrastructure workshop. Located across an undulating landscapes at the intersection of the Alleghany, Monongahela, and Ohio Rivers in western Pennsylvania, the Pittsburgh region’s complex political mosaic and legacy of aging assets like sewers, bridges, and river locks creates profound challenges for water infrastructure management, and opportunities for new innovations led by public-private partnerships. The keynote session brought Pittsburgh’s water infrastructure into an interdisciplinary, multi-scalar, and global dialogue surrounding water’s role in shaping regional space in material, political, and discursive terms.

The Keynote workshop session commenced with a formal welcome from Lydia Morin, Executive Director of CONNECT. Michael Glass then introduced the objectives and research themes of NOIR, including an acknowledgement of funding support from the RSA and a review of the publications, events, and funding opportunities offered by the Association.

Professor Leila Harris opened her keynote talk with a provocative call to think through how inequities make infrastructure and infrastructure makes inequities. To do this, Harris called for researchers to think about the politics of infrastructure as they link aspects of well-being at the individual level to socio-political life. Water, Leila argued, needs to be understood beyond narrow use and exchange values. Integrating social, political, chemical, and ecological dimensions provides a necessarily more holistic approach to understanding water and infrastructure. Access to water is uneven and invokes regional inequities along race, gender, and class lines, and for indigenous communities from Mumbai to Flint, MI and Vancouver, BC. Evocatively building on the work of Heather O’Leary, Leila asserted the water serves as a lubricant for class distinctions through resource access and conspicuous consumption. Here, senses of water and infrastructure inequity sit at the intersection of constitutional governance and a more open regional mode of politics. Looking at the case of South Africa clearly disclosed the role of water infrastructure and the
provision of services as both setting and stake of political struggle, and an apparent paradox between widespread protests surrounding water despite relatively good perceptions of access. Unpacking this problematic, Leila pointed out that experiences of stress surrounding water infrastructure are profoundly gendered, with perceptions of injustice (rather than material access) being paramount in driving stress and anxiety surrounding water insecurity. In concluding, Harris called for attention the consequences of uneven water infrastructure for well-being at the bodily and community level.

Professor Andy Karvonen then took us to Greater Manchester to think regionally and act strategically when approaching regional water governance. Crises and flooding happen. The important question for Andy is how we respond to build regional resilience capacity through infrastructure. The region is vital in this context as it is the scale where infrastructure can work most effectively while leveraging economies of scale. Regional infrastructure costs a lot of money. Karvonen argued that we need to bridge gaps between who has the money and who has the ideas. Greater Manchester has a pretty robust strategy to deal with local flooding from an administrative/organizational perspective, and has developed a resiliency strategy to shape actions and policy interventions on the ground: but is this enough? Here, Andy shone a particularly illuminating light on how regional infrastructure gets messy ‘on the edge’. Focusing on the infrastructural challenges of the peri-urban – ‘an un(der)governed no-man’s land at risk from climate change events’ – offers the chance to learn lessons when thinking across the Global North and South. Andy called for researchers and practitioners to look beyond administrative boundaries. The lived ecological region gets people more excited than organizational governance charts when pushing regional infrastructure thinking: bring in landscape to frame regional infrastructure, identify strategic intermediaries, and change hearts and minds! Leveraging the region as an ephemeral construct rather than fixed administration opens alternative options and opportunities to strengthen our thinking about how to deal with the traditional, normative ‘hard’ forms of urban water infrastructure. For Karvonen, thinking about regions differently shapes how we act in relation to infrastructure: so he asked us to be collaborative, synergistic, applied, and recursive when looking to tackle the climate crisis and build regional resilience capacity.

Professor Dan Bain served as the discussant for Harris and Karvonen’s keynotes, bring the talks into the concrete context of Pittsburgh and introducing the work of the Pittsburgh Water Collaboratory to foreground the potential of cross-sectoral knowledge exchange and interrogate the portability of theory and policy packages. For Bain, the river is the infrastructure that formed the western Pennsylvania region, yet Pittsburgh is "haunted" by poor regional decision-making. Infrastructure has isolated humans from the rivers, with deep physical and cognitive implications. Disconnects between water science and the decisions being made surrounding water governance are endemic issues in Pittsburgh and beyond. We therefore face questions regarding who keeps data surrounding regional water, and who leads the roll-out of approaches. In serving as a research space and data repository, Dan pointed to how the Water Collaboratory is seeking to play a key role in building collaborations and sharing knowledge at the intersection of water science, education, and community engagement.
Lelia Harris introduces the global terrains of water inequity during her keynote remarks.

