The current and first issue of the second volume of the Journal of Responsible Innovation opens with an editorial by Editor in Chief David Guston. Responsible innovation: who could be against that? opens with an interesting issue, with Guston arguing that although the goals of RI are easy to understand and accept, some members of the academic community believe that RI is not sharp enough to make the enemies one wants to make in order to instigate change.

He goes on to expand upon this argument, and to offer readers an easily understandable two by two matrix, the aim of which is to visually support a description of how RI sits in a field bounded by responsibility and innovation. The matrix represents levels of innovation and levels of responsibility, with its logical completion leading to categories that not only include irresponsible innovation but also irresponsible and responsible stagnation.

Guston believes that responsible stagnation (RS) is RI's real competitor, arguing that "even if we can address our long-term planetary challenges through the redesign of the economy from its roots in households to the global scope of its transactions and impacts to achieve RS, that redesign is going to be dependent upon on the generation and implementation of new knowledge and social and technological innovation each step of the way. In this sense, RI may well turn out to be that which assists us in bending the arc of social and technological development toward this goal and away from other diversions".

The editorial concludes with an overview of the issue, that includes 4 research papers and the "Responsible Research and Innovation for Synthetic Biology" Perspectives section.

The first research paper is Beyond checklists: toward an ethical-constructive technology assessment, authored by Asle H. Kirana, Nelly Oudshoornb and Peter-Paul Verbeekc.

This paper introduces a set of principles for an ethical-constructive
technology assessment approach (eCTA), in order to connect the ethics of technology more closely with processes of technology development. Kirana et al argue that the frameworks by which we judge technologies are themselves technologically mediated, and that only an approach that acknowledges this fact can be a basis for eCTA.

The authors raise the importance of non users and the effects upon their lives, as their experiences are also effected by the existence of such technologies, and point to important examples where where non use is impossible in practical terms, such as within certain medical practices.

In their conclusion they outline four principles developed in the paper for an eCTA approach:
1. Technologies not only have implications for moral frameworks and social processes at the macro-level, but also for the everyday lives of their users.
2. eCTA should be framed in terms of technology accompaniment rather than assessment.
3. eCTA should focus on the accompaniment of both the design and the appropriation of technological medications.
4. eCTA should address practices of subject constitution, not only in terms of how human beings are shaped by technologies but also in terms of the moral responsibility persons have to actively shape their lives in accompaniment with these new technologies.

The second research article is Responsible research and innovation: building knowledge arenas for glocal sustainability research, authored by Marian Deblonde.

In this article "the concept of 'responsible research and innovation' is translated into the concept of 'glocal sustainability research', which takes the form of locally situated, transdisciplinary action research and which takes strong sustainability, equality, and a-growth as its respective ecological, social, and economic normative anchor points".

The author addresses the issue of why the relationship between knowledge economies and 'responsible' research and innovation is not self-evident, and proposes glocal sustainability research (GSR) - and an appropriate process architecture for GSR - as a translation of responsible research and innovation (RRI).

The author goes on to suggest a type of knowledge arena and some institutional preconditions for its institutionalisation as well as possible business models as a breeding ground for RRI.

Deblonde argues that, glocal sustainability research (GSR) and innovation should be of a transdisciplinary nature. Transdisciplinarity helps the research
and innovation community to deal with the prescriptive limitations of scientific knowledge and technological know-how. Quoting Mitcham and Von Schomberg, the author closes by stating that a transdisciplinary approach, again, allows the research and innovation community to fulfill its public (as a collective of citizens) rather than its professional (role) responsibilities.

In a thought provoking conclusion, the author asks "Why not understand precaution as a procedure - rather than a principle - of (a) gathering empirical evidence and comparing this evidence with the ecological, social, and economic performance indicators that are included in projected visions of potential solutions to a glocal sustainability challenge and (b) adjusting research and innovation activities as long as a gap remains between empirical findings and projected sustainability targets?"

The third research article Mapping the integrative field: taking stock of socio-technical collaborations is authored by Erik Fisher, Michael O'Rourke, Robert Evans, Eric B. Kennedy, Michael E. Gorman and Thomas P. Seager.

In this article the authors take stock of various collaborative approaches to socio-technical integration that seek to broaden the societal contexts technical experts take into account during their routine activities. They distinguish collaborative socio-technical integration in terms of its proximity to and transformation of expert practices, and survey a variety of approaches that differ widely in terms of their integrative methods, conceptions of societal context, roles, and aspirations for intervention. The authors go on to provide a framework for comparing the forms, means, and ends of collaborative integration.

The authors conclude that collaborative socio-technical integration is a form of expert engagement that is distinct from related fields such as transdisciplinarity and stakeholder engagement in three ways: it addresses variously conceptualized socio-technical divides pertaining to expertise, operates closely within expert practices, and seeks to meaningfully transform those practices.

The fourth and final research article is Responsible to whom? Seed innovations and the corporatization of agriculture, authored by Kelly Bronson.