Andy Karvonen reflecting on how regional water governance gets messy ‘on the edge’
Regional infrastructures are often taken for granted by the public, with the consequence that infrastructural management and planning is surrendered to experts and institutions that may not be representative of the region overall. The first NOIR water infrastructure research session sought to trace the lines of authority and influence that shape city-region infrastructures, revealing opportunities for greater engagement by more diverse publics in the deliberations over infrastructural futures. Watch the session here.

Panel Prompts

1. Who is represented and who is excluded from the decision-making processes around regional water governance in your study sites?
2. How could reframing engagement about regional water governance change the way that infrastructure is understood, planned for, and developed?

FENNA HOEFSLOOT (University of Twente)
Speculative Futures of Lima’s Water Infrastructure
Fenna Hoesfloid’s work on urban water futures in Lima introduced a recurring theme regarding how water infrastructure produces distinct epistemic communities in relation to technocratic and indigenous knowledge. In her comments, Fenna drew attention to how Lima’s model for developing water infrastructure has long been a technocratic one, driven by values such as efficiency and modernization. Yet as Lima faces the duel challenges of climate change and continuing urban growth, the city’s water utility agency, SEDAPAL, has increasingly integrated an indigenous mode of Andean knowledge to model future management strategies and maintain urban water security. By assessing different manifestations of knowledge around socio-ecological changes, and how they are brought together within one institution in Lima, Fenna argued that we can gain insight into how speculative futures are translated into infrastructural planning.

CAT BUTTON (University of Newcastle)
Governing Water Infrastructure from our Homes
Cat Button brought our scalar focus down to the home, and in doing so brought together both several key themes raised in Leila Harris’s keynote (notably surrounding gendered inequities), and threads weaving through the other contributions to the first research panel (including Anne Taufen assemblage framework). Cat suggested that while we all use water in our homes, households are often ‘blackboxed’ as sites of water consumption, thus obscuring the complexities of these small, private, and political spaces. She drew particular attention to the role of individual and collective values in shaping the decisions people make surrounding water. As different knowledges and beliefs are key to decision-making for water use, Cat called for a shift in thinking from the quality of water to the socially constructed qualities of water. Standing conversations surrounding regional water infrastructure from the inside our homes, she concluded, enables us to work towards more effective and equitable policies and practices.
**RAMAZAN SAYAN** (UN University Institute for Water, Environment, and Health)

**Soft Power, Discourse Coalitions, and the Proposed Interbasin Water Transfer Between Lake Chad and the Congo River**

Ramazan Sayan rescaled our geographic focus to the interbasin governance challenges across the Sahel region caused by declining water levels in Lake Chad. For some decades, diverting water from the Congo River to Lake Chad via an interbasin water transfer (IBWT) has been considered the only way that Lake Chad can be saved. Ramazan and his collaborators have applied a mixed methods approach including discourse, document, and media analysis to dissect diplomatic and technocratic processes related to the IBWT. In doing so, his reflections drew attention to the increasingly relevance of soft power tactics and strategies such as agenda setting, knowledge construction, and political inclusion-exclusion in shaping regional water governance. Ramazan’s case highlighted the overlaying of abstract colonial processes of territorialization over ecological regions, which both produces distinct epistemic communities and engenders transboundary water governance as a geopolitical concern.

**ANNE TAUFEN** (University of Washington-Tacoma)

**Unveiling Infrastructures**

Anne Taufen commentary reflected on-going research in Seattle, WA that deploys assemblage thinking to critically assess urban waterfront development and port-city infrastructures. By surfacing and tracing alliances between people, places, and things that have shaped the ongoing assemblage of waterfront spaces, Anne and her collaborators have sought to disclose the limitations of political economy models in fully accounting for the complexity of regional water infrastructure systems. She argued that unveiling the presence of contingent alliances in the assemblage of urban infrastructures as a context-specific imperative offers a sensitive analytical and methodological lens to understand how alternative means of producing the city and region can be conceived and pursued. Here, Anne generatively pointed to nature as a key actant informing localized values, discourse, and practice at the intersection of watershed (region), policy (assemblage), and – linking back to Fenna’s study – indigenous knowledge.
Whereas regional infrastructures such as sewer lines, water treatment plants, and water transportation technologies (namely locks and dams) were constructed as part of earlier periods of urban and regional development, shifting patterns of demand threaten to diminish the utility of these assets. The second research panel examined how such changing dynamics are influencing (and being influenced by) the existing governance of those infrastructural networks. Watch the session [here](#).