In this paper Bronson uses historical description to trace the processes by which hybrid seed innovations and their successors - genetically engineered (GE) seed systems - were co-produced with a techno-scientific infrastructure favoring chemical corporations and productivist farming at the expense of small farmers and alternative ways of organizing rural life. Using a discourse analysis method, she makes an argument about why historical shifts in seed innovation were largely uncontroversial, before retracing the road to GE's success as a cultural enterprise, exploring the likelihood that this success
was paved not just with the co-production of technologies and corporate interests but also with cultural descriptions of seeds and farming.

The author goes on to argue that hybrid seed innovations were irresponsible innovations because they served a narrow set of private interests at the expense of community and environmental concerns, and in some ways seems to consolidate the earlier argument made by Deblonde that there can be no real technical fix to ecological problems (if we could describe food production as an ecological issue), with a somewhat parallel debate about increased food production through technological development in seed innovation leading to chemical dependence.

The journal continues with a special perspectives section: responsible research and innovation for synthetic biology.

In the special section editorial, Jenny Dyck Brian describes how on 4 November 2014, a group of more than 100 scholars and practitioners from academia, industry, and non-profit organizations gathered in Tempe, AZ for an intensive two-day workshop to articulate the most important and pressing questions on the societal aspects of synthetic biology.

A call for papers resulted in several submissions that addressed issues related to RI, and this section is made up of a selection of those papers. The contributions are short and present a wealth of different arguments and points of view. Much of the following is taken from Brian's editorial.

The Monster and the polar bears: constructing the future knowledge landscape of synthetic biology to inform responsible innovation by Lauren Withycombe Keelera and Rider W. Foley focuses on the need to better explore the ecological sustainability of synthetic biology.

More socio-technical assessments of synthetic biology to inform security deliberations by Kathleen M. Vogel and What's the matter with biosecurity? by Sam Weiss Evans challenge techno-centric framings of biosecurity questions.

Constructing a 'futurology from below': a civil society contribution toward a research agenda by Jim Thomas proposes empirical fieldwork in order to understand how citizens understand emerging technologies.

Synthetic biology in Global Health: lessons from history and anthropology by Jennifer A. Liu emphasizes the importance of attending to local contexts first in addressing possible global impact of synthetic biology upon global health.

Devices and trajectories of responsible innovation: problematising synthetic biology by Morgan Meyer proposes empirical research questions to study the development and implementation of the term responsible innovation.
Framing responsible innovation in synthetic biology: the need for a critical discourse analysis approach by Fujia Li, Richard Owen & Elena Simakova offers a critical discourse analysis of responsible innovation.

Translational governance research for synthetic biology by Jennifer Kuzma identifies a problematic disconnect between ethical, legal, and social implications (ELSI) research and decision-making.

Reimagining responsibility in synthetic biology by J. Benjamin Hurlbut argues that new fields like synthetic biology try to capture and define what counts as technological innovation and governance, and that strengthening mechanisms of democratic governance will prevent certain imaginations from overpowering others.

Responsive novelty: taking innovation seriously in societal research agendas for synthetic biology by Sujatha Raman calls for critical interrogation of the concept of "novelty" in technological development.

Societal aspects of synthetic biology: organisms and applications matter! by Amy K. Wolfe calls for more specificity in social science research on synthetic biology.

Modeling risk in complex bioeconomies by Clark A. Miller argues that our conventional risk assessment paradigms need to be redesigned to produce better cross-systems analyses.

The moral economy of biotechnical facility by Gaymon Bennett argues that synthetic biology has unique ontological features, and suggests, intriguingly, that we ought to look closely at the ways in which the research spaces themselves relate to the biotechnical capabilities.

The Joint Genome Institute's synthetic biology internal review process by Lisa Simirenko, Miranda Harmon-Smith, Axel Visel, Edward M. Rubin and Nathan J. Hillson is a report on the process.

Realizing positive network effects in synthetic biology by Linda J. Kahl reports on surveys of users of open parts registries and argues social scientists need to better understand the actual practices of synthetic biology researchers in order to realize positive network effects.

iGEM as laboratory in responsible research and innovation by Dirk Stemerding delineates two different approaches to responsible research and innovation that are being developed in collaboration with the large-scale European SYNERGENE project and the US-based iGEM competition.

Social science contributions compared in synthetic biology and nanotechnology by Philip Shapira, Jan Youtie and Yin Li propose metrics to assess social science research outcomes to document and strengthen
research capabilities.

Once again articles can be individually downloaded or the issue can be purchased complete through the Taylor and Francis website.

--------------------

ALL THE REVIEWS of the Journal by Jonathan Hankins:

2014

2015

2016

2017

--------------------

Links in this document:

1] /schedabiografica/Jonathan Hankins
2] http://www.tandfonline.com/toc/tjri20/current
5] /en/focus/2015/02/journal_of_responsible_innovat_2.html

CC Creative Commons - some rights reserved.