**Panel Prompts**

1. Can you introduce us to the changing dynamics of your study region, and explain how they influence the governance of regional water infrastructures?
2. What are the innovations and exogenous shocks that stand to disrupt the formal and informal governance of water infrastructure in your region?

**SARA HUGHES** (University of Michigan)

**Risk in State-Led Regional Governance Networks—The Case of the Karegnondi Water Authority**

Sara Hughes started the second research panel by discussing the Karegnondi Water Authority (KWA) in Michigan. Her analysis suggested that even if state governments do not overtly create regional governments to plan and manage regions, they can influence the attentiveness of regional networks to economic development or market regionalism rather than social or redistributive regionalism. In this context, the region emerges as an ideal scale for growth machine activity precisely because of the amorphous way in which it is defined, planned, and regulated. Sara and her colleague’s work points to the continued importance of political economic dynamics and the need to focus on state interests and strategic actions. Her comments, therefore, importantly foregrounded the question of where (public) risk falls in conversations surrounding regional water governance, especially given the deadly consequences of these processes in Flint, MI.

**DAYNE WALLING** (University of Minnesota)

**Urban Geographies of Fragmentation and Distress: Government Planning, Development, Infrastructure, and Inequality around Deindustrialized US Cities**

Dayne Walling continued the conversation by focusing on the regional water challenges facing under-resourced cities in the Midwest and Northeast regions of the United States, while also reflecting on his time as mayor of Flint, MI. Dayne’s comments centered on the interaction of socio-spatial conditions and multi-level governance processes for planning and developing drinking water systems. His research involves tracking the public and private institutional relationships shaping water system governance across a range of government levels in the Scranton--Wilkes-Barre, PA MSA and the Providence-Warwick, RI-MA MSA. He distinguished socio-demographic characteristics, public policy frameworks, and community inequalities that showed how central cities have been divided from metropolitan growth following deindustrialization. Dayne argued for researchers to consider both the micro-processes and macrostructures that concretely impact public policy and development practices in regard to equity and sustainability.
GRETE GANSAUER (Montana State University)
**Large-Scale, Regional Infrastructure as a Solution to Rural Water Insecurity: Literature Review and Future Research Opportunities**
Grete Gansauer provided comments that brought attention to rural regionalism in the United States, where insufficient infrastructure is a barrier to domestic clean water access in rural places around the globe. Discussing the emergence of a rural regional water authority in Montana, Grete described how rural stakeholders have formed coalitions to construct regionalized water infrastructure systems to pool resources and scale-up water services. While this institutional arrangement has facilitated a generative ad-hoc regional effort, features of its governance and territorial claims tend to contradict aspirations of achieving region-wide prosperity through infrastructure. Providing a vital rejoinder to urban-focused regional studies, Grete contended that regionalized rural infrastructures take shape in response to a different set of pressures than are experienced in urban areas, and consequently deserve more scholarly attention.

SACHIN TIWALE (Tata Institute of Social Sciences, Mumbai)
**Grabbing Water Resources in Urban Agglomeration—The Case of the Mumbai Metropolitan Region**
Sachin Tiwale offered a comprehensive discussion of the inequitable development of water resources in the urban agglomeration of Mumbai Metropolitan Region. His analysis captured tensions between political and hydrological-based approaches to regional water governance and the privilege position afforded to technocratic knowledge and discourse in shaping access to water at the regional scale. Sachin discussed how engineers consistently constructed narratives of water shortages by overestimating water demand of the city. The demand was overestimated by using unrealistic figures of per capita per day water supply norms and by inflating industrial water demand figures to justify new dam projects and hide technical deficiencies existing in the distribution network. Regional governance in Mumbai, Sachin concluded, is mobilized to protect the interests of the city of Mumbai and to control the development of water resources in the region by other emerging urban centers.

KARSTEN ZIMMERMAN (TU Dortmund)
**Infrastructure Regionalism as Driver for Metropolitan Governance? The Case of the Ruhr Region in Germany**
Karsten Zimmerman’s comments focused on the case of the German Ruhr region, and in doing so tied together the extended urban regional frame of Mumbai and focus on deindustrialization regions. Karsten analysis painted an image of regional water governance as a palimpsest of layered planning, infrastructural, and imagined spaces. The Ruhr region offers an intriguing example for infrastructure regionalism, one in which regional water governance outpaces other metropolitan governance initiatives in a context of competitive regionalisms (i.e. statutory regional planning, economic governance, regional mobility policies). Karsten suggested that the reasons for this can be found in a mix of technological leadership and the dominance of the big cities within the governance of the regional Emscher Association. As such, he argued that regional water governance in the Ruhr is best understood through the political science concept of “fragmegration”.

Workshopping papers with the contributors to Research Panel 2
Health crises, Federal mandates, technological innovation, and exogenous shocks can all disrupt formal and informal governance structures. In the third and final NOIR water infrastructure research panel, contributors explored empirical examples and theoretical advances that can help us to conceptualize how city-regions across the Global North and Global South are affected by these complexities, and to seek out best practices whereby specific regions are confronting them. Watch the session here.

**Panel Prompts**

1. Reflecting on your case regions, can you introduce how regional inequities are shaping water infrastructure, and how water infrastructures, in turn, shape regional inequity?
2. What opportunities do you see for interventions that can help address regional inequities and support more inclusive forms of water governance?

**MICHAEL FINEWOOD** (Pace University)

**What Does it Mean to Empower Communities? Green Infrastructure Incentive Programs as a Form of Neoliberal Governance**

Michael Finewood introduced collaborative research that explores municipal programs that incentivize green infrastructure installations as a tool to achieve community empowerment, but with the primary goal of contributing to broader stormwater management goals. While proponents of regional-based integrated water management often position community empowerment as a means for creating and sustaining effective water governance, Mike’s research calls into question what this empowerment means in practice, and considers how this process constitutes another iteration of the ongoing neoliberalization of municipal environmental governance. He argued that incentive programs represent a devolution of responsibility, whereby communities become responsible for planning, implementation, care, and maintenance of resources that should be under the purview of municipal governments. In concluding, Mike suggested that municipalities embrace interdisciplinary approaches to problem-solving that can potentially improve stormwater management outcomes.

**RICHARD MILLIGAN** (Georgia State University)

**Urban Water and Hydrosocial Inequalities: Atlanta’s Situation in a Regional Water Governance Conflict**

Richard Milligan then took us to the southeast United States to examine regional conflicts over water use connected to surface water flows in the drainage basin of the Apalachicola-Chattahoochee-Flint (ACF) River system. The ACF is the site of one of the longest running water disputes in the United States; a dispute that began over the allocation of municipal water supply from Lake Lanier to the expanding suburbs of metro-Atlanta. Richard’s research employs a hydrosocial conceptual framework to argue that the global urban water crisis is not simply limited to cities but should be thought of as affecting broader geographic regions. Importantly, in their on-going work, Richard and his collaborators are looking to tease out a complex web of actors, decision-makers, and communities – some included in governance processes, others excluded – who variously constitute, contribute to, clamor for, and depend upon water governance in the ACF, and for whom regional governance instead of regional conflict would be much more effective.
MARK USHER (University of Manchester)

Hydraulic Territory: Internal Colonization through Urban Catchment Management in Singapore

Mark Usher picked up the themes of geopolitical and transboundary conflicts and recast them through a historical analysis of Singapore’s contested emergence as a hydrosocial territory. Mark’s comments explored the political ecology of the state and the importance of regional water planning/catchment management in territorial processes. Importantly, Mark brought together concerns surrounding geopolitics and biopolitics to examine how territory provides a linchpin between government of land and people, integrating infrastructure, legislation and government. Water infrastructure therefore played a vital role in hard-wiring the state into existence; providing a techno-political apparatus through which government could be orchestrated from a distance, and where the habits of restraint and docility could be inculcated in the conduct of water users through pricing, education and fines.

FILIPPO MENGA (University of Reading)

The Good Samaritan: Capitalism, Religion and the Political Economy of Care in International Water Charity

Filippo Menga rounded off the panel by offering a provocative critique of philanthropy as a means to address global water inequities. Speaking at the intersection of political theology, political ecology and celebrity studies, Filippo critically assessed the interrelationship between capitalism and religion in supporting the rise of technocratic, depoliticized ‘fixes’. Here, he argued that neoliberal political economy compels forms of governmentality through charitable interventions that preclude alternatives. In doing so, Filippo argued that the growing religious nature of neoliberalized charity processes and the market logics and imperatives of growth that underlie the ideologies of international humanitarian and environmental philanthropy serve to reproduce, normalize and legitimize the same system and exploitative relations that are responsible for inequalities and environmental problems in the first place.
Supporting NOIR’s Research Agenda

The RSA NOIR workshop on Water Infrastructure and Regional Governance served to advance debate and discussion at the intersection of critical water studies, the ‘global infrastructure turn’ in the social and policy sciences, and debates on the region, regionalization, and regionalism. The conversations held over the week of sessions therefore provided an opportunity to mobilize and interrogate NOIR’s research agenda for ‘regionalizing the infrastructure turn’ in concrete terms. One of the main major benefits of the event was fostering space for engaged and substantive discussion between researchers from differing disciplinary traditions working at a variety of scales in a number of global geographic contexts. Importantly, the research panels enabled critical and reflective exchanges across conceptual, methodological, and political vantage points. Further, the need to hold the workshop virtually opened space to include contributions from a range of researchers from graduate students to established leaders in the field. Consistent engagement from presenters and attendees across the workshop sessions contributed to deep, concerted dialogue from a wide audience of academics and practitioners. Underpinning the diverse perspectives brought together through the water infrastructure workshop is NOIR’s conceptual assertions that: (1) fostering interdisciplinary dialogues across critical infrastructure studies is both generative and necessary to understand the complexities of infrastructural regionalism; and (2) we need to hold the governance of infrastructure across jurisdictional boundaries, the varied capacities of actors to ‘see like a region’, and the everyday practices of lived regionalism in constant analytical tension.

Major Themes and Findings

The workshop discussions pointed to a range of important themes for future research on water infrastructure and regional studies. These include:

- The importance of interrogating the knowledge, and knowledge claims emerging at the intersection of varied epistemic communities and differing scales/territories (from the household to supra-region. Here, many contributors pointed to the challenges facing inclusive and equitable decision-making presented by lived everyday practice confronting and informing knowledge as expertise. When thinking about decision-making: water governance is present both as a problem to be fixed (technocratic, political economy approaches) vs. understood (assemblage, anthropological inquiry). This compels us to interrogate the languages (or disciplinary expertise) influencing decision-making.
- How regional infrastructure is rendered visible/invisible as a material element of the built environment and subject of discursive construction and political contestation. There is a need to explore the extent to which water/infrastructural knowledge is representative of the region, and the heterogeneous actors, forces, processes, and entities, within.
- The significance of scale in framing and engaging complexity in an area characterized by wicked problems. Approaching questions of regional water governance at micro, meso, and macro scales foregrounds different actors and processes, and with this, differing ways to intervene (which in turn invoke complex and unexpected implications). Vantage point profoundly matters in this context, both

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relating to the importance of gender, race, ethnicity, and citizenship in shaping access to water resources, and the social, political, and geographic centrality/marginality of regional inhabitants.

- Regional fragmentation was a persistent concern across the workshop sessions, with water infrastructure functioning as a contested political object, and material networks that can bring (social) space together, albeit it in uneven and ephemeral ways. Water infrastructure therefore plays a key role in shaping regional territoriality and in making political constituencies and subjectivities. In light of such discussions, it is perhaps instructive to shift from thinking about ‘whose region?’ and ‘whose resources’ to ask how to mobilize and provide water infrastructure to better care for the region.

Next Steps

The NOIR workshops brought together and inspired an interdisciplinary conversation at the interface of water infrastructure and regional governance. Moving forward, NOIR’s leadership team will continue working with workshop contributors to hone the working papers presented for a special issue to be submitted to the RSA journal Territory, Politics, Governance. Editorial feedback will be provided through Fall 2020. An internal round of peer review is planned for early 2021, with full papers to be formally submitted by March 31, 2021.
NOIR Workshop Organizers

MICHAEL GLASS Urban Studies Program, University of Pittsburgh
Michael is an urbanist working at the intersection of geography and planning. His research examines regional planning and governance, the role of stakeholder visions in shaping city identities, growth, and development, and the consequences of infrastructure (dis)investment for regional equity.

JEN NELLES Management School, University of Sheffield
Jen is a researcher, professor, and consultant specializing in metropolitan governance and regional economic development. Her research analyzes how governments and organizations come together to develop, build, manage, and evaluate infrastructure under of fragmented and multilevel authority.

JEAN-PAUL ADDIE Urban Studies Institute, Georgia State University
Jean-Paul is a critical urban geographer working on regional governance, urban political economy, and socio-spatial theory, with a specific focus on the politics of infrastructure. He is currently researching the political construction of regions and the temporality of infrastructure.